LIFE IN THE WIRES

the CTHEORY reader

body electric

ARTHUR & MARILOUISE KROKER editors

LIFE IN THE WIRES

THE CTHEORY READER

LIFE IN THE WIRES: THE CTHEORY READER

an interdisciplinary anthology on the future of technoculture and the revolutionary impact of the Internet on media, technology, culture and politics

Life in the Wires is about life today, from Al-Jazeera to eBay, from creatively understanding new media to analyzing how questions of gender, race, class and colonialism have been deeply transformed by networked society.

Life in the Wires, is in essence what Jean-Paul Sartre calls a "fused community" – a global intellectual community of theorists, musicians, artists, filmmakers, computer programmers, multimedia designers, architects, engineers, Soweto poets, Net activists – young and old, a multiplicity of race, class, gender, nation and disciplines: writing from universities, industry, media, the streets, the design and programming centers of IT, from anti-globalization street protests, from mediawatch, from the badlands of Texas, the streets of San Francisco, the hybrid cities of Cape Town, London, Toronto, New York, Paris, Helsinki, Singapore and Berlin.

KEY FEATURES OF THE READER INCLUDE

www.lifeinthewires.net

- An interactive website, continuously updated with new supplementary materials for teaching
- Streamed electronic seminars, regularly updated, featuring leading contemporary intellectuals such as: Donna Haraway, Paul D. Miller (Dj Spooky), Stelarc, William Leiss and Arthur Kroker, among others
- A general introduction by the editors to *Life in the Wires* as well as thematic introductions to each section of the Reader
- Index
- Key bibliographical references

Screens in the Wires, Music in the Wires, Politics in the Wires, Gender in the Wires, Cities in the Wires, Net in the Wires, Posthumanism in the Wires, Art in the Wires

LIFE IN THE WIRES

THE CTHEORY READER

edited and with introductions by

Arthur and Marilouise Kroker

New World Perspectives
CTheory Books
Victoria

Life in the Wires: The CTheory Reader

(c) 2004, New World Perspectives / CTheory Books

The writers contributing to Life in the Wires: The CTheory Reader retain copyright on their individual works presented in this collection. The collection as a whole is copyright New World Perpsective / CTheory Books. Works of art copyright by the artists.

All rights reserved. No part of this book may be used or reproduced in any manner whatsoever without written permission except in the case of brief quotations embodied in critical articles or reviews. For information, contact <ctheory@uvic.ca>.

First published in Canada in 2004

Electronic version re-designed 2016

Printed in Canada

ISBN 0-920393-21-7

Library and Archives Canada Cataloguing in Publication

Life in the wires : The CTheory reader /
edited and with introductions by Arthur and Marilouise Kroker.

Includes bibliographical references and index.
ISBN 0-920393-21-7

1. Internet – Social aspects. 2. World Wide Web – Social aspects.
3. Information technology – Social aspects. 4. Globalization–Forecasting.
5. Digital media. 6. Information society.
I. Kroker, Arthur, 1945- II. Kroker, Marilouise.

T14.5T44 2004 303.48'34 C2004-903182-1

CONTENTS

LIFE IN THE WIRES **9**
Arthur and Marilouise Kroker

SCREENS IN THE WIRES **18**
Arthur and Marilouise Kroker

1. Crossing into the Twisted World 20
James Conlon

2. Material Memories 27
Paul D. Miller (Dj Spooky)

3. Speed Ramping 34
David Cox

4. Making the World Safe for Fashionable Philosophy! 40
Joe Milutis

5. I WAS SEDUCED BY 48 ROBOTS IN A METALLIC ARENA 49
Arthur and Marilouise Kroker

MUSIC IN THE WIRES **56**
Arthur and Marilouise Kroker

6. Black Secret Technology 61
Julian Jonker

7. The Turntable 70
Charles Mudede

8. Cardboard Resistance 79
Phillip Vannini

9. Full With Noise 86
Paul Hegarty

10. Go With the Flow 99
Bo Vibe

POLITICS IN THE WIRES **105**
Arthur and Marilouise Kroker

11. Unmanned 109
Jordan Crandall

12. Priming the Pump of War 116
Dion Dennis

13. CTHEORY Interview With Paul Virilio 126
Paulo Virilio in conversation with John Armitage

Translated by Patrice Riemens

14. 1000 Years of War 135
Manuel De Landa in conversation with: Don Ihde, Casper Bruun Jensen, Jari Friis Jorgensen, Srikanth Mallavarapu, Eduardo Mendieta, John Mix, John Protevi, and Evan Selinger.

15. DANGEROUS Philosophy 154
Irving Goh

16. Networks, Swarms and Multitudes 164
Eugene Thacker

GENDER IN THE WIRES **178**
Arthur and Marilouise Kroker

17. The Cyborg Mother 182
Jaimie Smith-Windsor

18. When Bad Girls Do French Theory 190
Joan Hawkins

19. Metal Gender 205
Steve Dixon

20. SCREAMING EAGLE 214
Arthur and Marilouise Kroker

21. Kathy Acker in Life and Death 217
Arthur and Marilouise Kroker

CITIES IN THE WIRES **220**
Arthur and Marilouise Kroker

22. *Chimurenga*: Cape Town Now! 224
Trebor Scholz

23. Circuits, Death And Sacred Fiction 228
Mahesh Senagala

24. Designing the Solipsistic City 232
Samuel Nunn

NET IN THE WIRES **243**
Arthur and Marilouise Kroker

25. The Rush to Judgment 246
Peter Lurie

26. Flash Fetish 254
Nate Burgos

27. Spatial Discursions 257
Robert Nirre

28. Why the Web Will Win the Culture Wars for the Left 267
Peter Lurie

29. Speaking in Djinni 275
D. Fox Harrell

30. The Ambiguous Panopticon 283
Mark Winokur

31. Technical Machines and Evolution 306
Belinda Barnet

POSTHUMANISM IN THE WIRES **326**
Arthur and Marilouise Kroker

32. The Post-Cyborg Path to Deconism 331
Steve Mann

33. Lifestyles of the Cloned and (In)Famous 337
Jason Lubyk

34. Professor DVD 340
Nicholas Rombes

35. What is Cool? 345
Jeff Rice

36. Beyond Postmodernism? 351
John Armitage

37. Hyper-Heidegger 366
Arthur Kroker

38. Myron Krueger Live 374
Myron Krueger in conversation with Jeremy Turner

ART IN THE WIRES **381**
Arthur and Marilouise Kroker

39. Loving the Ghost in the Machine 384
Janne Vanhanen

40. Koshun's Knob 393
Lesego Rampolokeng

41. Motion Perception in Movies and Painting 396
Michael Betancourt

42. NET BAROQUE 403
Christina McPhee

43. Digitality: Approximate Aesthetics 407
Anna Munster

44. Hallucinations of Invisibility 422
Ted Hiebert

45. Distraction And Digital Culture 434
William Bogard

Contributors **453**

Acknowledgements 459

Index 460

LIFE IN THE WIRES

Arthur and Marilouise Kroker

The Future(s) of Technoculture

Life in the Wires explores the future(s) of technoculture.

In the 21st century we both inhabit and are, in turn, inhabited by the electronic world as our primal identity. While we may sometimes wish to disconnect from technology, the world of electronic communication definitely appears to be unwilling to disconnect from us. In linking our fate to the story of technology, we may have, quite intentionally, overlooked the fact that technology has already put its electronic hooks into us. Cell phones provide instantaneous networking for increasingly nomadic bodies. Personal Digital Assistants (PDAs) mean that we can always be on-line, both in work and life, in the world of digital communication. The dazzling visual impact of special-effects cinema silently upgrades the speed of human perception to the speed of light. Computer games speed our reflexes and reconfigure our brains. The remix music of hip-hop, electronic samplers, and freestyle DJs is how the sounds of technology circulate within the deepest recesses of our imaginations and desires. The ambivalent legacy of biogen food and biopharmacology releases the biotech future directly into our bodies. More profoundly than we may suspect, the borders between self and technology have been torn apart.

This implies that studying *Life in the Wires* necessarily involves debates about what happens to human subjectivity—questions of consciousness, perception, imagination, representation—when, under the impact of digital communication, human identity is seemingly shattered and fragmented. It also implies that the question of technology is no longer limited to the strict realm of the technological, but permeates culture and society as a whole: *Net in the Wires, Politics in the Wires, Music in the Wires, Cities in the Wires, Screens in the Wires, Gender in the Wires, Posthumanism in the Wires, Art in the Wires.*

The fate of globalization provides the overall context for *Life in the Wires*. Not so long ago, it was hoped that the culture of globalization would usher in a new utopian age of connectivity, using new technologies of electronic communication to create exciting

forms of social and political understanding among the diverse populations of the world. Could it be that, against the utopian dreams of the founders of IT, the stronger the blast of electronic technology, the weaker the bonds of social understanding? Today, it is as if the bright spotlight of electronic technologies of communication have not only brought to the surface of human consciousness the most microscopic differences of ethnic, religious, political and gendered differences, but have also provided long suppressed grievances with a mass media spotlight by which to blowback to the dreams in ruins of the global village a litany of irreconcilable points of division. Might it be that one unexpected outcome of cyberculture has been the globalization of ancient feuds—ethnic scapegoating, religious hostilities, nationalistic politics—transforming heretofore local struggles into the most deeply divisive issues of global technoculture. **Time-wise,** *Life in the Wires* operates at the edge of the ancient and the virtual, dreams of connectivity and the harsh, unsettled realities of old battles. **Space-wise,** *Life in the Wires* is about a world where people live in different spaces simultaneously, projected into an uncertain future by the power of new technologies, yet always living in real, material bodies, politics, culture, and economy.

This is not to underestimate the real driving force of the language of globalization, namely the appropriation of information technology on behalf of the empire of multinational corporations. In a famous essay, "The Cyborg Manifesto," Donna Haraway predicted long in advance the coming to be of an "informatics of domination," a new language of cyber-control by which the deepest vocabularies of contemporary politics and culture—the way we work, think, perceive, educate, consume—are wrapped in a language of electronic power. Not a form of electronic power that cherishes traditional values of civil liberties and democratic equality, but the opposite: an informatics of domination that traps us daily in an increasingly tight network of consumption, surveillance, archiving, and networked labor.

Visionary thinkers like Marshall McLuhan and Teilhard de Chardin sparked a utopian, almost messianic, vision of the digital future predicting that technology would light up the dark night of human consciousness—writing the silent memories of oral culture across the sky of the electronic media. However, in the relatively few years after the deaths of the pioneering futurists of digital reality, this dream of a new universal community of understanding has been challenged by the appropriation of digital technology for the brand culture of an increasingly homogenous capitalist marketplace. Today, globalization in the form of networked capitalism is the dominant economic context of *Life in the Wires*. Brand culture may be the tombstone of the global village, just as much constantly streamed 'news' pumped out of the central media organs of the political economy of globalization is the real, immediate end-result of Teilhard de Chardin's prophetic concept of an electronic 'noosphere"—de Chardin's beautiful vision of electronic communication as a momentous transcendent evolutionary leap out of the rigidities of industrialism into the fluidity of technoculture.

So then what is the meaning of *Life in the Wires*? Technotopia or technodystopia? Or something more deeply ambivalent? Is it possible that out of the "informatics of domination" so characteristic of technology under the sign of contemporary capitalism that something else is already stirring? Could it be that the riddle of history has already infected the language of globalization with its own imminent critique, with eloquent expressions directly out of Net culture concerning how the original dreams of technotopia might be remixed in the language of contemporary cultural and political concerns? The premise of *Life in the Wires* is that the Internet and the Web have had a revolutionary impact of the future of media, technology and society. In spite of

critics who put down the Internet as a tool of interest groups or who continue to insist that nothing substantial has really happened with the lighting up of the world by the digital matrix could it be that there is actually life in the wires? With no illusions, avoiding the preset choices of technotopia or technodystopia, in the Net but always seeking to transform it, *Life in the Wires* is about life today, from Al-Jazeera to eBay, from creatively understanding new media to analyzing how questions of gender, race, class and colonialism have been deeply transformed by networked society.

Life in the Wires, is in essence what Jean-Paul Sartre calls a "fused community"—a global intellectual community of theorists, musicians, artists, filmmakers, computer programmers, multimedia designers, architects, engineers, Soweto poets, Net activists; young and old; a multiplicity of race, class, gender, nation and disciplines, writing from universities, industry, media, the streets; the design and programming centers of IT, from anti-globalization street protests, from mediawatch, from the badlands of Texas, the streets of San Francisco, the hybrid cities of Cape Town, London, Toronto, New York, Paris, Helsinki, Singapore and Berlin. *Life in the Wires* is wired culture thinking about itself—its dreams and contradictions—and doing so in a style of thinking that is critical and creative, deeply nuanced, based in the lived material history of digital culture, and uniformly forcing the iconic hierarchies of pre-net thinking to be rewired, remixed, and relooped by the pressures of understanding *Life in the Wires*.

While the historical context of *Life in the Wires* is the contemporary fate of globalization, its intellectual project is to think the future of technoculture in new key. For example, globalization simultaneously marks the triumph of one-dimensional society and the return of feudal struggles as the key codes of contemporary planetary society. Increasingly, entire societies bunker down to ride out the storm. The European Community imposes new restrictions on immigration from Muslim countries. The United States fingerprints the world and Canada issues identity cards. Is this the end of Marshall McLuhan's deeply ethical dream of technology as creating new epiphanies of human understanding—"new universal" forms of social understanding? *Life in the Wires* seeks to fulfill the passions and dreams of the "global village" by *enacting* it in thought and action. Critical, creative, connected thought has always been *the* progressive force of history, blowing away the tired encrustations of power politics, cultural prejudices, and technologies of accumulation. *Life in the Wires* literally seeks to electrify cyberculture with methods of thinking, styles of presentation, and speeds of communication which are in the very deepest sense *in the wires, but not of it.*

Digital Community

Life in the Wires: The CTheory Reader represents some of the best writings on technology, culture and politics published in the electronic journal CTheory:

<www.ctheory.net>

CTheory is a unique intellectual project made possible by the age of the Internet, always on-line thanks to the web and streamed globally in a format that celebrates open-systems, open-architecture and open thinking. Resisting attempts to close down the utopian possibilities of the Net, CTheory does the opposite. It speaks and writes and publishes in a way that explores the possibilities of electronic culture for forms of thought, forms of publishing, forms of communication that are equal to the best democratic, critical and communal tendencies of digital culture. CTheory is a digital community.

CTheory publishes in a variety of Net formats: ascii, web, multimedia as well as a digital archive of books and journals stretching across three decades.

Inspired by utopian visions concerning the creative opportunities opened up by the Net for emergent consciousness and distributed knowledge, for creating a liminal zone of electronic communication as the new critical horizon of global culture, CTheory puts these electronic prophecies into practice. It is a creative approximation of Teilhard de Chardin's "noosphere," Marshall McLuhan's "thought as probe," Donna Haraway's innovative cyborg, and Jacques Ellul's demand for critical reflection on technology and justice.

With writers and readers from over one hundred countries, CTheory represents an eloquent, compelling and diverse intellectual history of the Net reporting on itself, theorizing issues of technology, culture and politics from within the media of electronic communication. In a crucial sense, CTheory is about knowledge which is internal to the Net: different styles of thought, critical perspectives, and a wide ranging choice of subject-matters which not only respond directly to key issues in technoculture but which also use the Net as a means of fluid, emergent, distributed communication. CTheory is what happens when writing goes electronic, when wired consciousness becomes as familiar to us as stars in the night-time sky.

Three Remixes of Life in the Wires

Cybernetics Loves the Borderlands

In the age of information technology, the body learns to swim in the data storm for reasons of survival.

Scanned by surveillance cameras, the signature of its iris photographed and data banked by electronic airport security, its movements through the economy electronically tracked by its own credit card and ABM trails, probed by all the imaging technologies associated with contemporary medicine, entertained by ubiquitous screens of the mass media—cinema, television, and DVD's, its ears hard-wired to the sounds of iPod culture, its every (Internet) thought patiently recorded by the hovering satellites of the national security system, the body today is punctured, pierced, probed and pummeled by the cybernetics of spam, spyware and cookies.

In the utopian phase of information technology, we could still live with the illusion that cyborgs had a double life: partially enmeshed in what Donna Haraway has eloquently described as an "informatics of domination," but also free to move at the speed of light, to live life on the borderlands, to learn how to negotiate the boundaries of identity which are triumphantly dissolved. That was the age of Donna Haraway's evocative "The Cyborg Manifesto," Allucquere Rosanne Stone's conceptualization of 'breached boundaries," and Katherine Hayles vision of the dangers and possibilities of the "posthuman." All critical, but all remaining faithful to the essentially binary character of information technology, to the belief that out of the ruins of the informatics of domination would emerge the possibility of a new form of identity that would be equal to the task of life in the borderlands. Haraway, Hayles and Stone are brilliant prophets of the emancipatory possibilities located in the real material history of cybernetics.

In the dystopian phase of information technology, the utopian belief in the romanticism of the borderlands has been shaken by the realization that the informatics of domination has appropriated the resistance spirit of the borderlands. It turns out that information technology really likes outlaw culture. Cybernetics is precisely how the language of the posthuman is delivered to us.

Cybernetics goes hybrid. It feeds itself with the language of difference: part-human/part-machine/part-code. Cybernetics *is* the borderlands. Abandoning the language of the human, cybernetics celebrates the discourse of the posthuman. Information technology (IT) works to undermine confidence in the historical endurability of the human by presenting fascinating visions of a posthuman future, seductive because of its irony, indeterminacy and ambivalence.

Cybernetic Irony? IT injects the spirit of irony directly into the language of the human genetic inheritance. In the field of biotechnology, IT transforms the concept of the gene into an object of simulation. It exposes the complexities of the human genetic inheritance to the pitiless gaze of cybernetic sequencing. IT is fascinated with artificial evolution in a bubble, with stopping time, with injecting a note of undecidability into the posthuman future.

Cybernetic indeterminacy? What could be more indeterminate than mixing human genes with those of plants and animals: light-through bodies, the human genetic inheritance sequenced with genes culled from plants, animals, lost species. Under the impact of biotechnology, the body today is a study in indeterminacy, with no certain biological past and no definite genetic future. Blasting away the illusion of the self-contained body supposedly immunized from its environment, the history of cybernetics, once sequenced with the social engineering dreams of biotech, provides a new language of "human expression." Now the human body itself is resequenced to *express* its remixed genetic code: suddenly no longer a bionic, but now a "proteonic" future in which genetic engineering breaks into the protein-base of human life. What happens though when the realization grows that the posthuman bodies of the future have been deliberately designed to *express* specific genetic codes? What ethical divide do we transgress with the transformation of the body into an object of a vast genetic experiment, one with no definite knowledge of the long-term consequences of cutting and splicing DNA into the human genetic inheritance? Cybernetic indeterminacy breeds profound cultural and political anxiety about the fate of the body.

Cybernetic ambivalence? The overwhelming cultural impact of IT is to lend a note of *undecidability* to the question of the meaning of the human species itself. We live now in the midst of a new genetic lag in which developments in biotechnology outstrip the capacity of the human imagination to understand the vanishing of the bodily past and genetic future. If there can be such intense discussion about the meaning of the posthuman, this indicates that we are probably transitioning from species-consciousness to a future of technoculture dominated by the concept of "transgenics." Our remix bodies have never known a time in which the senses have not been manipulated by the blast of the data storm. We may already live in an era in which ears, nose, mouth, and eyes have been remixed to the rhythms of the posthuman.

Remix Media Theory

The contributors to *Life in the Wires* are remix media theorists. They are the enhanced data bodies of tomorrow. Never capable of living easily with nostalgia for technotopia nor content with political passivity in the midst of the informatics of domination which seeks to take possession of the body, the species, the planet—remix theorists are inhabitants of the liminal zone—that porous zone of transition in which every breathe, every thought, every bit of creative energy is expended by trying to live freely in a world that would be binary. Living between the broken dreams of technotopia and the powerful forces driving the biotech future, remix theorists inhabit the in-between of creative

intensities. Which is why remix theorists are so creatively resilient. Thinking critically about the informatics of domination has immunized them from both political passivity and ethical naivety. Remix theorists are always interested in the material, indeed the hyper-material, history of the question of technology. They thrive in studying from many creative angles of vision—theory, art, music, poetry, politics, cinema, science, architecture, urbanism—the actual *facticity* of technoculture. They create and recreate novel forms of creative expression—remix sound, writing, images, codes—equal to the always novel transformations of the shape of technoculture. Their thought is uncanny, taking the dogmas of technoculture by surprise in order to bring out of concealment its hidden truths. Remixing sound tracks as a way of decoding the media archive. Slow writing for a culture of speed. Haunting images of the ruins within as a means of surfacing the cultural damage done by the blast of the electronic matrix. New labor history for a digital economy that works to outsource its material labor.

Remix theorists are born historians: archivists of power moving at hyper-speed. Hardened by deep immersion in the informatics of domination yet open to critical speculation about the future, these cyborgs *are* the future. They understand that the real seduction of the informatics of domination is that it is *out of control*. Remix theorists understand that in linking our fate as a society with the language of technology, we have also committed ourselves to a future that is indeterminate, ironic, and radically ambivalent. Often unwilling to retreat to essentialist theories of race, class and gender and critical of the poststructuralist form of power in advanced capitalist societies, remix theorists have no choice but to make of their theoretical practice a radical practice of the "in-between." Writers, musicians, artists, political activists, poets, scientists: remix theorists illuminate the data dusk.

Remix media theory is a conscious effort to mix and remix the culture of politics, sex and environment, to confuse and cajole, not an automatic response but a process of creative rethinking. No longer splice and sample, but the media archive transformed by the aesthetics of creative recombination. In this case, remix theory refers to a new style of critical media interventions: historical, contextual and situated because it begins with the immediate materiality of the media archive; but something always in excess, always supplementary to reality because it is deeply influenced by the politics of mix/remix. Always polluting media images with the spoken word, with unlikely visual juxtapositions, with the cut-cut beat of rap metaphysics, with playfulness, parody, and sarcasm, remix media theory throws off the old model of physics and goes biological. Committed to open-architecture, to file-sharing, to the web as a critical space for new relations of democratic participation, remix media is viral theory. Clipping itself onto the bodies of passing media images, remix media theory is simultaneously of and beyond the media scene. Not so much a "digital commons," remix media theory struggles to create *uncommon* spaces, *uncanny* sounds, thoughts and music and poetry and critical analysis which can never really be absorbed by the mass media. In the best tradition of Wyndam Lewis and Marshall McLuhan, remix media theory prepares a counter-blast to the radiating violence of mass media. It serves up a windstorm of dub/remix images, sounds and concepts, all of which are intended to blur the eye of power, to make it blink and water and get disoriented from the counter-blast of its own unruly offspring, and potential successor. Remix media theory reflects back to the eye of power its own essential logic in recombinant form.

Welcome to the technological reality show.

The Technological Reality Show

It all begins with a brilliant sound performance by Dj Spooky at a club called Sugar, somewhere on the west coast. Dj Spooky is on the stage, freestyling on three turntables, cutting and remixing sound to a mood of rhythmic seduction. People are dancing, mostly alone, moving their bodies to the staccato gestures of the sound actually becoming robot-like, pulsating and undulating, signifying by their bodily movements how Dj Spooky's sound moves right through their minds and bodies, taking possession of their deepest feelings. Dj Spooky's technology of sound may begin with his artistic remixing of recordings of contemporary and past cultures, but it moves right through the wires, out of the turntables, sweeping deep down into the emotions and memories of all those dancing bodies. And it doesn't stop with the sound either. Everywhere gigantic screens in the club play a remix version of Guy Debord's situationist manifesto, *Society of the Spectacle*. Dancing, deeply tranced by the cut-up beat rhythms, not really hearing the sound any longer, but actually feeling the remix as it circulates through the techno glitch rhythm of your dancing body. You *are* the remix sound, and your eyes keep glancing at those searing images of the society of the spectacle: powerful images of the culture of consumption, the media machine, what it means to live and work and play and sometimes die in a brand culture that privileges the spectacle: the spectacle of the consumer, the spectacle of the war machine, the spectacle of desire, the spectacle of the beauty myth, the spectacle of reality shows, the spectacle of news 24/7, the spectacle of life in the wires.

DJ Spooky photo: Doug Jarvis

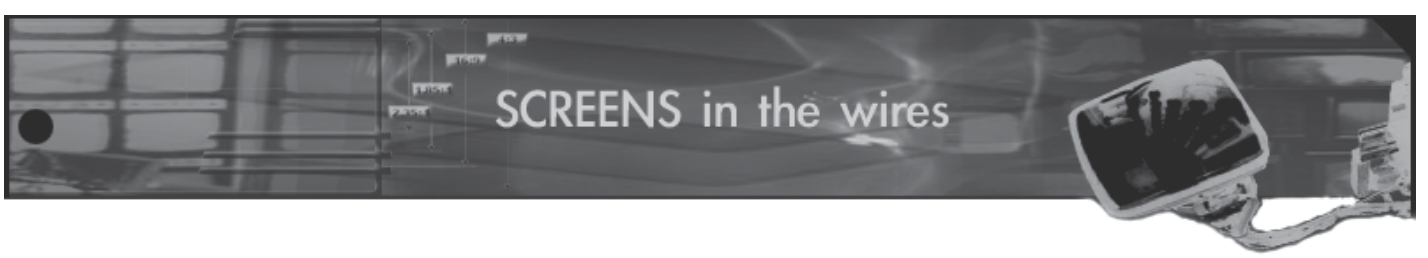
And it just doesn't stop, but only intensifies. Suddenly there are two remix musicians on the stage with two very different sound mixes. The deeply seductive club rhythms of Dj Spooky begin to be haunted by the heavy, pulsating sound tracks put down by Jackson 2 Bears, a remix musician for life in the ruins of the spectacle. Maybe influenced by his autobiography as a cutting-edge digital artist in the body of a West Coast Mohawk, Jackson 2 Bears sound mixes memory and blast. His remix loops through the media archive, pausing here to capture the eerie sound tracks of '50s style alien invaders cinema, circles for awhile around the forgotten tracks of early Detroit industrial rap, shoves ghetto blues right up against the white sound of the consumer machine, intensifying everything in a sound that is repetitive in its beats, in its urgency, in its warning, in its promise.

Jackson 2Bears

Dancing, listening, seeing: the remix music of Dj Spooky and Jackson 2 Bears bleeds right through your emotional sound-track, nerve-netting your body and your mind. You're suddenly drift-dancing at the edge of these two sound remixes: one composed by a brilliant young African-American theorist who has managed to sum up a tortured history of a culture of broken dreams and unspent promises in his remix versions of life in the wires; and the other the recombinant edge of what might be called the Mohawk posthuman: life in the wires as the remix sound of space invaders played at the speed of light.

I think back to Club Sugar, to that moment when caught in the remix of Dj Spooky and Jackson 2 Bears, technologies of sound abruptly ceased to be an object outside of myself, becoming deeply implicated in the way I imagined, perceived, communicated, and moved in the world. Something like an ancient epiphany, technologies of sound suddenly came alive, began to circulate and flow through the rhythms of my body, taking possession in a kind of creative intensity that just wouldn't stop resynching my feelings until I responded: by moving, by dancing, by standing—a spectator in the society of the spectacle—or maybe like this, actually *thinking* the question of technology by telling a story about an intensive experience that has something to say about my technological autobiography, about the who I am and whom I was and whom I might want to become in the technological reality show of life in the wires.

SCREENS IN THE WIRES



TWISTED WORLD

MATERIAL MEMORIES

SPEED RAMPING

FASHIONABLE PHILOSOPHY

48 ROBOTS

SCREENS IN THE WIRES

Arthur and Marilouise Kroker

What the surrealists called "automatic writing"—letting subconscious thought become a formalized artistic act—gets flipped, becoming a gangsta rap dreamtime remix, like an open-source Linux coded operating system, psychogeographic shareware for the open market in a world where identity is for sale to the highest bidder.

Dj Spooky, "Material Memories"

That we live in a culture of proliferating screens—cinema, television, computers, ABMs, medical imaging, airport surveillance screens—is already a truism: technology as cliché. What is less evident is the silent, but very real, impact of screen culture on our psycho-geography: the psychological territory of human imagination and perception, our sense of space and time, conceptions of what is real and unreal, questions of identity and truth-saying, indeed, '*truth-seeing*.' In ways complex, often misunderstood and deeply mysterious, we may already be the *invisible environment* of screens in the wires, exhausted media travelers into whose bodies and minds the psychic surgery of electronic technologies of communication puts down its hooks: radically altering the deepest language of human perception, shape-shifting the boundaries of the real, speeding up the meaning of time itself, and transforming visual space into an artificial horizon. Living in a culture dominated by screens in the wires means that without our consent and certainly in the absence of conscious deliberation, we have committed ourselves to life as a continuously altered reality. When the screens of media culture go inside the human mind, then we find ourselves suddenly and unexpectedly in a new psycho-geography of James Conlon's 'twisted world,' Paul D. Miller's (aka Dj Spooky *That Subliminal Kid*) 'material memories,' David Cox's 'speed-ramping,' and Joe Milutis' 'fashionable philosophy.'

The contributors to this section of *Life in the Wires* creatively probe the unfolding horizon of the new psycho-geography imposed by our swimming in a turbulent sea of media imagery. Writing consciously from *within* the context of screens in the wires,

having no easy illusions about the possibility or even desirability of extracting themselves from media culture, the contributors set out to explore screenal culture. Although they do so in very different ways, raising fundamentally original, urgent questions, one common concern weaves its way through these four probes: namely a common ambition to understand media in its own terms, to write a new language of 'material memories' as a kind of creative remix of screens in the wires. Here, turntabilism leaves the world of Dj's and clubs becoming a form of media analysis. And something else too: no matter which particular medium contributors use to analyze screens in the wires—television, cinema, video, music—*each article attempts to make the reader part of the mix*, to rethink issues, to digitize thought, to reprocess ideas, to label nothing. So be cautious: these articles will only work if you let your *imagination* enter into the space of 'twisted worlds,' actually *feel* what Dj Spooky means when he evokes the shamanistic term—'material memories'—*think back and ahead* to 'speed ramping' as an everyday media practice. Once that happens then things get strange but interesting. Insistent, difficult questions begin to appear: What happens to time/space in a culture disappearing into its image archive? Has digital technology both speeded up the past and written the future? How does Baudrillard remix the *Matrix*? Do software plugins for video and garage band software for music create an entirely new cultural mix? Has the practice of "automatic writing' envisioned by surrealistic artists in the 1930s become the subconscious of the vision machine? Are we living in the (artistic) past or the (technocratic) future? What's really the answer to Dj Spooky's question:

"What happens when a scene is no longer a scenario, but a computational process?"

And finally, we ask in "I was Seduced by 48 Robots," what does art, particularly big machine robotic performance art, have to tell us about issues of surveillance and control? We look to Louis-Philippe Demers' "*L'Assemblée*," to answer this question. Here, much like the acoustic ride provided by Dj Spooky's freestyle sound performance deep into the "material memories" generated by *Screens in the Wires*, Louis-Philippe's orchestration of 48 Robots with ourselves as both spectators and participants actually embeds us in the culture of screens in the wires. In "*L'Assemblée*," the screen comes inside us, leaving us with the illusion of being the last spectactors of an image-matrix that, quite paradoxically, needs our adoration *and* submission.

CROSSING INTO THE TWISTED WORLD

James Conlon

The great Polish science fiction writer and critic Stanislaw Lem saw in his genre of choice a means of imagining beyond the limits of contemporary human thought and society. Where others had ignored this potential, his writing could take on a unique position between fiction and philosophy.[1] Lem certainly took this role seriously, and he seldom pulls a punch when he targets a fellow science fiction writer for lazily falling back on tricks of the literary fantastic—the genre's potential is too great to squander. Robert Sheckley is one author who rarely escapes Lem's sharp critiques. I was then surprised to find the former's 1968 novel Mindswap wholeheartedly embracing Lem's challenge. Sheckley plunges into many of the questions of subjectivity that new technologies in cybernetics, informatics, and user interface design are now forcing us to engage. Even when taken out of place, his work has a jarring effect that moves one to a more novel interpretation and articulation of these contemporary social practices and events. So as I read Sheckley's narrative, I could not help but explore the uncanny feeling I had that it was speaking of the mass consumption of the War on Terror. What is more, his novel gives us a glimpse of the libidinal economy deep within the contemporary viewing subject.

Sheckley's work opens with a bit of prudent advice from a travel agent to Marvin Flynn, the work's protagonist and a soon-to-be tourist to Mars:

> Your might consider it a form of situational insanity. You see, our ability to assimilate the unusual is limited, and these limits are quickly reached and surpassed when we travel to alien planets. We experience too much novelty; it becomes unbearable, and the mind seeks relief through the buffering process of analogizing.

The travel agent continues, warning of this particular type of mental breakdown so often accompanying tourist excursions to other worlds:

> Analogy assures us that this is like that; it forms a bridge between the accepted known and the unacceptable unknown…however, under the continued and unremitting impact of the unknown, even the analogizing

> faculty can become distorted. Unable to handle the flood of data by the normal process of conceptual analogizing, the subject becomes victim to 'perceptual' analogizing. This state is what we call 'metaphoric deformation.'[2]

What may not be clear from this passage is that 'travel' is no longer entirely corporeal, but rather a "mechanical-hypnotic technique" that separates mind from body reinserting the former into an alien partner looking to exchange a similar adventure. Travel, tourism and cross-cultural interaction are no longer a case of linguistic negotiation between the mundane and the alien, but the instantaneous shift of subjectivity, the complete embrace of a different consciousness. Unable to come up with linguistically-based analogies at such dizzying speeds, we substitute wholesale what we perceive with more familiar images and personae from our personal and collective memories.

In addition to metaphoric deformation, simple criminal mischief is as much a threat to travelers of the future as it is today. Like the tourist returning to the hotel to find his wallet lifted, Flynn immediately learns that the renegade Martian Ze Kraggash has reneged on their agreement and stolen his original body. When the Martian authorities prove to be a bureaucratic dead end, the naïve mark is left with no recourse other than to jump from one alien subjectivity to the next in hot pursuit of his own body. It is on this chase that metaphoric deformation takes hold of Flynn. In trying to control the dizzying new worldview initiated by the combination of human subject and the technological apparatus, he subconsciously layers familiar cultural-historical anecdotes upon unimaginable alien landscapes. Reader and protagonist alike are left disoriented.

Soon enough the Known Universe is exhausted by Flynn's hunt. Cornered, Kraggash jumps through the Ring of Fire into the Twisted World, a fractured reality quite beyond the pale of our consciousness. Flynn has been warned of this unknowable realm—even to call the Twisted World a realm is in itself is in itself a deceptive moniker. There are certainly no laws, and it is "neither twisted nor a world" but pure "logical deformation."[3] To top it off, the narrative presents us with the double irony at this point of its climax: not only do we find Kraggash still in Flynn's body, but he has also taken on the role of our protagonist's own executioner moments before both leap through the Ring of Fire. One must go beyond transgressing the cascading subjectivities of the tourist to enter the Twisted World, as disorienting as they are. Crossing this boundary is suicide and the concomitant execution of subjectivity itself. This is certainly Kraggash's last-ditch attempt at freedom. After all, he is the villain quite capable of any number of perversions. But what are the implications for Flynn?

The Twisted World lives up to its billing. In the final confrontation Kraggash seemingly kills Flynn while moments later our protagonist emerges victorious to live happily ever after back home with his own body. Even if we can accept this strange victory, other details do not quite line up. Various slips and stutters undermine the authenticity of Terra, Flynn's home world, and it is clear that this is not the same place where the narrative began. We can only say he has reached a plane where the known meets the "unthought, the fold, lines of flight, what resists assimilation, what remains foreign even within a presumed identity…"[4]

These days we could easily transpose the Flaming Ring separating the Known Universe from the Twisted World with Virilio's 'artificial horizon,' the screen, that separates and in turn mediates between our constructed reality and the world around us. With little if any capacity to slow down the constant stream of images, we are undoubtedly coming down with a sever case of metaphoric deformation. As Virilio predicts, the "premature death of any living language" is just around the corner, and soon enough our

only facility for cross-cultural interaction will become the wholesale substitution of visual information.[5] The screen remains as the dividing line that ensures our social reality will never be disturbed by the horrors of the world around us.

Even when we leave our homes, where our primary screens are securely rooted to their networks of clumsy wires and hardware, there are a host of other more agile screens neatly attached to our bodies as hip fetish accessories. Laptops, cell phones, PDAs, digital cameras and hybrids of all of the above travel with us creating the never-ending twilight of the artificial horizon. And just around the corner lies "Augmented Reality," when wearable computers will key multimedia information directly into our field of vision through the use of global positioning systems wearable computers.[6]

Take this example. While conducting fieldwork at the Parthenon Acropolis, I could not help but notice most of the thousands of visitors would amble about the Propylaen, Parthenon, Erectheon, and site museum with little idea of what to do**.** There was one thing that genuinely grabbed each visitor's attention and shaped their behaviors. At several different points in their haphazard procession, each tourist would concentrate all engagement of the site into setting up the perfect photograph of the remains. Now cheap enough to be as ubiquitous as the guidebook in each tourist's travel pack, digital or disposable cameras engendered the only kind of serious focus on the monuments. Despite the August heat, in these moments the visitors intently framed their view of the facsimile Carytids in order to collect their experience as best they could. With the new class of international tourist finding little meaning in the grand historical and aesthetic narratives of the past, the artificial horizon of the LCD screen mediates even the immediate experience of facing the seminal icons of western civilization. Several months later, on the cover of the December 21st *New York Times*, I found the color image of a US soldier in Iraq aiming a digital camera at the bed where Saddam Hussein slept just hours before being yanked from his spider hole to face the rule of law. We cannot look away from the images on these screens, the horrible, beautiful or farcical, even when the actual material objects are right in front of our faces.

Like the "mechanical-hypnotic technique" that projects Flynn's subjectivity into an alien host, we too depend then on a set of practices, instruments, and technologies that shape the totality of our subjectivity. Benjamin wrote of the Paris arcades to define the Bourgeoisie experience of the 19th century. The city itself was an instrument, its locales, personae, and practices were the socio-spatial articulation of a kind of energy and spirit that marked the period. In writing of the Panopticon and disciplinary society, Foucault puts forward similar connections between social practices, discourse and an instrument of control. Sanford Kwinter makes a fascinating appeal for the loudspeakers' position in the twentieth century as the "literal and palpable expression to the concept of 'mass culture' and 'mass movement,'" especially in connection to fascist ideology.[7] We cannot continue on with this line of thought without mention of Jonathan Crary's work on attention, the internalization of the very disciplinary tactics that Foucault wrote of. The mass cultural forms of the twentieth century and objects such as the television and personal computer are as much about the self disciplining of the individual through the ideology of attention as they are about the content they deliver. [8] Ideology leaves its artifacts strewn across the epoch for us to excavate, or perhaps to bow down before. They are not only the great monuments defining the narratives of our civilization, but also the cheap consumer devices that hone our social practices shaping us as 'subjects.' We find ourselves back on the Acropolis Mount, packed with tourists glued to LCD screens, aiming with great care their cameras at the ruins. What

better device than the cheap mobile versions of the screen to define the touristic social reality of the end of the 20th century? We seemingly control our gaze, but as Crary pointed out, the crude and brutal disciplinary tactics of the Panopticon have long since been internalized through what Sheckley calls a set of mechanical-hypnotic techniques.

What is more, when we set about interpreting these images we simply turn to an ever-increasing flow of still more in what amounts to a process eerily similar to Sheckely's metaphoric deformation. The instantaneous and continuous comparison of the visual market,[9] transposed over global networks of information media, does away with the gradual construction of linguistic or even experiential knowledge of others. The situational insanity of Sheckley's perceptual analogy is then replacing the process of linguistic negotiation between cultures in a geographic contact zone. Do not get the impression that there is anything wrong with engaging images as a way of knowing the world, even through a process of analogy. Visual perception is not a passive recording of information, but an active element of conceptualization that exercises selective, abstract and creative acts of intellectual formation.[10] In poetics, the metaphor is the lie that expresses the greatest truth—the same can be said for the visual metaphor. The problem then does not lie within the metaphor itself, but in handling the vast flood of unfamiliar images at such dizzying speeds through an analogical process that has lost any kind of analytical or creative depth. Events, interactions, and shared experiences become a surplus of hackneyed visual spectacles to be stored up and exchanged on the visual market. Here the notion of surplus is the key, as Heidegger would note in *The Question Concerning Technology*. The human-technological hybrid of the artificial horizon investigates and then sets upon the world as a way of conceiving an "…object of research, until even the object disappears into the objectlessness of standing-reserve."[11] Never neutral or simply a means to an end, technology is intimately connected to the way we interpret, represent, and engage the world. It demands from nature a kind of value we can control, set aside and use at will—what Heidegger called "enframing." The factory, not as a kind of tool but a way of being in the world, reduces the river to hydroelectric power and the forest to building materials and fuel. Enframing is the very essence of technology.[12] We reach the ultimate danger of such a worldview when we enframe ourselves, reducing our own humanity to surplus value. Is it not this reduction of the world to a surplus of malleable familiarity that is at the heart of the contemporary viewing subject?

Within this economy, the screen and the social subject build metaphors to enframe the unfamiliar, digesting it with great ease. We on this side of the artificial horizon then stretch representational links to the point of deformation and deny the complexity of the world around us. Osama bin Laden in his cave becomes the savage Indian, the outlaw wanted "dead or alive," to George W. Bush's cowboy. It is a tired cliché, but that is the point. The image is consumable enough for our President to use at the TV nation's darkest hour. Likewise, we are now the corrupted pagan Meccans to bin Laden's original community of the Prophet Muhammad and the *muhajjarin* who fled to Medina initiating year zero of Islamic history. You may be either with us or against us, but each actor in the global milieu is hooked up to the artificial horizon like a sick patient to his intravenous unit. Do not believe for a second that the caves of Tora Bora, the peaks of Peshawar, or wherever bin Laden may be hiding is not illuminated by its glow. The artificial horizon then remains as the razor edge border between our mundane, corporeal existence and *Mindswap's* "continued, unremitting impact of the unknown." The side effect of delineating the world through the artificial horizon is metaphoric deformation.

We may recall at this point the narrative twist of *Mindswap*, where Flynn finds himself face to face with his stolen body as executioner, follows his quarry into the Twisted

World for their final confrontation, and settles into a new life in an unsettling alternative reality. Even though Flynn has come to terms with the uncanny conclusion to his chase, we on the other side of the Ring of Fire never quite achieve the comfort attending the satisfying conclusion of most narratives. To the reader as social subject, Flynn's abandonment of everyday reality brings the implications of his chase into sharp focus: he has saved himself by moving beyond the repetition of desire, extinguishing himself as a social subject, and accepting the Real. As Zizek explains in *Looking Awry*, "our common everyday reality, the reality of the social universe in which we assume our usual roles of kind-hearted, decent people, turns out to be an illusion that rests on a certain 'repression,' on overlooking the real of our desire."[13] Flynn essentially tears away the veil of fantasy even as the audience has difficulty taking in its very existence. We as readers have not come to expect abandonment of the social order from our protagonists. Staring deeply into "the place of the real, which stretches from the trauma to the phantasy—in so far as the phantasy is never anything more than the screen that conceals something quite primary, something determinant in the function of repetition" does not feel as ameliorative as it is.[14] Flynn's pursuit of his own body—the expected acts of heroism—then assumes the repeated flailing of a hysteric. He has spent the narrative casting aside any number of social subjects from one corner of the galaxy to the next. The successful conclusion of the chase becomes a kind of dream, while it is in this hysterical chase itself that we find the Real. Flynn's leap through the Ring of Fire may be a potent symbolic act pinpointing *Mindswap's* narrative tension and articulating the intrusion of the Real, but in the end the division the Ring of Fire establishes is just that, symbolic. Ultimately, the Twisted World is always all around us. It is instead through exhausting all possibilities of the fully constituted social subject and consequently extinguishing himself that Flynn finally attains his freedom. Sheckley discovers parallels in the writing process: "It's a high, this writing thing, a kind of drug, and once you experience it, nothing else is ever the same. Ordinary life seems like a prison sentence in comparison to the freedom of writing."[15] Social subjectivity is repression, writing a turn to the freedom of the Real. *Mindswap's* cascading subjectivities and the protagonist's turn to the Real takes the schizophrenic introspection of a work such as Philip K. Dick's *A Scanner Darkly* to a different level.

The implications of Flynn's leap into the Twisted World also hash out the workings of metaphoric deformation beyond the artificial horizon. Are we somehow poised to take pursuit of the renegade self through the Ring of Fire? Have we already made the crossing, the artificial horizon collapsed before our very eyes? Technology as an epistemology is also fueled by a libidinal economy, even though it may only surface as a barely acknowledged side effect. The viewing public's consumption of the War on Terror is again the case study, the attacks on the World Trade Center the obvious entry point. As Zizek comments,

> One should therefore turn around the standard reading according to which, the WTC explosions were the intrusion of the Real which shattered our illusory Sphere: quite the contrary, it is prior to the WTC collapse that we lived in our reality, perceiving the Third World horrors as something which is not effectively part of our social reality, as something which exists (for us) as a spectral apparition of the (TV) screen…[16]

Perhaps it was the events of September Eleventh, the terrorists as renegade self that traced our Ring of Fire just as Ze Kraggash did. The chaotic violence so firmly placed beyond the artificial horizon is here; somehow the chase to the ends of the Known

Universe had been initiated years before. But what is more, "the social reality is then [exposed to be] nothing but a fragile, symbolic cobweb that can at any moment be torn aside by an intrusion of the real."[17] Now all laws of the international community have collapsed, ironically enough, in the name of the rule of law; nor does our endless war seem to need any of the rules demanding proof of legitimate national threat. In fact logical connections are so broken down we need not even pursue the true perpetrator of these crimes—one Arab or another will do, so our war machines now land in Iraq under the glow of the artificial horizon. These breakdowns of cause and effect are particularly ominous. Sheckley tells us that this relationship is the first to go in the face of complete logical deformation. What is more, Operation Iraqi Freedom becomes the repetition of the conquest of Afghanistan and hundreds or years of colonial wars before it, and to paraphrase Lacan, there is something determinant to be found in the function of repetition.

The fragility of the social framework is all too obvious, but how does one make sense of this? When Zizek's above quotations are placed beside our image of the War on Terrorism we recall Freud's *Civilization and It's Discontents*. Remember, "the Liberty of the individual is no gift of Civilization," modernity is in turn defined by this struggle to accommodate the primal individual and the claims of the group.[18] But to leave Bush as the enormously exalted father and bin Laden as the primal id run amok is a simple grid of opposition, just a starting point.

Take this line of thought further. We have set about to rebuild Iraq in our own image, and our President, intoxicated with the promise of historical immortality, has vowed to do the same for the rest of the Middle East. The War on Terror, and especially its chapter in Iraq, is the desire to establish again and again this delicate symbolic web. The thing is the battle to reassert the fragile social order can only take place in the Twisted World. Only here does talk of bringing the rule of law and democracy to the region fall away with great ease. It is replaced by violent occupation, Iraqi villages enclosed in barbed wire, 'prudently' limited elections, and still more predictions of endless war. There is no coalition. There are no weapons of mass destruction. The peacemaker is the conqueror and, posing before the cameras in front of his war machines, he savors his role. The conqueror always relishes the freedom of the rebellious terrorist, hidden away, unfettered by naïve politicians and civilians. And we watch it all on our screens, all too eager to jeopardize civilization rather than give up the secret pleasures of the barbarian. The contradiction is of course barely acknowledged and this disavowal is the very structuring kernel of metaphoric deformation. It is essentially *jouissance*—"the way in which fantasy animates and structures enjoyment, while simultaneously serving as a protective shield against its excess."[19] This mere side effect is the key to understanding the libidinal economy beyond the artificial horizon. The Real has no place in history. It is the timeless subject beyond morality, any symbolic system or ideology. At the turn of the Twenty-first century the Real is Heideggerian technology as a way of being in the world, the demand we set on nature for a value we can control, take aside and use at will. It is the drive to accumulate the world as surplus, nature and humanity alike. The Real is masked behind our fantasies of civilization, where technology only enters as a neutral instrument fully under our control. But at these crisis points in the War on Terror, it is all too clear that here in the Twisted World the rule of law and democracy are not our true objectives.

Then again, the nature of the Real is always impossible to grasp; it lies in a seminal trauma too destructive to confront, and although we close in on it, time and time again we find ourselves before another fantasy. That is why it is much easier for Lem and

Sheckley to approach the Real through their art—we always work through some other object so as to open a wider space for inquiry. Perhaps we look to technology as a means of questioning these issues for similar reasons. Society has the tendency to pin both its greatest hopes and most dire fears on technology. Whether the cry emanates from the avant-garde or originates within mass culture, it is no exaggeration to understand this apparent contradiction as a major trope of our times. It signals a peculiar alienation we find in contemporary life, the knowledge that limitless potential and disturbing consequences always seem close at hand through the instruments our own doing. In questioning technology, Heidegger too would find himself on the razor's edge between humanity's ultimate disaster and its saving grace. We then turn back to that other—whether it is art, fiction, or technology—and its ability to either expose or hide the Real. For Heidegger, this is the heart of the issue. If we can engage technology in the original sense of *techné*, that which positions humanity in the world through poetics and the arts, and reveal the world around us, then there is hope. Just do not expect to enjoy what it reveals. These days we are crossing into the Twisted World.

Notes

1. Stanislaw Lem, *Microworlds*, New York: Harcourt Brace and Company, 1984.

2. Robert Sheckley, *The People Trap* plus *Mindswap*, New York: Ace Books, 1968, p. 282.

3. Sheckley, p. 451.

4. Elizabeth Grosz, *Architecture from the Outside*, Cambridge: MIT Press, 2001, p. 64-5.

5. Paul Virilio, *Information Bomb*, New York: Verso, 2000, p. 71.

6. http://www1.cs.columbia.edu/graphics/projects/virtual-worlds.html

7. Stanford Kwinter, *Architectures of Time*, Cambridge: MIT Press, 2001, p. 20.

8. Jonathan Crary, *Suspensions of Perception*, Cambridge: MIT Press, 2001, p. 74.

9. Virilio, pp. 60-1.

10. Rudolf Arnheim, *Visual Thinking*, Berkely: University of California Press, 1969.

11. Martin Heidegger, *The Question Concerning Technology and Other Essays*, New York: Harper and Row, p. 19.

12. Heidegger, pp. 16; 19-21.

13. Slavoj Zizek, *Looking Awry*, Cambridge: MIT Press,1992, p. 17.

14. Jacques Lacan, *The Seminar of Jacques Lacan, Book XI: Four Fundamental Concepts of Psychoanalysis* , trans. Alan Sheridan, ed. Jacques-Alain Miller, New York: W. W. Norton and Company, 1978, p. 60.

15. http://www.sheckley.com.

16. Slavoj Zizek, *Welcome to the Desert of the Real*, New York: The Wooster Press, 2001, p. 18.

17. Zizek, *Looking Awry,* p. 17.

18. Sigmund Freud, *Civilization and its Discontents*, trans. James Strachey, New York: W. W. Norton and Company, pp. 47-48.

19. Slavoj Zizek, *The Plague of Fantasies*, London: Verso, 1997, p. 1.

MATERIAL MEMORIES

TIME AND THE CINEMATIC IMAGE

Paul D. Miller (Dj Spooky)

"Time is invention, or it is nothing at all..."

– Gilles Deleuze, *Movement-Image*

"I am the OmniAmerican born of beats and blood, the concert of the sun unplugged..."

– Saul Williams, *Om Ni American*

It was Maya Deren who said it a long time ago: "A ritual is an action distinguished from all others in that it seeks the realization of its purpose through the exercise of form."[1] The time was 1945 and she was to later go on to be one of the first cinematographers to document the Voudon dances of Haiti. For her film was both rupture and convergence—the screen was a place where the sense of vision was conveyed by time and its unfolding in the images of her investigation. Black bodies, white screens—a ritual played out in the form of possession and release in her projections. The rhythms of fragmentation and loss for her were a new currency, a new way to explore the optical poetry of the Americas reflected in the dances of the Caribbean. Time and cinema for her were one dance, one meshwork of physical and psychological time, the rhythms were altars of a new history written in the movements of dance. In her 1945 film "Ritual in Transfigured Time" she explored the poetry of suspended time to try to create a new artform of the American cinema, a ritual of rhythm and noise that would engage everything from later films like "Divine Horsemen" (her homage to the Loa of Haiti) to her classic 1948 film "Meditation on Violence" that explored the Wu-Tang school of boxing (not the liquid swords of Staten Island, but the Chinese art based on the *Book of Changes* in China). Ritual time, visual time—both

were part of a new history unfolding on the white screens of her contemporary world. She sought a new art to mold time out of dance, a social sculpture carved out of celluloid gestures and body movements caught in the prismatic light of the camera lens: "in this sense [ritual] is art, and even historically, all art derives from ritual. Being a film ritual, it is achieved not in spatial terms alone, but in terms of Time created by the camera."[2] In the lens of the camera the dance became a way of making time expand and become a ritual reflection of reality itself. Film became total. Became time itself—a mnemonic, a memory palace made of the gestures captured on the infinitely blank screen.

"Money is time, but time is not money." It's an old phrase that somehow encapsulates that strange moment when you look out your window and see the world flow by—a question comes to mind: "How does it all work?" Trains, planes, automobiles, people, transnational corporations, monitor screens... large and small, human and non-human... all of these represent a seamless convergence of time and space in a world consisting of compartmentalized moments and discrete invisible transactions. Somehow it all just works. Frames per second, pixels per square inch, color depth resolution measured in the millions of subtle combinations possible on a monitor screen... all of these media representations still need a designated driver. From the construction of time in a world of images and advertising, it's not that big a leap to arrive at a place like that old Wu-Tang song said a while ago "C.R.E.A.M"—"Cash Rules Everything Around Me." That's the end result of the logic of late capitalist representations redux.

Think of the scenario as a Surrealist's walking dream put into a contemporary context. Andre Breton first stated the kind of will to break from the industrial *roles* culture assigned everyone in Europe back in 1930: "the simplest Surrealist act consists of dashing down into the street, pistol in hand, and firing blindly as fast as you can, as fast as you can pull the trigger, into the crowd. Anyone who at least once in his life, has not dreamed of thus putting an end to the petty system of debasement and cretinization in effect has a well-defined place in that crowd, with his belly at barrel level."[3] Weapons drawn and firing as you take a sleepwalk through the crowded thoroughfares and shopping malls of the information age, your surrealistic statement makes even less sense than the world that you want to join as you become a mediated celebrity straight out of a Ballard short story or maybe Warhol's kind of 15 minutes of fame.

What the Surrealists called "automatic writing"—letting subconscious thought become a formalized artistic act—gets flipped, becoming a gangsta dreamtime remix, like an open source Linux coded operating system, psychogeographic shareware for the open market in a world where identity is for sale to the highest bidder. Screen time. Prime Time: Life as an infinite level video game with an infinite array of characters to pick from. It's one of those situations where, poker-faced, the dealer asks you, "pick a card, any card..." It's a game that asks—"who speaks through you?" There are a lot of echoes in the operating system, but that's the point. The game goes on. The moment of revelation is encoded in the action: you become the star of the scene, your name etched in bullets ripping through the crowd. Neon lit Social-Darwinism for the technicolor age. Set your browser to drift mode and simply float: the sequence really doesn't care what you do as long as you are watching. "Now" becomes a method for exploring the coded landscapes of contemporary post-industrial reality, a flux, a Situationist reverie, a "psychogeographie"—a drift without beginning or end... Ask any high school student in the U.S. and they can tell you the same thing.

Most people trace the idea of time without variation to Newton's 1687 *Principia*. With the term "Absolute Time" he created a sense that the world moved in a way that only allow one progression, one sequence of actions. Joel Chadabe's (director of the Electronic Music Foundation in the U.S.) book length essay on the idea of Time and electronic music, "Electric Sound," points us to the old referential style of thought that Newton highlighted:

> as if models of a synchronous universe, every musical composition and painting of the Newtonian period—roughly from 1600 to 1900—reflected one line of time. In every musical composition, there was but one line of chord progressions to which all notes were synchronized. In every painting, there was but one line of travel for the viewers' eyes, one perspective to which all objects were synchronized. [4]

The kind of synchronized time imagined in this scenario is what, by most accounts, fueled the Industrial Revolution, and lubricated a culture based on highly stratified regulation of the limited amounts of time available for production. Einstein's 1905 special theory of relativity paved the way for the physics that Richard P. Feynman would extend and develop much later in the century. As Chadabe puts it: "Einstein's universe was a multiplicity of parallel and asynchronous timelines."[5] Chronos, the Greek god of Time, was a cannibal: he devoured his children and left the universe barren. From time all things emerge and into Time all things go. Chronos at the heart of Europe, Chronos at the crossroads becomes a signpost in suspension—multiplication of time versus the all consuming one track time, one track mind.

Anyway, feel a million flurries of now, a million intangibles of the present moment, an infinite permutation of what could be... the thought gets caught... You get the picture. In the data cloud of collective consciousness, it's one of those issues that just seems to keep popping up. Where did I start? Where did I end? First and foremost, it's that flash of insight, a way of looking at the fragments of time. Check it: visual mode—open source, a kinematoscope of the unconscious: a bullet that cuts through everything like a Doc Edgerton, E.J. Maret or Muybridge flash frozen frame. You look for the elements of the experience, and if you think about it, even the word "analysis" means to break down something into its component parts. Stop motion: weapons drawn, flip the situation into a new kind of dawn... It's only a rendition of Breton's dream—surrealism as a mid-summer night's scheme, check the drift in the 21st Situationist scene. A scenario on the screen: camera obscura, the perspective unbound walking through a crowd, gun drawn, firing wildly until everyone is gone... could it be another version, another situation... like the police whose 19 out of 41 bullets shot Diallo dead or the kids that walk into the schools to live out their most powerful stunningly banal lives by ending their classmates. This is how it is in the sign of the times—an advertising link to the symbols of a lawless world, something anything to grasp onto to give meaning to the ultra swirl...

Or something like that.

For Breton and the Surrealists that moment of total freedom—walking into a crowd firing blindly, was a psycho-social critique of the way that time and culture had been regimented in an industrial society. Freedom was in the abandonment of the roles that they, like everyone else around them, were forced to play. Flip the script, timestretch the code: From Frederick Winslow Taylor's "clockwork economy" that was taken from his *Principles of Scientific Management* on up to the hypercondensed TV commercials of the early 21st century the motif: "Money is time, but time is not money."

What happens when you look at the time part of the phrase? You're left with a paradox in math and physics translated into the social realm of human transactions and the uncanny system of correspondences that make up the components of reality as we know it. What would happen if the dream stopped? What would happen if the bright lights and technicolor illusions that hold contemporary reality together were swept away in a swirl of static? What would we do if that place where all the stories come from suddenly vanished like a mirage in the desert of our collective dreams? As the amount of information out there explodes exponentially and threatens to become almost the only way people relate to one another, it's a question that seems to beg a response: what would happen if it just vanished and the lights went out?

I write this after a week of intense activity—a trip to Washington D.C. where I saw first-hand some of the time machines the Naval Observatory on Massachusetts Avenue uses to measure half-life decay of cesium particles and their relationship to the precise measurement of time, and then the image and soundtrack switched and now I'm in Austin, Texas, half a country away, for the SXSW film festival of interactive media. Crossfade to a week later, Newark Airport, transfer to the Toronto Music Festival... The script unfolds while the fragments coalesce. I like to think of this kind of writing as a script information—the self as "subject-in-synchronization" (the moving parts aligned in the viewfinder of an other), rather than the old 20th century inheritance of the Cartesian subject-object relation. What are the ontological implications for such a shift? What does this kind of "filmic time" do to the creative act, and how do we represent it? It's been well documented that music has engaged these issues from the beginning of the cinematic moment. From D.W. Griffith's awe inspiring classic *Birth of a Nation*, to the first sound film *The Jazz Singer*, the issue of how to deal with different approaches to the notion of fragmented time—and how we portray it—has haunted the cinema. After a couple of years of movies like *The Matrix*, *Bamboozled*, and *Blair Witch Project* it seems that, without a doubt, the conflicting impulse of how to portray psychological time has become a core motif in cinema. Early films, like Oskar Fischinger animation intro for Disney's *Fantasia* or Man Ray's film shorts explored how to portray the human subject in relation to the objects around us. But when jazz entered the picture, that's when things really flipped into a more immersive narrative context. The first sound film to hit pop culture's criteria of mass sales and massive influence was Alan Crosland's 1927 epic *The Jazz Singer*—film shorts were used to keep audiences occupied while film reels were changed. The ongoing relationship of how to go between images arrives and conquers—becomes song.

A blip on the radar? A database sweep? A streamed numerical sequence? In a short space, my narrative has switched formats and functions, time and place—all were kind of like fonts—something to be used for a moment to highlight a certain mode of expression, and, of course, utterly pliable. As I sit here and type on my laptop, even the basic format of the words I write still mirrors some of the early developments in graphical user interface based texts, still echoes not only in how I write, but how I think about the temporal placement of the words and ideas I'm thinking about. It's a worldview that definitely ain't linear but came out of the graphical user interfaces invented by the likes of Alan Kay, and Douglas Engelberts, and Ivan Sutherland—stuff that let you move into the screen and interact with the icons and objects on the monitor's surface. Into the picture, into the frame—that's the name of the game. Context becomes metatext, and the enframing process, as folks as diverse as Iannis Xenakis, Kool Keith aka Dr. Octagon or Eminem can tell you, like Freidrich Kittler, "Aesthetics begins as 'pattern recognition.'"[6]

Repetition and Claude Shannon? Repetition and James Snead? As has been well documented by folks such as Tricia Rose, James Snead, and Sherry Turkle (whose book *The Second Self* could be a digital era update on W.E.B. Dubois' critique of African American "Double Consciousness" and the multiplying effects of digital media on self representation) the sense here is one of prolonging the formal implications of the expressive act—move into the frame, get the picture, re-invent your name. Movement, flow, flux: the nomad takes on the sedentary qualities of the urban dweller. Movement on the screen becomes an omnipresent quality. Absolute time becomes dream machine flicker. The eyes move. The body stays still. Travel. Big picture small frame, so what's the name of the game? Symbol and synecdoche, sign and signification, all at once, the digital codes become a reflection, a mirror permutation of the nation... Where to go? What to do to get there?

Sometimes the best way to get an idea across is to simply tell it as a story. It's been a while since one autumn afternoon in 1896 when Georges Melies was filming a late afternoon Paris crowd caught in the ebb and flow of the city's traffic. Melies was in the process of filming an omnibus as it came out of a tunnel, and his camera jammed. He tried for several moments to get it going again, but with no luck. After a couple of minutes he got it working again, and the camera's lens caught a hearse going by. It was an accident that went unnoticed until he got home. When the film was developed and projected it seemed as if the bus morphed into a funeral hearse and back to its original form again. In the space of what used to be called *actualites*—real contexts reconfigured into stories that the audiences could relate to—a simple opening and closing of a lens had placed the viewer in several places and times simultaneously. In the space of one random error, Melies created what we know of today as the "cut"—words, images, sounds flowing out the lens projection would deliver, like James Joyce used to say "sounds like a river." Flow, rupture, and fragmentation—all seamlessly bound to the viewers perspectival architecture of film and sound, all utterly malleable—in the blink of an eye space and time as the pre-industrial culture had known it came to an end.

Whenever you look at an image, there's a ruthless logic of selection that you have to go through to simply create a sense of order. The end-product of this palimpsest of perception is a composite of all the thoughts and actions you sift through over the last several micro-seconds—a soundbite reflection of a process that's a new update of Mary Shelley's *Frankenstein* or the German proto Expressionist 1920 film *Der Golem*, but this time it's the imaginary creature made of the interplay fragments of time, code, and (all puns intended) memory and flesh. The eyes stream data to the brain through something like two million fiber bundles of nerves. Consider the exponential aspects of perception when you multiply this kind of density by the fact that not only does the brain do this all the time, but the millions of bits of information streaming through your mind at any moment have to be coordinated. Any shift in the traffic of information—even the slightest rerouting—can create, like the hearse and omnibus of Melies' film accident, not only new thoughts, but new ways of thinking. Literally. Non-fiction, check the meta-contradiction... Back in the early portion of the 20th century this kind of emotive fragmentation implied a crisis of representation, and it was filmakers, not Dj's who were on the cutting edge of how to create a kind of subjective intercutting of narratives and times—there's even the famous story of how President Woodrow Wilson when he saw the now legendary amount of images and narrative jump-cuts that were in turn cut and spliced up in D.W. Griffiths's film classic *Birth of a Nation* called the style of ultra-montage "like writing history with lightning." I wonder what he would have said of Grand Master Flash's 1981 classic "Adventures on the Wheels of Steel"?

Film makers like D.W. Griffith, Dziga Vertov, Oscar Michaux, and Sergei Eisenstein (especially with his theory of "dialectal montage" or "montage of attractions" that created a kind of subjective intercutting of multiple layers of stories within stories) were forging stories for a world just coming out of the throes of World War I. A world which, like ours, was becoming increasingly inter-connected, and filled with stories of distant lands, times and places—a place where cross-cutting allowed the presentation not only of parallel actions occurring simultaneously in separate spatial dimensions, but also parallel actions occurring on separate temporal planes—in the case of Griffith's *Birth of a Nation*, four stories at once—and helped convey the sense of density that the world was confronting... Griffith was known as "the Man Who Invented Hollywood," and the words he used to describe his style of composition—"intra-frame narrative" or the "cut-in" the "cross-cut"—staked out a space in America's linguistic terrain that hasn't really been explored too much. Griffith's films were mainly used as propaganda—*Birth of a Nation* was used as a recruitment film for the Ku Klux Klan at least up until the mid 1960's, and other films like *Intolerance* were commercial failures, and the paradox of his cultural stance versus the technical expertise that he brought to film, is still mirrored in Hollywood to this day. Jazz time versus Hollywood time. *The Jazz Singer* versus the silence of *Birth of a Nation* on the mind-screens of contemporary America: echo meets alias in the coded exchange of glances. What Mikhail Bakhtin might have once called "diacritical difference" now becomes "the mix.," or as James B. Twitchell says in "Adcult USA" his classic analysis of advertising culture, media, and the "carnival of the everyday" in the images and sounds that make up the fabric of American daily life: "[the situations are] homologues of each other and semilogues of those in the genre. Entertainments share diachronic and synchronic similarities; they refer to individual texts as well as to all precursors and successors—every programmers worst fear is that we might change the channel." [7]

If you compare that kind of flux to stuff like Dj mixes, you can see a similar logic at work: it's all about selection of sound as narrative. I guess that's travelling by synecdoche. It's a process of sifting through the narrative rubble of a phenomenon that conceptual artist Adrian Piper liked to call the "indexical present:" "I use the notion of the 'indexical present' to describe the way in which I attempt to draw the viewer into a direct relationship with the work, to draw the viewer into a kind of self critical standpoint which encourages reflection on one's own responses to the work..."

To name, to call, to upload, to download... take on the notions of dance and memory. By moving across the screen you uncover slowly deteriorating images of dancehalls—a lyrical critique of how much we move physically and the immense amount of potential culture has for change, a project that's based on geographic and temporal simultaneity—i.e. creating a new time-zone out of widely dispersed geographic regions—reflect the same ideas by using the net to focus our attention on a world rapidly moving into what I like to call "prosthetic realism." Sight and sound, sign and signification: the travel at this point becomes mental, and as with Griffith's hyper dense technically prescient intercuts, it's all about how you play with the variables that creates the artpiece. If you play, you get something out of the experience. If you don't, like Griffith—the medium becomes a reinforcement of what's already there, or as one critic said a long time ago of Griffith's *Intolerance*: "history itself seems to pour like a cataract across the screen..." This is the James Snead critique of what Spike Lee ironically called "Colored Peoples Time" in *Bamboozled*, or what Morpheus in the form of Lawrence Fishbourne asked Neo in the *Matrix*: "Do you think that's air you're breathing in here?"

Like an acrobat drifting through the topologies of codes, glyphs and signs that make up the fabric of my everyday life, I like to flip things around. With a culture based on stuff like Emergency Broadcast Network's hyper-edited news briefs, Ninja Tune dance moguls, Cold Cut's "7 Minutes of Madness" remix of Eric B and Rakim's "Paid in Full" to Grandmaster Flash's "Adventures on the Wheels of Steel" to later excursions into geographic, cultural, and temporal dispersion like MP3lit.com—contemporary 21st Century aesthetics needs to focus on how to cope with the immersion we experience on a daily level—a density that Sergei Eisenstein back in 1929 spoke of when he was asked about travel and film: "the hieroglyphic language of the cinema is capable of expressing any concept, any idea of class, any political or tactical slogan, without recourse to the help of suspect dramatic or psychological past." Does this mean that we make our own films as we live them? Traveling without moving. It's something even Aristotle's "Unmoved Mover" wouldn't have thought possible. But hey, like I always say, "who's counting?" Chronos—the all consuming father—watches as somehow his children are given a "stay of execution" and he is forced to stay hungry—what happens when a scene is no longer a scenario, but a computational process?

Notes for the Oberhausen Film Festival.

1. Maya Deren, "Ritual in Transfigured Time," *Experimental Films*, New York: Mystic Fire Video, 1945-6.

2. Ibid.

3. Andre Breton, *Manifestoes of Surrealism*, translated by Richard Seaver and Helen R. Lane, Ann Arbor: Ann Arbor Paperbacks, 1972. p. 124.

4. Joel Chadabe, *Electric Sound: The Past and Promise of Electronic Music*. New Jersey: Prentice Hall, 1997. p. 21.

5. Ibid., p. 22.

6. Friedrich Kittler, *Literature/Media/Information Systems: Essays*. John Johnston, editor. Amsterdam: Overseas Publishers Association, 1997, p. 130.

7. James B. Twictchell, *Adcult USA: The Triumph of Advertising in American Culture*. New York: Columbia University Press, 1996.

SPEED RAMPING

David Cox

Many ads and feature films these days use a process described by industry insiders as "speed ramping" in which onscreen characters and events are shown to suddenly speed up and slow down. It is a "look" which for filmmakers and critics of my generation (over 35) is associated with experimental and avant-garde film, particularly the types of films made with Bolex and Arriflex 16mm cameras which enable real-time shutter speed manipulation while the camera is running. When you film someone at 24 frames per second, and then slow the frame rate down to 12 frames per second while the camera is running, two things happen. 1) The person appears to speed up (fewer frames to cover the same action means that at a constant frame playback rate of 24 fps the action appears faster); and 2) unless the aperture of the camera is altered to keep the exposure consistent with the frame rate, the film gets overexposed, as more light is allowed to land on the slowed down film.

Now computer based non-linear editing and post-production tools are used to manipulate the speed of the images, as well as the other spin-off effects associated with multiple speed coverage of shots. Computers can mimic many of the attributes of traditional film, including the familiar scratching-of-the-emulsion, various dust and light leak effects, when the material has in fact been shot on digital video. I've lost count of students who ask me how to make their miniDV sourced video material look as if it had been filmed on 35mm panavision, with 1:185 aspect ratio.

These now commonplace digital techniques are used to connote the "look and feel" of film and have often been developed to help blur the distinction between video and film material, or computer generated film material such as 3D computer graphics. The aim is to create a naturalistic sense that material has been photographed in the most analogue and traditional ways possible. There can almost be said to be a fetishism of the attributes of traditional film, with the details of the passage of film through a gate, sprockets, film grain speckles, flickering image quality and all the other attributes which have lent film its status as the domain of "true professionals". The fetishism of film is to some extent the fetishism of motion picture-making as a profession. 'If only I could make my material look like that of the professionals, then I too might have a

chance at mainstream success...' What is seldom questioned however are the assumptions and values which lie behind the mainstream industry—its use of budgets, its use of labour, and the crippling distribution system which not even the biggest mavericks of the (Hollywood) century have been able to crack, Coppolla, Lucas, Speilberg—none of them.

The much lauded and hyped George Lucas led the broadband digital distribution model, in which high definition video is piped into auditoria via complex digital networks, still presumes the maintenance of relatively high budgets, and populist mainstream film material. Just because you can pipe your film to the mall instead of send prints via FedEx does not alter the basic social relations between the filmmaker and the audience (believe it or not once a key motivating factor behind those filmmakers now promoting digital distribution*).

The combination of the Internet, the laptop and the camcorder still represent the cheapest means to make films, and data-projectors and films-on-disk and the Internet itself are still the best way to distribute them. But the whir of the shutter through the gate is a mesmerising sound, and to capture the romance of photochemistry, if not its actual working means is enough for most young filmmakers. All power to them. Speed ramping, digital compositing and other tricks represent a dizzying array of potentialities which only digital production can offer at low cost. The choices of compositing, and altering every conceivable aspect of the audio-visual experience are so voluminous they often obscure for newcomers in particular the basic requirements of film: to encapsulate a worldview, to move, to entertain, and to provoke to action. A plug-in will not make a film engaging that is not interesting at the script stage.

Many filmmakers have exploited the dramatic potential of over-cranking and under-cranking movie cameras. For example, Martin Scorsese is famous for slowing action down mid-story to emphasize details of a character's clothing or jewelry, typically as they enter a room or get out of a car. This has the effect of cinematically underscoring the psychological effect the filmed person has on another character. For example, in the opening of the film *Goodfellas* (1990) the young mafia wannabe sees the subject of his idolization getting out of an enormous convertible car. We cut to a close up of the Mafioso's foot in slow motion hitting the pavement, then another close up shows the rings on the finger of the *Wiseguy* as he shuts the door of the car.

'Slow-mo' is in this sense used to indicate a fetishisation of the subject. A way of suggesting that the subject is able to hypnotize the viewer with his or her actions; we the audience see and experience a character through the eyes of another character. We therefore identify with the character doing the looking, in *Goodfellas*, 'we' are a young mafia wannabe, who ogles the rituals of gangster life as a ticket out of the banality of his working class existence.

Scorsese also seeks to capture the elaborate 'dance' of people as they position themselves in relation to other people as part of a complex set of social codes. Scorsese's concern with the "codes of movement of people in space" based on social conventions was largely learned by watching Powell and Pressburger films; especially *The Red Shoes* (1948) and *The Life and Times of Colonel Blimp* (1943). The DVD of the latter includes a running commentary by Scorsese, in which he lovingly describes the meaning of tiny gestures of the hand or the body in codified social environments such as ballrooms and fencing halls. Knowledge of the psychology of motion of the camera and of actors through space is of course the bread and butter of the director's art. Blocking a scene, positioning actors and props to maximise dramatic effect is what a generation of directors have passed on as cinematic history.

Altering film speeds to emphasize a social detail is all part of the tricks of the trade for Scorsese, whose elaborately constructed interiors: bar-rooms, restaurants, cars, casinos etc., are privy to often dizzying camera moves, frame rates and ballet-like actor's movements. In *Raging Bull* (1980), the famous fight sequence in which De Niro is knocked around the ring at differing speeds, seeks to subjectively place the viewer in the boxer's place. With each blow, time seems to accelerate and decelerate as consciousness eases in and out with the shutter speed. **Fast, then Slow in an Instant**.

Today Scorcese's cinematic strategy has become the basis of advertising culture with many ads showing people getting in and out of cars, and environments suddenly speeding up and slowing down. "Flash frames" and other techniques are digitally added to these sequences, thus suggesting that the sequences have been shot on film (whether they have been or not) and the increased slowness of the film through the camera has overexposed that film as, simultaneously, its imagery speeds up. The flash frames have not been trimmed: we're watching rushes, camera original film, we are 'with' the filmmakers. We share their privileged position.

It is becoming a cliche, a kind of standard off-the-rack technique, the cultural origins of which actually can be traced to early film history.

The "shaky camera" look in commercials made their widespread appearance in the mid 1980s, and then with *Hill Street Blues* and similar TV programs. These 'cinema verite' have origins in both the French New Wave period of the 1950s and 1960s, and before then in the experimental oeuvre of filmmakers like the surrealist Renee Clair whose *Entre Act* gleefully celebrated a complete collapse of time/space relations. Hans Richter's *Ghosts Before Breakfast* (1927) also cinematically celebrated Dada's deliberate undermining of conventional time and space. At around the same time in Russia the camera fetishist Dziga Vertov, whose *Man With a Movie Camera* (1929) toyed with frame rates as breathlessly as it did with camera platforms. It remains one of the few surviving artifacts of history which convey some sense of what it must have been like to be part of the Russian Revolution for a young artist: a sense of breathless abandon and willful experimentation. Watching it on DVD is thrilling.

Jean Cocteau's films *Orpheus* (1949) and *Testament of Orpheus* (1960) also experimented wildly with camera speed effects to suggest the passage from the world to hell and back. Given his politics in relation to the Nazi occupation, not surprising at all.

In mainstream film and video texts the "shaky camera" functions to connote a subjectivity of viewpoint—a fly-on-the-wall perspective on events. We are meant to conclude that these are not staged, rehearsed and scripted events, but rather natural ones to which we just so happen to be privy. When Roman Polanski introduced the handheld camera into contexts which in Hollywood terms were not 'motivated' as such in films like *Chinatown* (1974), the effect was to "Europeanise" American films, drawing them closer to the fine art formalist conventions of Europe.

Smaller lightweight Arriflex 16mm cameras had enabled film-critics-turned directors like Jean Luc Godard to literally run down the street with his camera to follow his subjects through the streets of Paris. Godard's films were greatly admired by many of todays most revered directors such as Coppolla, Lucas, Altman, and Scorese, and the documentary look in the 1970s was closely linked to notions of social justice, artistic credibility, and critical legitimacy. Today, the 'shaky cam' look is more likely to be a 'plug-in' for editing software than properly fullyunderstood as long standing cinematic conventions which have a cultural history. Just another "look", in the digital grab bag of historical samples. Stripped of historical contexts, they float freely as postmodern fragments of the past, like bits of songs in a rap single: the "super 8 look", the

"16mm black and white documentary" look, the "forensic record" look etc. Fashion thus transforms cultural critique into stylistic gesture, and like most modes of gentrification, robs a place and a culture of its memory, in order to increase rents and make the place nicer for the middle class.

Selecting styles becomes a process of consumption, rather than a thought out praxis based on a familiarity with technology. When you choose to make video look like film by means of an Adobe plug-in it is like using a piece of flight simulator software; you obtain the experience of flying but seldom actually source the knowledge of how to fly a real plane. You miss what it is like to handle film itself, to physically load a heavy film camera. You do not need to use a light meter, or understand the alchemy of knowing how to expose a photochemical surface, rather than an array charged couple devices. These somewhat arcane experiences have been left aside, done away with like the offending wallpaper in a soon-to-be renovated yuppie apartment, like the pool tables and juke boxes of renovated bars, and the radical politics which once went hand in hand with particular styles of film making. Something is gained, but more is lost.

The hand-held "shaky-cam" 'look' is linked to 'speed ramping': both privilege the dynamism of action within the frame as a means of dramatic emphasis. Both connote a measure of viewer subjectivity: I am watching from a documentary perspective. The ad warning about speeding on the roads, or selling life insurance must be *really happening* and time is going fast and slow, and this lets me see just how well the wheels on the Nissan really can grip the highway, and attract the attention of the "pretty girls"! So much for how the ad man himself imagines his audience. What is the broader meaning of this barrage of visual speed maneuvering in popular culture? What does speed manipulation suggest at a socio-economic level? Why is speed ramping being used in every other student film and every ad on TV? Why is it in every mainstream film from *Run Lola Run* to *The Matrix*?

The function(s) of time itself in contemporary culture has been radically altered by the role played by technology and communications. Time is represented in ways consistent with its effects on people in our society. Time is a fluid, changeable, negotiable entity. It is measured and chopped up and sold like every other commodity. We are living in Bourgeois time—hence like commodities themselves, how time appears and is thought to be available on the marketplace as well: some products offer fast time, others slow time, others both.

Time, in order to be of value to those who buy and sell commodities has to be demonstrated to be as fluid as onscreen space. Just as computers have enabled layering of elements in screenal space, non-linear editing and other computer plug-in culture elements have made time also able to be similarly chopped up and manipulated. Movement *within* the frame. Movement of the frame: Like the words in the software used to write the script, audiovisual elements can be reworked at will.

Production, pre-production, post production—meaningless today when the three stages of filmmaking collapse into each other, melting in the digital soup. Some of the highest paying jobs in the business are set aside for those with file-management skills.

Events can happen which defy measurement. How can the effect of a new technology like a Lexus or a Motorola phone be demonstrated in terms of ordinary time and ordinary space? These commodities are altering social relations between people; separating people from each other, making each person both the subject of analysis and the entity doing the analysis. Such products when shown in commercials have a supernatural effect on the lives of those who use them.

One may combine with this an observation about the perceived social relations in texts employing speed ramping. In commercials, the effect is often used to indicate that for those effected by the product, time operates at a different scale, or rate. Often a figure will be shown moving at slow motion while all around them the rest of the population is moving a lightening speed. An ad promoting the importance of flu immunization on Australian Television (as of May 2002) illustrates this well. To make a point about the relationship between catching the flu and the reduction in productivity to which the illness gives rise, the central figures (the ones whose lives will be at risk if they catch the flu) move very slowly at a dream-like pace down escalators etc., while others move around them, a blur in the camera lens. In one of the few commercially released films out of the USA to overtly honour Guy Debord in its credits, *Koyaanisquatsi*, time lapsed urbanism indicated 'life out of balance' in the western world. That film was released in the early 1980s and the idea then was rather fresh. Today it is more than commonplace. It is mainstream. **The Spectacle outdoes itself**.

In other ads, noticeably for cars, speed ramping is used to illustrate the effect the appearance of the car has on those watching it. Here speed ramping is an index of social desirability, where the speed of the subject usually a car moves quickly, then slowly, as it is being noticed by the 'right' people. The car, like the social space the owner is supposed to occupy, has been transformed into an object of desire, and that desire is represented in terms which associate attraction with kinetic dynamism. Social mobility in our post-industrial culture is often closely associated with spatial mobility, those who are in a state of constant movement, international, interstate travel are the decision makers, the executives, those who govern the economic and social status quo. When ads and films and other texts such as videogames indicate a suspension of the general laws of time and space, it can often be read as a dramatization of this idea of social-as-spatial mobility. In addition, the impact and nature of electronic communications augments this sense of dynamic transience, where lack of physical fixity, of geospatial specificity corresponds to notions of power and capital as non-fixed, virtual entities. If you have power in society, you use time in a different way from the non-decision makers; clocks and timetables do not apply (in the same way) to you, rather you are buffeted by the invisible winds of commerce, and globalised exchange. For you, time can move in both directions, and at varying rates of speed.

This is a myth of course, but one which over time has been symbolized and codified via an almost formulaic set of visual signifiers. In motion pictures such as *Run Lola Run* (1999), *Fight Club* (1999), *Lock Stock and Two Smoking Barrels* (1998), *The Matrix*(1999), characters are shown in a complex set of oppositions to the society around them. They are generally on the run, or in some other way alienated from the world around them.

For these put-upon, usually young and desperate anti-heroes and the audience who are invited to identify with them, kinesis and movement is strongly linked to a sense of personal liberty or freedom from the constraints of contemporary society. In contrast, those they work for, and those who pursue them can seldom fathom why the main characters wish to move out of their proscribed social constraints. At key moments in these films, the frame rate can rapidly alter to underscore the drama of the moment. Time is made to operate at a different scale momentarily in order to illustrate a single cinematic event. Someone is shot, the camera shows the bullet's trajectory in slow motion then—in an instant—goes back to normal speed (*The Matrix*). Someone is passed in the street, and we see a rapid series of photographs of that person's life as it has been influenced by that one encounter (*Run Lola Run*), or the act of passing them makes the whole of reality stop altogether (*The Matrix*).

These characters are influencing bourgeois time relations—they are interrupting the 'natural' social order, and penetrating the world masked by the clock, the boss, and the system. When ads use these same techniques, it is to achieve an inverse effect: to privilege the viewer-as-consumer and to invite contemplation of the 'magical' and supernatural effect a product has on the life of the owner. This car makes time slow down, and heads turn. This fruit juice will transform your social life, this expensive mobile phone will liberate you from alienation and win you a promotion.

The role of speed ramping thus represents a set of contemporary audio visual conventions in which screen time is no longer fixed, but like life itself in a digitized, networked society, is negotiable, up for grabs. One can read into speed ramping a visualized set of conventions which dramatise anxieties about the collapse of conventional modernist notions of time and space. In our globalised, economically rationalized digital economy, even time itself cannot escape the effects of capitalism gone haywire, no longer in anyone's control, like a phantom on the loose. As Marx alluded in Capital commodities go from being like a collection of wood on the floor to a seance table, to bounce around the room, quickly, and back to wood again in an instant.

*Back in the early 70s Lucas was making films such as THX-1138, that were damningly critical of a near-future sterilized shopping malled McWorld. Today his 'purely digital' Star Wars installments are both ideologically and technically, neat extensions of the logic of the mall as white, middle class sanctuary, and THX is now best known as Lucas' brand name of a global system of standardised sound playback.

References

Biskind, Peter, *Raging Bulls and Easy Riders: How the Sex, Drugs and Rock and Roll Generation Saved Hollywood*, New York: Simon and Schuster, 1998.

Vertov, Dziga, *Chelovek s kinoapparatom* (1929) (Man with a Movie Camera),

Scorsese, Martin, *Goodfellas* (1990)

Deren, Maya, *Meshes of the Afternoon* (1943)

Cocteau, Jean, *The Blood of a Poet*, (1933) (USA)

Cocteau, Jean, *Orpheus* (1949)

Cocteau, Jean, *Le Testament d'Orphe, ou ne me demandez pas pourquoi!*, (1960)

Powell, Micheal, Pressburger, Emeric, *The Life and Death of Colonel Blimp*,

Powell, Micheal, Pressburger, Emeric, *The Red Shoes*,

Polanski, Roman, *Chinatown* (1973)

Tykwer, Tom, *Run Lola Run* (1998)

Wachowski, Andy and Larry, *The Matrix*, (1999)

Fincher, David, *Fight Club* (1999)

Ritchie, Guy, Lock, *Stock and Two Smoking Barrels* (1998)

Marx, Karl, *Capital: A Critique of Political Economy*, Moscow: Progress Publishers, 1954.

Reggio, Godfrey, Fricke, Ron, *Koyaanisquatsi* (1983)

MAKING THE WORLD SAFE FOR FASHIONABLE PHILOSOPHY!

Joe Milutis

Fashionable Philosophy on the Road to Revolutions

A colleague of mine recently expressed malaise after showing *The Matrix*[1] accompanied by assigned readings from Baudrillard's *Simulations*. According to her, students did not respond because the connections were too apparent, and that the theory was, in a sense, redundant with the film. But if Baudrillard is built into the structure of *The Matrix* 's narrative in the way Freud is built into the narratives of Hitchcock's films, where was the undergraduate frisson that we remembered when reading, for example, Freud's theories of sexuality while watching *Marnie*? After some thought, I came to the conclusion that the difficulty rested in a fundamental misunderstanding of how Baudrillard worked within *The Matrix*, a misunderstanding that is widely shared. Because, while the filmmakers often attempt to acknowledge their debt to Baudrillard, they get Baudrillard wrong. It's not that the connections are too obvious. Rather the connections really don't connect up and are superficial at best. It's as if the filmmakers read the first five pages of *Simulations*, and misread them at that. However, is this misreading a knowing one, one that sets viewers in interpretative unbalance, a theoretical vertigo that makes the *Matrix Reloaded* (which I will approach at the end of this essay), and *Matrix Revolutions* necessary and compelling sequels?

Near the beginning of *The Matrix*, Neo has hidden some data contraband inside a copy of Baudrillard's *Simulations*. The book is a joke of simulation in itself; bound in green cloth with gilt letters, it simulates the authority of a classic but has no backing or substance. It is all surface—the inside has been cut out, is no longer essential. It is an empty prop in more ways than one. But is it a key to the film? Perhaps in the spirit of the logic of simulation, its presence merely simulates that there is an inner bookish meaning in what may be, in the end, a pure action film humdinger. A number of 90s films attempt the same sort of alliance between theoretical knowledge and film narrative. For example, in *The Truth About Cats and Dogs*, we find a love interest reading

Barthes' *Camera Lucida* over the phone to a woman he thinks is Uma Thurman's character but who is in actuality her more brainy and ostensibly less physically desirable friend, played by Janeane Garofalo. If you remember, Barthes' book on photography is a meditation on the "punctum," the aspect of the photograph activated by subjective desire. The film seems to equate Barthes' "the *punctum*... is a kind of subtle *beyond*—as if the image launched desire beyond what it permits us to see"[2] with the more sententious "beauty is in the eye of the beholder," or some other triteness about inner beauty à la Cyrano de Bergerac. In a similar way, in *Permanent Midnight*, Elizabeth Hurley's character is reading Heidegger, and I can imagine it is a way to announce that the film is a reading of Heidegger's notion of "standing reserve." The term designates stockpiled resources on hand that, while products of technological progress, remain useless until they can reenter into the system. *Permanent Midnight* is about talent as standing reserve, and what happens while people wait for the call—the nightmare of waiting implicit in Hollywood work.

These books may signal merely the fashionability of their philosophies, if it weren't for the fact that they seem also to be presented as keys. If we were to read Baudrillard as a key to *The Matrix*, one would have to ask why we are still drawn to this authoritative fetish, even in the midst of cyberville—locus of the death of both the author and the book. What kinds of interpretive traps do we get in by acknowledging the authoritative, rather than fashionable, presence of this book?

First and foremost, to gloss Baudrillard, for him, the truth is not that there is none, but that the question of truth or non-truth is an obsolescence. The difference between true and false is dissolved in the logic of Capital, as laws of the universe become subject to the *primum mobile* of exchange:

> The real is produced from miniaturised units, from matrices, memory banks and command models—and with these it can be reproduced an indefinite number of times. It no longer has to be rational, since it is no longer measured against some ideal or negative instance. It is nothing more than operational. In fact, since it is no longer enveloped by an imaginary, it is no longer real at all. It is a hyperreal, the product of an irradiating synthesis of combinatory models in a hyperspace without atmosphere.[3]

In the logic of the hyperreal, "matrices, memory banks, and command models" generate the real, and this real is the world of the agents in *The Matrix*, not the imaginary, or transcendental "outside" which the film determines is "the real world." In fact, in Baudrillard's conception, there is no outside, or "ideal instance" from which to judge the simulation, and this lack of referentiality is the very definition of the simulation. In the film, both the agents of Zion and those of "the machine" are effectively outside, and productively alienated from, the system where they do battle. In the case of the machines, while the classic AI model of reality might hold within it some idea of an agency that could conspire to enslave all humanity and exploit its natural electromagnetic energies to power a theater of an eternal 1999, more sophisticated theories of computer intelligence recognize that reality is based on random evolutionary and connective principles without pattern. In a sense, in these theories of emergence, computers engender the universe of play of the postmoderns by never approximating some ideal of knowledge, but by creating new knowledge based on pressures and contingencies evolving through ever changing definitions of the real. In Baudrillard's nightmare view, a new totalitarianism, which cannot be resisted (since there is no stable "outside" to its functioning),

evolves out of the matrix of AI, nuclear and genetic technology. But this vision is not the vision of *The Matrix*.

The film posits, in a fairly traditional way, another world—a transcendental signified—which guarantees the manifest world. In this way, *The Matrix* is less like Baudrillard and more like *Midsummers' Night Dream* or some other neo-Platonist fantasy. *The Matrix* keeps the reality principle in tact by positing a place from which simulation can be judged and compared. In many ways, computers have been sold to the public in the last 20 years by maintaining this reality principle—gesturing to the potential not only for virtuality but also radicality and spirituality through home computing. Apple's famous *1984* commercial, directed by Ridley Scott, posited the Macintosh as a way to rage against Big Brother. Through choosing Apple, we would collectively explode the consensual hallucination, as the young punky woman in jogging attire did when she hurled a sledgehammer towards the television monitor. Later, computers would be sold as spiritual technologies, as references to eastern religions proliferated through computer ad copy—a trend in which *The Matrix* marks an important cultural moment. But for Baudrillard, both radicalism and metaphysics have become simulations in themselves. Charming evocations of a past age, both leftism and spirituality (or at least their caricatures) posit or guarantee another world behind the false one, to which desires more righteous tend.

So if *The Matrix* is a moral tale positing that we should all try to search for the true meaning of life behind false appearances, then Baudrillard's *Simulations* is definitely not the correct manual for this application. More interestingly though, and to the credit of the filmmakers, is the idea that perhaps *The Matrix* is a moral tale about the problems of reading reality or film *via outmoded authoritative structures* such as the book, and by association Baudrillard or even film theory. Does the film intentionally get Baudrillard wrong? Have academics all over the world, in adopting *The Matrix* for their classes, taken the Baudrillard bait? It would seem that the main theme of this film, like an Edgar Allan Poe story in hyperdrive, is decoding—not only the decoding that goes on in the plot, but the activity of audience decoding. If decoding a film via poststructuralist classics is a dead end, how does this film create an alternative?

The Electromagnetic Soap Opera

The first shot of the film is a blinking cursor, waiting for input. This cursor announces that there will be nothing to see, only a string of text operating at the level of the command line interface. This textual substrait of the image is referred to throughout, as the green and black of old-time computer screens imbue the image, in what can only be called "raster-chic." Decoding this machine language, one would need a form of what Woody Vasulka calls "machine semiotics,"[4] rather than Baudrillard or perhaps Lacan (whose Real is also quite different from that of *The Matrix*. However, there seems to be some subtle alliance between Lacan and Lewis Carroll or Jean Cocteau when Neo, before entering the "real world" will get covered and consumed by a mirror-like substance which, once he masters it, he consumes himself—a Möbius strip rewrite of the "Mirror Stage.") The film's constant rain refers less to cloudbursts than to glitches at the level of this primary code, since it makes one think of the rain of data from the opening credits, *The Matrix*'s signature visualization of machine language. When a sprinkler system goes off inside the citadel of the agents, it seems less like it is extinguishing a fire, and more like it is extinguishing the image, as if data is malfunctioning to the extent that the system of false images will break down, allowing us to see the

code. Even machine-gunned bullets hitting faux-marble columns seem more like disaggregated pixels than actual violence, a disturbance of the image, a breaking through appearances to get at system knowledge. The true world of *The Matrix,* then, seems to be premised on a nostalgia for pre-interface computing. The dialog itself sounds like text-based VR (MOO or MUD-speak), a product of command-line computer culture, whose hackers and programmers—indebted to Dungeon and Dragons—live the world of flow-chart-like narrative choices: "Don't go down that road," "One of these lives has a future, the other does not," and the famous red pill/blue pill choice. Given the way the text-based interface is valorized in this film, Morpheus' iconoclasm seems not merely to be directed toward the iconology of a slick pixel-less interface, but toward cinema itself.

In tandem with this foregrounding of text and the semiology of the command line is another system of meaning that challenges traditional textual analysis—the electromagnetic. *The Matrix* is a plausibly engineered fictional world in that its Rube Goldberg of digital and electromechanical technology is not mere mise-en-scène, adding to the film's hyperfuturism shot through with retrofuturist charm, but is productive of the dramatic tensions and narrative solutions of the film, i.e. infrastructure is protagonist, and a misunderstood one at that. The matrix's Achilles heel, it would seem, is that it is not purely digital, but is designed to feed off natural bioenergy—in effect, it is dependent on the human heart. This feature places the film in the sub-genre I like to call "the electromagnetic soap opera." This category includes any science fiction motivated by the combination of electromagnetic science and Theosophical mysticism, whose characters operate in worlds where invisibles blur in the orgone haze of wavelength, plasma and *prana*, where forbiddingly complex technospheres generate impossible scenarios, which are nevertheless explainable and controllable via the powers of the heart and the understanding of true nature. *Star Wars*, *Johnny Mnemonic*, *The 5th Element,* and most of Japanese anime (notably in the television series *Neon Genesis Evangelion*) engage in this technoscientific mysticism. Because the matrix enslaves natural bioenergy, it would seem that the traditional call to the pulsations of the heart would be suspect. In the history of cosmological mysticism—origins of the science of electromagnetism—the powers of the heart are what provide direct access to more absolutely exterior sources of energy (the sun, the heavens). They are also what connect human to machine when God is replaced by a ubiquitous nexus of energies, the pulse that modulates all materiality. Yet in the world of *The Matrix,* the sky has been scorched, sundering the ethereal connection between human and heaven. It is a spiritual as well as material pollution, since natural energy no longer comes from the cosmos. Electromagnetic energies no longer connect human electricity to deep space. Left without even the pagan blessing of a sunny day, humanity is constantly on the verge of becoming posthuman.

When Neo is plugged into the system, running off his own electromagnetic energy, like all citizens of the matrix he is susceptible to the agents and can be possessed by them. The transport chairs are networked through a system of old-fashioned black rotary phones, ostensibly utilizing "old" copper wire technology. Cell phones, in contrast, are associated more with the agents (when they are used by the crew of the Nebuchadnezzar, it is only for communication in moments of helplessness and as a device of betrayal). On the one hand, the rotary phone represents merely a way to get into the system that is unpoliced. On the other, copper wire is posited as the means of transport, as if its ability to translate electrical, analogue impulses rather than packets of zeros and ones makes it a vehicle for channeling what is essentially human—a humanity that is reduced to its electrical ontology and thus exploited in an extreme way; Neo is twice reminded of his "coppertop" status.

In the cosmology of computer languages, an electromagnetic pulse is initially translated into ones and zeros, off and on—and this translation marks the primal alienation of the digital from the referentiality of the analogue. Those ones and zeros of machine language—the liveliness of which is indebted to natural energetics in the same way a mill runs off the energy of a river—are then parsed into different levels of programming language. Programming language is then manipulated by means of the interface, at which point, one need not be conscious of the deeper levels of system management. For *The Matrix*, the agents (programmers) come up against hackers who question the ways in which they've organized these languages. "We couldn't find the programming language to describe your perfect world." In a sense, like the soap opera, *The Matrix* tries to approximate this perfect world through obsessive telephoning. But *The Matrix* also resembles a particularly postmodern form of *Naturphilosophie*, or rather a new etherealism. If the mill's exploitation of natural resources through the process of industrialization once inspired writers to imagine the river without its industry, so here, the exploitation of electromagnetism in the 20th century (from radio, to television, and the computer), has inspired a subgenre of science fiction that tries to imagine the world of frequencies and waves without the technology that enframes them. This electromagnetic etherealism, far from positing distinct worlds, promises a continuum, a real which, rather than existing outside of the system, more properly infiltrates all—and code is its double, 1s and 0s piggybacking each pulsation of the real.

When Morpheus says "Welcome to the real world," we are perhaps convinced, instead of any continuum, of the divisions between real and false that the film proffers. The whole color palette changes in the Nebuchadnezzar, from raster-green to a more Calvin-Kleiny blue, grey, brown. In this way, the distinction is made between a world based purely on code (green/black) and one which, while hooked into the world of code, is exploiting the electromagnetic in a more industrial paradigm. Throughout, we get the sense that Morpheus isn't entirely right on, that he's like some 60s Marxist who has lost touch with the world but who is nevertheless groovy, so we suffer him when he says things like "I'm here to free our mind." His insistence on the Nebuchadnezzar as the real world is perhaps just what Baudrillard calls a "reality effect." There's always the even more "real" Zion, and at least one crew member (Cypher) mutines against Morpheus' concept of the real. Neo's messianic powers outright derive from a misreading or reinterpretation of Morpheus' teachings. While Morpheus' Mosaic dogma posits an outside of the system, Neo literally dives into the system by which he is enslaved (when he dives into the body of the agent); when he emerges at the other end, we are led to believe that the code is a reality that even the agents don't understand. Up to this point in the film, the green and black colors signify that the world is illusion, but paradoxically, when Neo sees the green and black code everywhere, he has attained true knowledge (one could say that, instead of approximating a Christian messiah, he is here a kind of super-Jew—Christ without the reality principle of the break from Judaism, Christ without Christianity, Christ with Kabbala). Morpheus' battle is that of the typical man versus machine. Neo's affinity for the machine world unsettles the terms of this battle, and his colleagues marvel "he's a machine."

In a sense, then, *The Matrix* sets up a philosophical argument, of which the references to *Simulations* are not the last word and the key, but rather first steps towards another set of arguments—which may, in the end, turn out to be Baudrillard dialectically recharged. The very color-coding of the film, created in order to convince viewers about the divisions between the real world and the simulated one, is just a code, as

dubious as the code of the agents. The color red, color of false leads (as in a "red-herring"), is utilized in this scheme to denote distraction of false reality. A woman appears in a red dress in the construct to warn Neo of the deadly consequences of distraction, and Cypher, the apostate, wears a red sweater in the Nebuchadnezzar. But it is also through the agency of the red pill that anyone is ever able to get to Morpheus' "real world." In this way, if we go beyond one layer of color-coding in the film, another layer contradicts it or calls it into question (if we wanted to remain within the postmodern model here, these layers would not take us deeper and deeper but would exist simultaneously as their own self-sustaining interpretive fictions, just as choosing not to "overanalyze" a film exists in a world with its own *physis* just as does the world of the rigorous reading). For the film, it would seem that our interpretations more than our actions are what carry us along and determine our fate. Consider, for example, the multiple interpretations of the message of the Oracle, or a crucial, casual misread by Cypher at the moment when Neo is about to go "down the rabbit hole." As the impact of the red pill starts to disrupt the input/output signals through which Neo is wired to the mass-hallucination, Cypher says, "Kansas is going bye-bye." Of course, in *The Wizard of Oz,* Kansas is the "real world" and Oz is the world of fancy, so Cypher's evocation is completely upside-down. It would seem that the hull of the Nebuchadnezzar is the very Kansas, with all its depression-era hardship, that has been lost to the Ozification of culture. Cypher is a character who is always getting his dichotomies mixed up, and in the end finds himself on the wrong side of them. It would seem, then, that the film equates evil with unsubtle thought.

The comparison to *The Wizard of Oz,* though, is instructive, not merely because of the color palette change signifying transport from real to fantasy, nor, as a colleague has pointed out, because of the production of the film in Australia. Even *The Wizard of Oz* deconstructs its own reality principle implicit in the color shift that announced color film to the world (in the same way *The Matrix* announced flo-motion and virtual camera work). Consider the depiction of Dorothy's Kansas, a dust bowl idyll which now may seem as fantastic as Oz if we appreciate Kansas' particular conjunction of technology and culture specific to a time now lost but not, by far, outside of the matrix of the machine. When we first are introduced to Auntie Em, she is busying herself with a chick incubator, leading us to wonder if in the biotech future there will be stranger reasons for Dorothy's lack of mother. When Dorothy sings "Somewhere Over the Rainbow" by a mechanical reaper, her enmeshedness in this machine's reality undoubtedly also has a certain science fictional charm. (Similarly, in the "real" of *The Matrix,* the crew wears artfully detangled sweaters that remind us of the computer's origin in the Jacquard loom, and of the impossibility of disengaging ourselves from the warp and woof of machine reality.) *The Wizard of Oz*, while emerging from that homespun American mystical vitalism described in its own epigram as a "kindly philosophy" that "Time has been powerless to put... out of fashion," has a covert cynicism. Dorothy is an ingénue who cannot fathom the constantly dire situation that history and circumstances have placed her wards. While the film's dialogue ends on an upbeat note ("There's no place like home!") the soundtrack strikes a sour note, as if to point out that Dorothy's idea of home, as well as her fantasy, is at worst delusional or cretinish at best a fragile fiction conceived to hold off time and history—the forces that will serve to potentially bankrupt her wards (Almira Gulch, aka the Wicked Witch of the West, owns half of the county, after all), and scatter their provisional family structure to the wind.[5]

The Return to "The Desert of the Real"

In the raging campaigns against fashionable philosophy, more kindly philosophies return with a vengeance, without distance or irony, and with implicit anti-intellectual intent. But I would argue that they are only received as such, because seemingly naïve *Naturphilosophie* can be a rather sophisticated reaction to a reality that has outstripped even our most sophisticated theorizations of it. For *The Matrix* and especially *The Matrix Reloaded*, it is the moment when interpretation must give way to action. The charm of this action series, however, is the fact that action is determined by the quality of interpretation. The simple impulse and intuitive leap is qualitatively determined by a prior engagement with complexities. People who stream into today's current "mind bending" films might be willing to undertake only so many philosophical gymnastics, which is why the complaint about *Matrix Reloaded* seems to be nearly unanimously towards the long discursive segments of the film. No doubt, these disquisitions are undertaken by fellows who were perhaps chosen for their comic-book evocation of whiteness in this afrocentric sequel—The Head Councilor, The Merovingian, and The Architect—and we are in this way asked to question their ideas. But the benevolent Councilor starts to clarify for viewers what Neo was already intuitively aware of by the end of the first movie: that the machine is everywhere, there is no outside, and that the issue is not one of true and false, human and machine, but rather one of control. Here, we have a Baudrillardian homecoming. The strict boundaries between the dream world and the world of reality are broken down in *Reloaded*, compounded by strange intercutting between matrix, Zion, and Nebuchadnezzar. The first sense we get of the weakness of these barriers between worlds is when we see Neo haunted by dreams of the matrix. One would have to ask, how does one dream about a dream world (unless its real)? Recall Zizek's description in *The Sublime Object of Ideology* of the Lacanian notion of the dream:

> [T]he Lacanian thesis [is] that it is only in the dream that we come close to the real awakening—that is, to the Real of our desire. When Lacan says that the last support of what we call 'reality' is a fantasy, this is definitely not to be understood in the sense of 'life is just a dream,' 'what we call reality is just an illusion,' and so forth. We find such a scheme in many science-fiction stories: reality as a generalized dream or illusion. The story is usually told from the perspective of a hero who gradually makes the horrifying discovery that all the people around him are not really human beings but some kind of automatons, robots, who only look and act like real human beings; the final point of these stories is of course the hero's discovery that he himself is also such an automaton and not a real human being.... The Lacanian thesis is, on the contrary, that there is always a hard kernel, a leftover which persists and cannot be reduced to a universal play of illusory mirroring. The difference between Lacan and "naïve realism" is that for Lacan, the only point at which we approach this hard kernel of the Real is indeed the dream. When we awaken into reality after a dream, we usually say to ourselves 'it was just a dream', thereby blinding ourselves to the fact that in our everyday, wakening reality we are nothing but a consciousness of this dream. [6]

So it is that, while the rebels maintain a pose (or repose) of slumber in their transport chairs, they do so without seeming to sleep ... as if they work at rectifying a trauma, which remains in the Real.

There is no discovery of a truth in the *Matrix* movies, or rather, each one has a truth, which continues to overturn another. The first *Matrix* offers a more childlike view of the world, while *Matrix Reloaded* becomes cynical only to return to the childlike again (and Neo will have to retain whatever childlike impetuosity he has retained from the first film, in order to maintain a connection to his power). We could also say that *The Matrix* pits mechanical social realism versus digital hyperrealism, while *Matrix Reloaded* asserts a digital-mechanical continuum (the opening code-rain of *Matrix Reloaded* becomes the gears of an old mechanical punch-clock), and the ubiquity of programming (with differences drawn between the poorly written and the upgraded). In this new version, Morpheus becomes immediately suspect ... he's wearing the red sweater of delusion, and the film shows how his vision is questioned by his peers, clouded by desire, and finally exposed as its own dream. His last line in *Reloaded* may be a call to reload the terms of racial politics, but it also points to the irrational aspect of his righteous single-mindedness about what is real: "I dreamed a dream and now that dream is gone from me."

The revealed ubiquity of programming in the sequel overwhelms the possibility of actual choice, but there is, once again, a return to the powers of the heart from out of the Baudrillardian vertigo, and also a return to action. The Oracle, who turns out to be a program herself, is an intuitive program, of lesser mind than the Architect, but her intuitive nature makes her more powerful than the Architect who knows too much. While Neo pains himself over the choice of accepting her offer of a piece of red candy, it's just candy, after all. The status ultimately accorded to interpretative keys has perhaps been reduced in *Reloaded* to the status accorded the wizened keyman—"handy." It is, after all, Neo's connection to Trinity that gives him his super powers. At the end of *Reloaded,* Neo stops the sentinels dead in their tracks with a surge of electricity from his body. Prior to this moment, Neo's powers have only been actuated in the virtual world of the matrix, but here, they are working in the supposed "real," and from the heart as it were. Instead of the power to hack and reprogram, this power to stop the sentinels is electromagnetic, auratic—a Theosophical burst of chakra energy—encouraging one more suspension of interpretation before the last episode.

The Matrix films reload a number of arguments. One can think of the Marxist meme from the "Theses on Feuerbach" about philosophy versus action. The Althusserian cunning of Agent Smith's greeting of "Mr. Anderton" (he's always trying to convince Neo that he's only human) opens up rickety anti-humanist debates. But the argument that remains most trenchant seems to me the one that leaps out of the debate, or at least tries to. Thinking about green codes, I begin to think not only of emerald cities and green witches, but also of that famous definition of green by the late and legendary experimental filmmaker, Stan Brakhage. He was indubitably aware of his naiveté when he asked readers to: "Imagine an eye unruled by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything but which must know each object encountered in life through an adventure of perception. How many colors are there in a field of grass to the crawling baby unaware of 'Green?'" [7] Brakhage got a lot of flack for this type of film theorization over the years of his long and productive career. But his gambit, which was the gambit of Eisenstein as well, was that something remained within the image, beyond the word, exceeding the peremptory force of language. Hollis Frampton, in many ways the anti-Brakhage, described the seductions of what he called "logophobia" in this way:

> Eisenstein was at once a gifted linguist, an artist haunted by the claims of language—and also, by training, an engineer. It seems possible to suggest that he glimpsed, however quickly, a project beyond the intellectual montage: the construction of a machine, very much like film, more efficient than language, that might, entering into direct competition with language, transcend its speed, abstraction, compactness, democracy, ambiguity, power... a project, moreover, whose ultimate promise was the constitution of an external critique of language itself. If such a thing were to be, a consequent celestial mechanics of the intellect might picture a body called Language, and a body called Film, in symmetrical orbit about one another, in perpetual and dialectical motion. [8]

Is this the machine where Neo finds himself? Between the powers of the textual and the powers of the image, between analysis and emersion, the past and fashion's flair, interpretation and change, is precisely where Neo tries to find the future, or at the very least a *tertium quid*. But will the action hero be able to save the world once again?

Notes

1. The following essay was written before the release of the third installment of the *Matrix* trilogy, *Matrix Revolutions*. In most cases, then, references to *The Matrix* refer to the first film, and not the completed trilogy, although they occasionally refer to a whole that was still in motion at the time this essay first appeared.

2. Roland Barthes, *Camera Lucida: Reflections on Photography*, 1980, Trans. Richard Howard, NY: Hill and Wang, 1981, p. 59.

3. Jean Baudrillard, *Simulations,* Trans. Paul Foss, et al., NY: Semiotext[e], 1983, p. 3.

4. Woody Vasulka and Charles Hagen, "A Syntax of Binary Images: An Interview with Woody Vasulka," *Afterimage* 6, nos. 1/2, Summer 1978, p. 20-31.

5. After writing this paragraph, I thought I should finally read Salman Rushdie's BFI Film monograph on *The Wizard of Oz*, thinking that his take might be similar. As one could imagine, Rushdie did take a cynical stance towards the film's notion of "home," however merely as a question of cosmopolitan taste. For those with good luck, good looks, and a talent for living, there is indeed a home in Oz. The dreary Kansas should be left behind. However, I would insist on the unstable balance between these two no-places. "No place like home" could literally mean that home is nowhere, utopian. Kansas is already post-natural, a place adrift like Oz, and the two places merely form two extremes of what we would now call *diaspora.* See Salmon Rushie, *The Wizard of Oz*, London: BFI, 1992.

6. Slavoj Zizek, *The Sublime Object of Ideology,* NY: Verso, 1989, p. 47.

7. Stan Brakhage, "Camera Eye—My Eye," From *New American Cinema: A Critical Anthology,* ed. Gregory Battcock, Dutton, 1967, p. 211.

8. Hollis Frampton, "Film in the House of the Word," From *Circles of Confusion: Film/ Photography/ Video Texts 1968-1980*, Rochester: Visual Studies Workshop P, 1983, p. 85.

I WAS SEDUCED BY 48 ROBOTS IN A METALLIC ARENA

Arthur and Marilouise Kroker

48 robots
Metal and music
Floodlights/Spotlights
Searchlights/Starlights
Embraced by surveillance
Lighted by seduction
Speeded by sound

Posse Time

Donald Rumsfeld's on TV with the Pentagon propaganda line of the day. This time it's those staged photos of special-ops forces on horseback in Afghanistan, or maybe Hollywood: a perfect cinematic realization of Bush's religious invocation for a new crusade "against evil." Jack Valenti and Karl Rove are somewhere in the background of the media scan smirking over this quick deployment of the image-machine to get that just right down and dirty western lands feel of a posse on the hunt for the bad guys.

Suddenly, the tech ecstasy of the flare-out days of the 20th century has switched into a dark, bleak future of total control. And the crowds roar. They love it. They demand it.

It's a simulacrum of a truly frightened population: mesmerized by terrorism yet comforted by the surveillance regimes of the disciplinary state. Ethnic scapegoating is in, and snitching's making a comeback from its halcyon days of McCarthyism. Recently, the FBI had to shut down its hotline for snitchers because of the overwhelming response of neighbours snitching on neighbours, friends on friends, strangers on strangers, families on families, even citizens snitching on themselves.

Demands for total surveillance are everywhere. The legitimacy of torture is a debatable subject among members of the virtual class. A deep chill is in the air: of the body, of the mind, of America, of the world.

Electronic Art as Political Theory

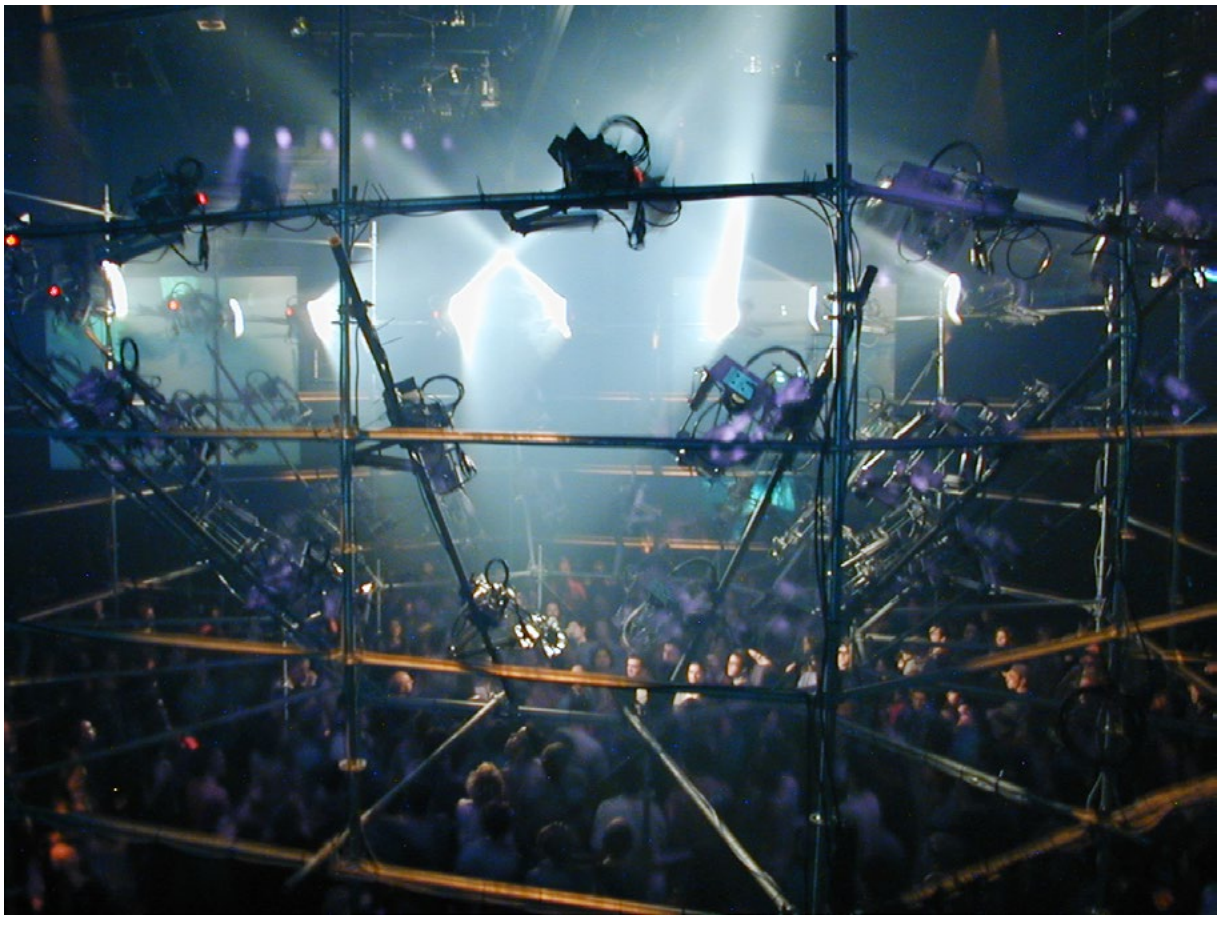
What's the significance of digital art in a time of political crisis? A probe of the future or a repetition of the tech ecstasy of the quickly vanished past? What does art, particularly big-machine robotic performance art, have to tell us about issues of surveillance and control? about that ambivalent psychological state where the public mind hovers between total fascination with terror and total willingness to be disciplined in the name of personal security. What does electronic art have to say about the pleasure of discipline in the simulacrum?

It turns out a lot. Sometimes prophecies of the future appear in the most unlikely spaces. Such as at **Usine C**, a hyperreal art performance space, during the electronic art events of **Elektra**.

For a week, **Elektra** has jammed together the artistic energies of digital performers with the spectacle-hungry energy of the Montreal streets. Politics and art and fashion and the recent history of technology in ruins and disciplinary politics on the rise have now had a week to catch the scent of something big happening from their usually particularized positions in the universe of life. This Saturday evening, in this split city on the northern boundary of the split empire of America, the major threads of contemporary political history have chosen to make their first appearance by way of the world premiere of Louis-Philippe Demers' **L'Assemblée**.

The art rhetoric is perfectly staged in advance:

"**L'Assemblée** is the world premiere of Louis-Philippe Demers' last robotic installation. **L'Assemblée** stages a group of machines, 48 identical robotic members surrounding a metallic arena. This performance proposes an intense visual and aural experience."



L'Assemblée. (Live at Elektra 2001), Louis-Philippe Demersphoto credit: Peter Dimakos

What the art description doesn't say, maybe what it cannot say in advance since **L'Assemblée** has the enigmatic quality of being purely experiential art, unpredictable in advance, is that the "48 identical robots surrounding a metallic arena" have also been worrying a lot about the political situation, and they are prepared to spill the essential political secret of future days: AS SOON AS WE ARE CLOSE TO POWER, WE WORSHIP POWER.

For these robots, the seduction of power relies on the simultaneous proximity and alienation of the worshipping crowd. The crowd is silent: not allowed to speak, only to listen. This is the world premiere of 48 robotic political theorists taking us into the codes of the future from deep within the specular logic of machine and music. In **L'Assemblée** the body is the lighted star at the spectacle of its own disappearance. The adoration of surveillance, then, as the technological future. 48 robotic political theorists can't be wrong.

L'Assemblée. (Live at Elektra 2001), Louis-Philippe Demersphoto credit: Peter Dimakos

Robots as New Media Stars

The theatrical setting for the performance of 48 robots is ideal. AI **cut with** Road Warriors **to produce a** Blade Runner **version of a** Blue Velvet **moment**. The robots are mounted on a large-scale metallic scaffolding. An architectural membrane for robots. The visual effect is intensely cinematic. Each robot is simultaneously a light source, a motion vehicle, a site of sound performance, a witness of the gathering spectators below and a cosmic entry-point to the digital blast above. Pneumatically controlled, the robot lights are individually programmed, capable of finely machined, beautifully nuanced movement in tune to the surrounding dromoscopic sounds: light waves sweeping across the crowd of faces, arching upwards in *Triumph of the Will* light sculptural motifs—sometimes released from the codes to move at the pace of individualized robotic whimsy;

sometimes aggressively grouped together like a robotic performance of Ayn Rand's *Atlas Shrugged*. Robots as new media stars.

For spectators, there is a certain degree of freedom. Why not? In **L'Assemblée** humans are simultaneously essential plug-ins to complete the artistic circuitry of the 48 robots in a metallic arena, and completely peripheral to a robotic performance which functions automatically. To the question: What to do in the simulacrum? **L'Assemblée** answers simply: it doesn't really matter. Extreme technology in the form of robots running on automatic software codes are the essential locus of power, animated equally by answering responses of adoration or indifference. **L'Assemblée** is the first artistic sign of the epoch of the post-human, with an existential robot philosophy of tech adoration cut with hyper-boredom.

It's never easy to be peripheral to the (technological) action, to be refused an easy confirming assent to persisting dreams of imprinting (human) biology on technology, but if that's the way it is, then with **L'Assemblée** you take your pre-programmed, pre-configured, pre-coded subject-position. You can choose to be a **robo-lurker**, sitting on the dark edge of the concrete floor, smoking and looking and thinking and feeling the pulsating sound wave-forms and moving light arrays of the 48 robots. A spectacle of immense seduction in a metallic arena.

Or moving physically into the epicenter of **L'Assemblée**—your body as part of the crowd triangulated by 48 robots, strobe lights, and cameras—you can choose deep immersion in the emotional experience of **L'Assemblée**. It's the preferred position of many: part adoration of the choir of 48 robots above; part narcissism of being the light-object of technological desire.

Life in the interval between adoration and abandonment. This is an art of experience, not an art of observation. Its outsourcing of the future can only be activated by human spectators. Perhaps that is why as you sway with the crowd, caught up in a strange trance-like mood of seduction of the image/sound/light machine, you can actually **feel** the ocular regime of the eye of surveillance. All those light arrays, all that drone sound, all those blurred images, all that hypnotic movement as the orchestra of robots moves from a single light and a single sound that registers the beginning of the simulacrum to immensely complicated, immensely beautiful wave-forms of light and sound and images that hook their way directly to the pleasure receptors of the nervous system. Participants in the interval of the simulacrum are simultaneously humiliated (you are forced to look upwards at the robotic light array) and transformed into instant stars for one new media moment (robot lights constantly sweep over the crowd, displaying the captured faces on video screens).

It turns out that robots are skilled in the language of seduction and the games of artifice. Fascination is the only rule, with a gradient of aesthetic pleasure running from the exterior of the performance to its interior, from people as spectators on the outside of the metallic arena to the body of the crowd tranced on the concrete floor, transfixed by the beat and lights of the 48 robotic machine-performers. Total sensory involvement through total bodily desensitization.

As suddenly as **L'Assemblée** began, it abruptly ends. Robot lights go dark. Sound vanishes. The surrounding networks of screens go blue, then black. Bodies have their trance-plugs pulled. Everybody falls back into the loneliness of the digital crowd. Crescendo followed by blankness: the code of the new body. So, you are left standing there on an empty performance floor thinking what is the relationship between large-scale robotic performance and the relentless movement of contemporary technology towards the invisibility of genetic engineering, nano-technology, machine-to-machine

communication via spyware. Is this nostalgia or futurism? And of course it is both: nostalgia because **L'Assemblée** is a resurrection-effect of ancient collective rituals—adoration, congregation, transcendence, shared ritualistic experience that always marks the entry of the sacred; and futurism because **L'Assemblée** indicates that the space of the (technological) sacred is running on full automatic, with the worshipping (electronic) crowd as alternating currents of adoration and indifference. Future nostalgia as the opening code of the 21st century.

Post-performance, we're talking to David Therrien, a nomad artist from Phoenix, Arizona who was there to see the show and maybe to lend a body jolt of solar energy to the performance. Therrien is one of those larger than life performance artists of the American scene: probing at the edge of robotic technology, restless to look beyond the horizon, experimenting with new communication technologies to reverse-engineer globalization. With a wireless imagination that's truly global and a performance body as a suicide machine, he tells us that he has just started a new performance space in Phoenix. In the 90s it was called the **Icehouse**. Now it's a factory space for large-scale machinic performance called **Automatic**. Why **Automatic**? Because for Therrien, "comfort and control" is the real direction of technology. As he says: "What's really seductive is the perfection of technology. People really want to leave their imperfect bodies. They want to imprint biology onto technology."

In **L'Assemblée**, if we can't exit the body, then at least for one performance, for one **Elektra** moment, perhaps we want to be in the presence of the **automatic**, surrounded by the aura of technological perfection, the comforting presence of Demers' seductive vision of 48 robots engaged in a highly structured ritual of total control. That this hope for technological perfection is probably unattainable makes **L'Assemblée's** robotic performance all the more seductive. **L'Assemblée** is a dream of impossible transcendence in a troubled time. Its visual topology is about crowds and surveillance. However, its aesthetic topology is about something else: the new order of the **technological sublime** as the common dream of all the assembled robots.

Disassembled Robots

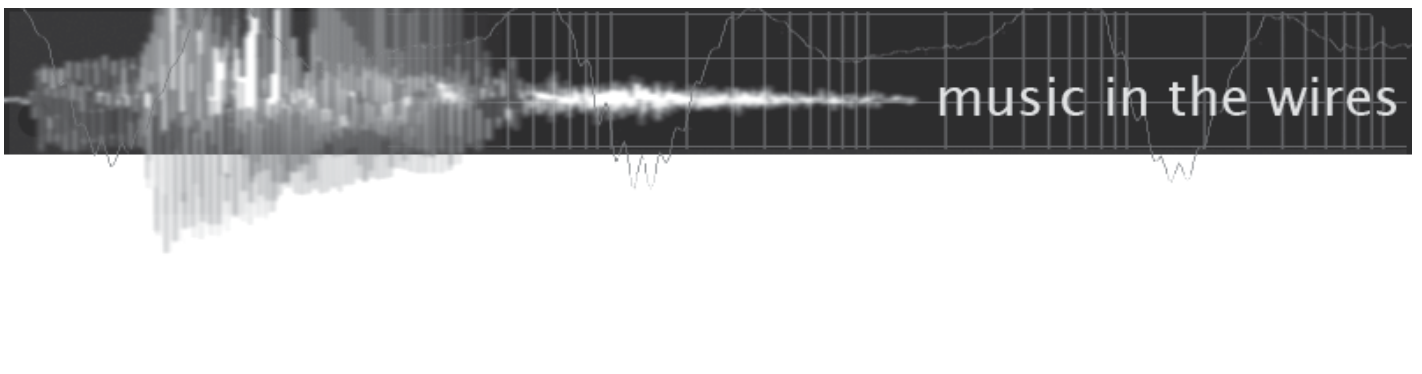
With this significant political difference. Like a strange mutation, the aesthetic model of **L'Assemblée** has no sooner been performed than it slips the traces of **Usine C**, entering the political arena as the new order of power in the "war against terrorism." Now the **political** robots assemble, each with its scripted lines: Bush spotlights an audience of Muslims with this aphorism: "Evil has no holy day." Rumsfeld was last seen throwing money out of air force helicopters, rapping all the while "It's just a matter of economics." Those special-ops forces are still on their tired horses, deep in bandit country. "The noose is tightening. Wanted: Dead or Alive."

The script goes on.

ELEKTRA: ELECTRONIC MUSIC DIGITAL MEMORY-ROBOTICS 3RD EDITION NOVEMBER 08-17, 2001, USINE C (MONTREAL) Artistic Director: Alain Thibault

L'ASSEMBLÉE LOUIS-PHILIPPE DEMERS 48 ROBOTS, ELECTRONIC MUSIC AND VIDEO PROJECTS (www. Processing-plant.com)

MUSIC IN THE WIRES



BLACK SECRET TECHNOLOGY

TURNTABLE

CARDBOARD RESISTANCE

JAPANESE NOISE MUSIC

GO WITH THE FLOW

MUSIC IN THE WIRES

Arthur and Marilouise Kroker

"…black secret technology is taking white technology apart and not putting it back together properly."

Julian Jonker, "Black Secret Technology"

"The hiphop DJ does not shape raw sound into a form recognized as music but shapes information into a sonic form recognized as meta-music."

Charles Mudede, "The Turntable"

"Resistance is disorder, rebellion, the chaotic cacophony of dissent. Resistance as noise. Existence as harmony."

Phillip Vannini, "Cardboard Resistance"

"Noise music becomes ambience not as you learn how to listen, or when you accept its refusal to settle, but when you are no longer in a position to accept or deny."

Paul Hegarty, "Full with Noise: Theory and Japanese Noise Music"

Music in the Wires is about technology with a difference. Each contributor to *Music in the Wires* remixes technology with astonishing effect. Here, "hiphop is futurism," "science fiction is hidden in vinyl," turntabilism is an art form, speed noise music blasts Japanese dream-life into the digital cranium, and, in the sound geography of Montreal's *God Speed You Black Emperor*, the politics of resistance takes the form of handmade CD packaging mixed with a clean cyber-sound that haunts the deprivals of technoculture

from within. More than mere descriptions of new tendencies in *Music in the Wires*, the writings in this section take the form of **three** provocative and challenging theses on music as the talisman of the digital future.

Thesis 1: Misuses are the New Uses and Remixology the New Ideology

In "Black Secret Technology," Julian Jonker writes about Kodwo Eshun's term "sonic fictions"—futurism is black electronic music. Or as Jonker states "…the record has become a technology of remixology, not reproduction." Jonker writes about Brian Eno's critique of computers: "there's not enough Africa in them." His response: "Africa's transatlantic diaspora has already infiltrated the mainframe." Following Jonker's theory that "black secret technology is taking white technology apart and not putting it back together properly," perhaps the misuses (of new technology) are the new uses and remixology the new ideology.

Thesis 2: Turntabilism as Meta-Music ("Music about Music")

While Jonkers writes that the record has become the new ideology ("…a technology of remixology not reproduction"), Charles Mudede writes that the turntable itself in the hands of a DJ is an instrument with an enhanced difference. "The turntable is awakened by the DJ who wants to make (or closer yet, remake) music. For Mudede, turntablism is meta-music: music about music.

Thesis 3: Circulating at Sonic Speed

In "Cardboard Resistance," Phillip Vannini explores the music of Montreal's *God Speed You Black Emperor* and its producer, *Constellation Records*, both for what the music and its production practice have to tell us about the politics of resistance in technoculture. Vannini asks: What is the relationship of crafted products and techniques to technology? For him, the cardboard in "Cardboard Resistance" is resistance to the jewel case; just as the music of *God Speed You Black Emperor* is resistance to the harmonies of globalization. This is a critical point. The CD is a technological invention which can be made with a CD-burner and computer. Unlike vinyl, Cds have allowed technology to be easily handmade. With Constellation and God Speed You Black Emperor the speed of digital technology field-reverses into its opposite: the recovery of handcrafted (CD) production in age which strives to reach escape-velocity at the speed of light. As Vannini argues: "Constellation's use of certain forms of technology is about reaching and maintaining a human scale, rather than letting technologies construct their human subjectivities." Or, as Bo Vibe notes: *Go With The Flow*.

"You and I Have an Appointment at the end of the World"

It's a cool fall evening on the shores of the northern Pacific. Mars spins away in the fall sky, the glaciers on the Olympic mountains across the Juan de Fuca strait ritualistically await the next ice age in cycles of 10,000 years, and *Remix Wars* are going down at *Open Space,* an artist-run centre in ViC city.

Advertised as a CTheory event featuring spoken word, turntable experimentations, digital video, sampling and electronic music, Remix Wars turns out to be something very different. In that strange chemistry where the spinning of cultural fragment on the turntables of word, video, midi guitar, and electronic music sometimes breaks down

the tightly policed boundaries of different aesthetic topologies, Remix Wars released the spirit of multiplicity, of hybrid bodies into the night-time oxygen. Here, the seduction of music, the culture of the word, and the fascination of the image matrix loop and reloop under the sign of remix culture.

Beginnings and endings are unpredictable events. Who was to know in advance that the signs of liquid culture imminent to the 21st century would chose to make their appearance through the portals of a spinning turntable, some string theory songs, cyber-ear slamming sound-on- sound of a hyper-sexed midi guitar, and the ancient rhythms of the register of the spoken word. But then, the gods of Remix Wars, perhaps taking their cue from the graveyard of terminal religious iconography, might be signaling in advance that their chosen medium as the emergent cultural cosmology of the new century will be the low cultural profile of art, culture, sound, dance and bodies at the edge of the looped world of the remix matrix.

REMIX WARS

REMIX TILL YOU GET THE MIX
TERROR TIME
EXTREME MAKEOVER
DISTORTED IMAGES
BLURRED COLOR
BLACK/WHITE
RIGHT/WRONG
WITH US/AGAINST US
IT'S TIME TO REWIND THE LOOP
TRASH THE SOUND
REMIX TILL YOU GET THE MIX

YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

MY BRAIN IS ON MIND-WIPE
BUT MY EARS HAVE GONE STREAMING
I'M LISTENING TO THE WORDS
OF 'GOD SPEED YOU BLACK EMPEROR'
"THE CAR IS ON FIRE
THERE'S NO DRIVER AT THE WHEEL
THE COVERS OF SEWERS
ARE MUDDIED WITH A THOUSAND LONELY SUICIDES
AND A HARD DARK WIND BLOWS"

YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

I'M A PORTAL TO NOWHERE
I'M A HIGHWAY TO RUINS
THERE'S BITTER IN MY BELLY
AND A POCKMARK ON MY FACE
I'M A PIRATE OF THE FLESH MACHINE
ROCKIN' AT THE SPEED OF LIGHT
I'M A HIGHWAY TO NOWHERE
I'M A PORTAL TO THE RUINS
AND

"THE CAR IS ON FIRE
THERE'S NO DRIVER AT THE WHEEL
THE COVERS OF SEWERS
ARE MUDDIED WITH A THOUSAND LONELY SUICIDES
AND A HARD DARK WIND BLOWS"

YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

RAGING FLESH
MP3'D INTO A
BLACK HOLE THAT
IS THE WORLD TODAY
WARRING SYMBOLS
OF NOSTALGIA
RED/WHITE & BLUE
PROPEL AIR WAVES
PUNCTURE LIFE
AND LEAVE THE ACRID SMELL
OF DISEASE, DESPAIR & RANCOR

YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

THE DOLL-LIKE FIGURE
WRAPPED IN TISSUE
HAS AN EYE
WHERE HER STOMACH SHOULD BE
HER LIPS MOVE
BUT IT IS HER EYE THAT SPEAKS

YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

TRIBES OF THE MAD DOG NIGHT
CHILDREN OF THE ELECTRONIC SKY
HOWLIN' AT THE SPEED OF TORTURE
THE REALITY SHOW IS ON THE AIR
AND IT'S SHOWING THOSE BODIES OF PLEASURE
THOSE BODIES OF PAIN
SMEARED FEELINGS
STREAMED EYES
FROM DRAB TO FAB
AND OVER THERE IN THE CORNER
THERE'S SOME LOW-BELLY TALKING GOIN' ON
STORIES OF THE MAGGOT MAN
AND THE RAT-FACED MAN
AND THE BLOND BEASTS OF PREY
READING UP ON THEIR NIETZSCHE
TRIBES OF THE MAD DOG NIGHT
GETTING READY, GETTING READY

FOR YOU AND I HAVE AN APPOINTMENT AT THE END OF THE WORLD

REMIX TILL YOU GET THE MIX
TERROR TIME
EXTREME MAKEOVER
DISTORTED IMAGES
BLURRED COLOR
BLACK/WHITE
RIGHT/WRONG
WITH US/AGAINST US
IT'S TIME TO REWIND THE LOOP
TRASH THE SOUND
REMIX TILL YOU GET THE MIX

Remix Sonic Tracks

It's 2am and Tom Kuo, virtuoso extraordinaire of the art of the turntable, is laying down remix sonic tracks so fast, so layered, so culture improv that you know you're finally in the presence of the Wizard of (Remix) Oz.

Remix sound so rhythmic in its machined bass beat, so spectral in its reloops, so primal in its signal of a kind of howler energy that you just know that Remix Wars has been taken to another level, that what's happening in this performance space has suddenly gamma-rayed through the walls and beyond the streets, connecting to a much more ancient spirit in the natural environment of the Pacific Ocean, the Juan de Fuca traits and the ice-capped mountains of the Olympics.

In the turntabilism of Tom Kuo, an electronic musician originally from Taiwan, street-survivor of Detroit, and now techno dj from Toronto, boundary zones are broken, breached and bled on the shores of the Pacific Ocean. you can feel the hyped up sound intensity of the energy in the night-time air, and you can certainly see it in the bodies of the dancers in the audience.

At some point, Kuo's sound vectors jump-cut their way into the nervous systems of spectactors with such delirious pleasure that bodies leap out of their restraining minds and go remix. Like the two guys who trace out in the sonic patterns of their dancing bodies the intensity of the remix rhythm, old patterns of body movement slipstream away and the first ecstatic signs of the hybrid body begin to emerge. shoulders become knees, heads reloop into hawk-like hands, legs piston-charge the inertia of the earth-bound body and the spirit of the remix body breaks away, floating in space, here crash-crashing on the wooden floor, all the more fascinating because of its complete indifference. Or like the young sculpture student, pink dress, black dancing leggings, who suddenly begins a *two heads are better than one dance* with another guy. She picks up a long piece of shaded tan gauze tube-like material from the floor, wraps it over his head and then over her own. What follows is the spontaneous dance of the recombinant body. There are electronic fires here, more ancient body spirits being summoned into existence again by the beat of Tom Kuo's remix beats, bodies who would not be one but multiple, a kind of multiplicity and intensity and deep-down body knowledge of an unbearable nervous tension of looking for the future of the hyper-human, maybe even the subhuman, in the calcified remains of the human, being released.

Music in the Wires for technologies at the edge of remix sound.

BLACK SECRET TECHNOLOGY
(THE WHITEY ON THE MOON DUB)

Julian Jonker

"I can't pay no doctor bills but Whitey's on the moon." Mid-2002, while Mark Shuttleworth orbited the earth at a dazzling 66 sunrises a day in a piece of space junk called Soyuz, an email did the rounds of left-leaning South Africans, and ended up in my inbox one day. The message reproduced some complaints from a poem by Gil-Scott Heron:

The man just upped my rent last night cuz Whitey's on the moon

No hot water, no toilets, no lights but Whitey's on the moon.

I wonder why he's uppin me. Cuz Whitey's on the moon?

I was already givin' him fifty a week but now Whitey's on the moon.

Thirty years after Gil Scott Heron chanted his dissatisfaction with the US cold war space programme, race relations have changed, perhaps not entirely but significantly, in the US and at the tip of this continent. Other things have changed.

Taxes takin' my whole damn check

The junkies makin' me a nervous wreck

The price of food is goin' up,

And as if all that shit wasn't enough.

Power dynamics between the state and the corporate world have shifted too. Shuttleworth's mission indicates how natural it has become for commerce to bankroll public dreams. A remarkable first for Africa; yet so much marketing will-power was spent in order to transform the once private school headboy, who now lives in London, into an *afro*naut.

There is a politics here, a politics of whether billionaire business people now have the right stuff. There is a politics that comes with the giddy freedom of a capitalism that allows people like Shuttleworth to shuck institutional success for garage-industry stardom. It is a politics that you may stand on either side of, but must nonetheless admit is a politics of the imagination.

I remember a time when the imagination did not seem so blatantly political. I remember staring, as a child, at Buzz Aldrin, who gazed contently from a picture on my brother's wall. Dreams at that age didn't have to be balanced, in the way an adult balances a cheque book. *Was all that money I made last year for Whitey on the moon?* Now we live in a postmodern world, a silent, incomprehensible world in which a Cape Town child flies nearly to the moon, while poor millions watch from under zinc roofs freezing in the winter moonlight. Balancing budgets with dreams has become so hard, now that the divide is no longer just economic and racial, but also pharmaceutical, genetic, digital.

I went to the same elite private school as Mark Shuttleworth, and while there I buried myself in books, science fiction and fantasy especially. Mostly I tried not to think about race. The ordinariness of the race of the three astronauts gazing from my brother's wall. My more indeterminate race. Instead I believed in the haunting landscapes and distant moons of the pulp science fiction and comics I read. *The ships landed long ago: they already laid waste whole societies, abducted and genetically altered swathes of citizenry, imposed without surcease their values.* Whenever I traveled the schizophrenic distance between the leafy suburbs of my school and the arid landscapes of coloured ghettoes, I superimposed, translated, those fictive vistas.

I remember hot summer afternoons sitting in the backseat of my mother's old Renault, my head buried in a comic book. Back then Marvel and DC were the only choices, so my brother and I carefully staked out our choices; I went for DC's *Warlord* and *Star Trek*, my brother for Marvel's *Atari Force* and *X-Men*. I can still almost lose myself remembering that sense of total immersion; oblivious to the radio and my mother's conversation, drowning in parallel universes.

Science fiction seeps into a child's imagination by an extension of belief rather than by a suspension of disbelief. The things contained in imaginary tales felt more true than not, perhaps in some alternate, somehow better dimension. Nowadays the literary intelligentsia assert the same thing, though in a more mundane way. They recognise that sf mirrors the contemporary world, not the future world.

Sf is 'paraliterature'—despite the sneers of cognoscenti, it is the literature that is *actually* read. Serious writers call it, enviously, the 'golden ghetto' of literature; pulp fiction. It sells; moreover, it is read. Given the size and dedication of the sf readership, it is hard to deny that it doesn't tell fans something about their world, that it doesn't feed into some structure of feeling.

The recurring scenarios that dominate sf give a clue: themes like alien-ness, colonisation and technology as a disciplinary epistemology indicate that sf reflects the American racial psyche. Sf mirrors the silent history of the New World, and the alienation of the black populations forcibly taken there. *They inhabit a sci-fi nightmare in which unseen but no less impassable force fields of intolerance frustrate their movements; official histories undo what has been done to them; and technology, be it branding, forced sterilization, the Tuskegee experiment, or tasers, is too often brought to bear on black bodies.*

The sf writing community is largely white; yet more and more black novelists are becoming attracted to the genre as they take cognisance of its deep correspondences with contemporary history. Samuel Delany, probably the most prominent of a handful of black sf writers, writes sf as an allegory of cultural difference, imagining futures in which difference becomes the site of a metaphysical struggle—much as some imagine it

today. Like all writers, his imaginative works derive from personal experience. Delany grew up in Harlem, taking a bus from his home above 110th street to a well-off white school below 110th street where he was one of the only black kids. Each time he took that bus he embarked on what he called "a journey of near ballistic violence through an absolute social barrier".

Science fiction is important in more ways than as a simple allegory for conscious history. It also mirrors a psychological, subconscious history. One of the enduring, almost foundational, themes of science fiction is colonisation, whether colonisation of the earth by others, colonisation of other planets by humans, or more metaphorical forms of colonisation. Colonisation often takes a very visceral form in sf, portrayed by alien forms inhabiting and erupting from human bodies. Think then of the equally visceral form that colonisation took in the Belgian Congo: look no further to understand the power of the disrupted human physiology as signifier.

I recently discovered a project by conceptual artist Keith Obadike that does address this intersection of slave narrative and postmodern sf narrative more explicitly: *This project juxtaposes still images from director Ridley Scott and screenwriter Dan O'Bannon's 1979 film* Alien *with text from Olaudah Equiano's 1789 autobiography,* The Interesting Narrative of the Life of Olaudah Equiano, or Gustavus Vassa, the African. *I envision Boladji Badejo (the Nigerian art student and actor who played the alien) as a nexus between Dan O'Bannon's saga (influenced by Joseph Conrad) and Equiano's real life epic.* As others have remarked, black Americans have literally lived in an alien(-n)ation for hundreds of years. The viscerality of their abduction is equalled only by the ephemerality of the bonds which the disciplinary state has since imposed on them. *The sound source for this project is a recording of ocean waves breaking against the Elmina slave castle in Ghana.*

* * * * *

At an appropriate age I abandoned pulp fiction and comics (except for indulging in the counterculture frisson of the occasional *Love and Rockets*), and by the time I reached high school my reading tastes had changed altogether to echo the music in my head. My soundtrack traced a weird course between the slacker rock psychedelia of Sonic Youth and My Bloody Valentine and the sci-fi funk of Public Enemy and Disposable Heroes of Hiphoprisy. The authors who could keep up with my sonic imagination were Phillip K. Dick, JG Ballard and William Burroughs. Somehow, through these writers, the crass generic of sf intertextuality was transmuted into the avant-garde, my first taste of post-*something*ism. 'Post-' whatever was an indeterminate term anyway: these were outsiders in an outsider genre, strangers in the strange world they had staked out as home.

William Gibson and cyberpunk came shortly afterwards; afterwards, despite being more pulp and less literary than what I was already reading. There was anyway something urgent about reading Gibson in the early-90s. *I mean the world of 1999 looks a hell of a lot more like a William Gibson novel than it does like an Arthur Clark novel. It's that simple.* By then the mood of popular culture was all about jacking into the world of *Mondo 2000* and the fledgling rave/ambient/cyberculture scene. Gibson was hardly science fiction anymore. *And why? Because he was looking at things that Clark wasn't looking at. Clark was spending all his time with Werner Von Braun, and Gibson was spending all his time listening to Velvet Underground albums and haunting junk stores in Vancouver.*

But by the end of high school I had stopped reading anything even vaguely classifiable as science fiction. I had practically stopped reading altogether. Unsatisfied with the ability of writing to evoke the rapid psychedelia of life at the turn of the millennium, my inner eye was instead trained on the universes evoked by the music of Goldie, 4Hero, Aphex Twin, Carl Craig, Ken Ishii and the countless, nameless purveyors of the future of music.

In retrospect, the arc that my tastes traced, from pulp sf to the vanguard of electronic dance, seems to possess some internal logic. This is where black science fiction has hidden itself instead: on vinyl. Some critics wonder why there are not many black sf writers, given the subtexts of even the most predictable genre sf. *Few of these debates operate at the interface of science and aesthetics which is the required starting point of contemporary black cultural expression and the digital technology of its social dissemination and reproduction.* To talk about black sf, it might be better to abandon the literary and look at what cultural theorist Kodwo Eshun has called 'sonic fictions'; the gamut of black futurist sounds which have charted the course of pre- and post-rave electronica.

Sf in black music goes beyond film references, although there are plenty of those: from Canibus announcing that he's "liquid aluminum like the T2", to the influence of movies like *Predator* and its sequel through the soundbytes included in jungle classics (such as the famous "fucking voodoo magic" clip).

Hip-hop has always constructed a fantasy world for its fans, both visually and sonically. The album cover for Public Enemy's *Fear of a Black Planet* was a literal interpretation of the title, showing the Earth eclipsed by what could pass for a Death Star inscribed with PE's sniper target insignia. More recently, Kool Keith took the sf fantasy persona to self-conscious absurdity with his Dr Octagon alter ego: a mad gynaecologist who, like Sun Ra, is from Saturn, but bumps and grinds like 2 Live Crew from the year 3000. Hip-hop infiltrates the sf intertext with these distorted pulp references and ganja-induced delusions, making a sonic architecture with the surrealism of Nintendo.

Science fiction in black music is not limited to camp hip-hop imagery. There is music which takes this fetish seriously, either because of its supposed technological advancement or its aesthetic break with past musical concepts. A self-conscious futurism is immediately apparent in the techniques and sensibilities of the black electronic music of the last two decades. Whether it's the future breakbeat of 4Hero's *Parallel Universe* album or the warm analogue groove of Stacy Pullen's otherworldly spiritual techno, or even Afrika Bambaata's *Planet Rock* and M/A/R/S/S's *Pump Up The Volume*, avant-garde black diaspora music in the last two decades has been propelled by a sense that it has returned to earth carrying a vision of the future.

This momentum is not novel to the hip-hop and electronica coming out of New York, Detroit, Chicago and London since the early 80s. Futurism was alive and well in the persona of free jazz pioneer Sun Ra, who allegedly hailed from Saturn, and whose Arkestra was a conductor for intergalactic communications. *Perhaps Alabama was a stranger place than Saturn in 1914.* The sense of futurism can be traced in bebop as well. John Coltrane tried to bring the cosmos back with him through his music, after taking LSD. Then there's George Clinton's science fiction persona, and his famed show with Parliament when he caused an alien mothership to land on stage.

Probably around the same time that I started taking notice of the picture of Buzz Aldrin on my brother's bedroom wall, Herbie Hancock had come careening out of bebop's sophisticated circles into pop music consciousness, wearing bug-eyed goggles and bearing an album called *Future Shock*. It is now de rigeur to announce horror at the schlock culture of the 80s, but who could forget Hancock's "Rockit", or the delirious sf

psychedelia of *M/A/R/S/S*'s turntable cutups? The then-new pyrotechnics of turntablism and DJ-driven sound collage mirrored the space-time disruptions that wildstyle grafitti was inflicting on two-dimensional urban surfaces across the world.

Roland had invented its TR-808 drum synth in 1979, but it came into its own in the mid-80s after inner city b-boys reprogrammed the machine to deliver the robotic squelch of electro. I remember how my brother would spend hours mimicking the way dancers stiffened their torsos to do elementary moves like the robot and the moonwalk. Popular dance has never again captured so well the relationship between the anxieties of modern technology and the paranoid tics and jerks of funk—except perhaps for the dance moves that accompanied black London's underground sound of the nineties: jungle.

* * * * *

I discovered techno and jungle at about the same time I started picking out sides by Abdullah Ibrahim and Charlie Mingus. It was tempting then, as it still is now, to make analogies between the progressions of a jazz history I was only beginning to uncover, and the radical innovations of the black experimental fringe unfolding before me. But there is a blindness in narratives of continuity and progress. New music requires new concepts.

As cultural theorist Kodwo Eshun has noted, the new concepts are there waiting for us; on the album sleeves and in track titles. A Guy Called Gerald's seminal 1996 futurist jungle album was called *Black Secret Technology*; in a similar vein, drum 'n bass and hip-hop from the last decade abounds with metaphors drawn from science and engineering. After the release of his classic debut album *Timeless*, drum 'n bass producer Goldie told *Muzik* magazine that the album was "like a Rolex. Beautiful surface, but the mechanism is a mindfuck. The loops, they've been sculpted, they're in 4D".

'Breakbeat science' seems the most appropriate way to denote the time-defying mechanics of jungle's rhythm programming. Thinking about music in terms of science or technology immediately brings to mind Brian Eno's accusation: "Do you know what I hate about computers? There's not enough Africa in them." But what then is the link between the futures envisioned by new African diaspora music, and the real world presence of technology? It is problematic to imagine Africa's rhythmical technology as being in opposition to the west's digital technology, a problem which Eno blithely sidesteps. Yet if anything, the new music of the past two decades indicates that we should ignore received distinctions between white technological agency and black technological funk.

The affinity of the black diaspora for warped electronics goes back in time, finding echoes even across the middle passage. There is a connection between the futurist trends employed by black musicians and these musicians' self-portrayal as trickster figures; the trickster is an archetype that goes back to the Yoruba deities, or *orisha*, who accompanied their believers to the Caribbean.

Trickery is also at play in literary science fiction. William Gibson imported the orisha into his cyberspace milieu, and cultural critic Erik Davis is convinced that Philip K. Dick is best interpreted as playing trickster god over the universes his books invent. *"I like to build universes that do fall apart. I like to see them come unglued..."* But this is insignificant in comparison with the centrality of the trickster archetype in black futurist music.

Dub has its Mad Professor, drum 'n bass has its PM Scientists, hip-hop has its Dr Octagon, and before all of them, George Clinton reinvented himself as Dr. Funkenstein. All are inflected with the dark awe of witchcraft, more Faustian than Hawking. *It's important to note that in Jamaican patois, "science" refers to obeah, the African grab-bag of herbal, ritual and occult lore popular on the island.* Black secret technology is postmodern sonic alchemy, voodoo magic.

More specifically, black secret technology is taking white technology apart and not putting it back together properly. Black secret technology is finding the secret life of hi-fi equipment like the Technics SL-1200. Black secret technology is discovering the mis-uses of the Roland TB-303, a machine originally intended to help rock guitarists practice over synthesized basslines, but tweaked in order to create acid house and all its subsequent variations. Black secret technology is George Clinton setting out to find a 'psychedelics of the mixing desk'. Or Lee Perry confessing that his studio had become a "pulsating, unpredictable brain". *"It was like a space craft. You could hear space in the tracks."*

Black secret technology is also the metamorphosis from re-cording as re-presentation to re-cording as re-combinance. Thanks to pioneers like dub pioneer Lee Perry and Kool DJ Herc, who invented hip-hop turntablism in late seventies South Bronx, the record has become a technology of remixology, not reproduction. The severing of funk's engine to form the breakbeat, the dissolution of the singer/songwriter in dub's underwater echo-room, the deconstruction of the author by remix: all imply a rootlessness, a restlessness that seems to be echoes of some common subtext of black diaspora experience.

One of dub's legacies was 'versioning', a prototype of the modern day remix. A version was a rhythm track stripped of vocals, which could then be re-used over and over again, with different vocalists, or mixed real-time by Kingston sound systems, creating networks of 'songs'. The versions of early seventies Jamaican dub called the song construct into question in the same way that the radical remixology of contemporary dance music does now.

There is something of a paradox in dub's naive postmodernity, in the way its echoing voices of indeterminable origin slip in and out of the mix. While reggae stresses the motherland connection with lyrics calling for repatriation of Africa's diaspora children and a strong call for the recognition of roots, the 'versions' of dub technology stress the irretrievability of the original mix. *If reggae is Africa in the New World, dub is Africa on the moon.* The dubbed-up listener discovers that home is always already lost to a vanishing horizon.

Black secret technology is the manifestation of what William Gibson famously predicted: the street finds its own use for things. Black secret technology is in this sense not just machinery with the lid off, but whole forms of social organisation; for example, the micro-capitalist network of pirate stations, dub-plate manufacturers and illegal raves, interconnected by pagers and mobile phones, that made up the UK's jungle economy in the mid-90s.

Fucking voodoo magic. If *Predator* was Joseph Conrad for the millennial count-down, then jungle techno is post-colonialism achieved meltdown. *"Do you know what I hate about computers?"* Brian Eno's complaint that computers don't have enough funk in them is already false. *"There's not enough Africa in them."* It's simply not true. Africa's trans-Atlantic diaspora has already infiltrated the mainframe.

* * * * *

After the ghostly psychedelia of dub, but before the kinetic syncopation of breakbeat, there was Detroit techno. There are many origins, claimed and unclaimed, of electronica as it exists today, but Detroit techno is most often championed as the true source. Unlike the facile Euro-beat that later got the popular moniker 'techno', the Detroit techno of the 80s and 90s was a sophisticated, emotional update on electro. With its subliminal bass, complex drum patterns and moody analogue synths, it gave the first taste of the renegade electronics that would become the musical revolution of the late nineties.

Though I didn't know it at the time, Detroit techno and directly influenced subgenres of ambient music were amongst the first sounds of revolution that got me hooked on electronica. I've only now begun to put the pieces together: on the one hand the deep resonance I felt when I first heard the music in the early-90s on static-drenched recordings of US college radio broadcasts, and on the other hand the sociological phenomenon from which the Detroit scene emerged.

Juan Atkins, Derrick May and Kevin Saunderson, the three DJs responsible for inventing Detroit techno in the early 80s, came from middle-class backgrounds, their parents having risen in the ranks at the Ford and General Motors plants that were Detroit's economic engine. Like Samuel Delany, the three friends were amongst a very small group of black kids at an affluent white school, and found themselves thrown between two different worlds with no home ground.

Their music was also rooted in the experience of a particular social landscape. Detroit is the city of *Robocop*. The shining star of America's industrial might becomes a racialised wasteland as the motor industry took a downturn and private segregation followed deepening inequalities. Like a true cyberpunk landscape, Motor City was entropy realised; a place that has been called 'America's first Third World city'. This transition was reflected in the machine code laments generated by the young techno scene.

But Detroit techno has stranger musical roots. Carl Craig, one of the best of the second wave of Detroit producers, spent his youth listening to the gothic art-rock of Bauhaus and The Smiths. Imagining this reminds me of being in high school, sneaking into clubs. For some reason I was drawn not to Cape Town's legendary hip-hop venue The Base, but to the downtown art-rock club scene, and I found it full of coloured counter-cliche twenty-somethings, with not a hip-hop affiliation in sight.

Atkins, May and Saunderson similarly took their influences not only from Parliament-Funkadelic but from the effete pop of European New Wave bands, and especially the cold automaton-music of seminal German group Kraftwerk. They listened to this music, even adopting the accents, because the European music sounded as alien as they felt in the industrial heartland of the USA.

Like Delany, the Detroit innovators found themselves in a strange warp between two worlds; between a world of aspiration and a world from which they were twice excluded, stuck between their double consciousness.

* * * * *

Listening back to some of this music, now that so much of electronica seems to have run its course, it is still easy to see that its ambient textures and breaks with song structure were not merely a panacea for pre-millennial tension. Marshall McLuhan's predictions have come true: we now live in acoustic space, submerged in an amniotic mediasphere that pays no heed to the linearities of the printed word. Producers of electronica don't so much compose music as design aural architecture.

This architecture extends inwards into an architecture of personality. The music is immersive; it offers a way of life which makes sense of the world in a subtly but significantly different way. Even here at one end of the continent, the new music of black Britain and black America echoes its relevance beyond the cache of London/New York cool. With the recombinance generated by sampling and remixing, the music moulds an aesthetic hybridity, a soundtrack for the Information Age cosmopolitan.

Yet it seems that futurism is not as much a force in music from the continent as it is in diaspora music. Why? Futurism, for one, is not necessarily synonymous with cutting edge. Ray Lema, like Jimi Hendrix, was accused of playing music for white audiences when his ideas became too adventurous. But even on his album *Medecine*, a complex but catchy blend of electro and soukous recorded with foward thinking musicians like Tony Allen, this progressive sensibility doesn't engage the same futurist aesthetic as the western electronic music he no doubt took inspiration from.

On the other hand, Manu Dibango's *Electric Africa*, with it's psychedelic computer circuitry on the cover sleeve and *Rockit*-esque production by king future-soundmaster Bill Laswell, does sound like an attempt to leave contemporary space-time. *"Born of two antagonistic ethnic groups in Cameroon, where custom is dictated by the father's origin, I have never been able to identify completely with either of my parents. Thus I have felt pushed towards others as I made my own path."* Dibango was sent to Saint-Calais at the age of 15, where he was the first black person the natives had ever seen. He came back from fame in Paris to find that his records were not being played on Douala's dancefloors. Dibango's futurism seems to echo his sense of displacement.

Futurism in black music has been about addressing an experience which is alienated, uprooted, decentered, but positive; it is a waking to the irretrievability of home. This ethos is embraced by esoteric beat-heads like DJ-producer DJ Spooky, whose mindbending 'illbient' soundtracks are a far cry from the 'real'ness of the hip-hop from which he claims lineage. Spooky, aka cultural theorist Paul D. Miller, is black and middle class, and asserts his hybridity as an aesthetic stance. His 'illbient' philosophies remind me of the undergound hip-hop parties a friend of mine used to co-promote while he was a particularly ghetto-*un*fabulous art student. The parties were called Geto3000, and subtitled 'Keeping it Surreal', an unashamed paean to faux-ghetto irony, cheeky riposte to the centering narrative of ghetto 'realness'.

"I pass through so many different scenes, each with their different uniforms and dialects," murmers Spooky. *"One night I'll be at a dub party, the next in an academic environment. I think people need to be comfortable with difference. Hip-hop isn't; it says 'you gotta be down with us,' be like us."*

I've never experienced the loss of some aggrandising purity of experience as a real loss. Hybrid experiences and immersive cultures don't trace ownership or home, but they do provide more room for the imagination to breathe. *"I pass through so many different scenes, each with their different uniforms and dialects,"* repeats Spooky, like a mantra. When Mark Shuttleworth was orbiting earth at a speed of 66 sunsets a day, I would often imagine him pinpointing home on the blue globe turning below. This image in my head now reminds me of an insight that is implicit in black diaspora music's futurist agenda. Finding home reveals a politics of the imagination.

Acknowledgements

The best parts of this essay are the fruits of helpful suggestions by Lindsay Jonker and Ntone Edjabe; the rest is entirely my own.

The following sources have been sampled and dubbed into the text:

Erik Davis "Philip K. Dick's Divine Interference", *techgnosis.com*.

Erik Davis "Roots and Wires. Polyrhythmic cyberspace and the black electronic", *techgnosis.com*.

Mark Dery *Flame Wars*, 1995.

Manu Dibango *Electric Africa* liner notes,1985.

Kodwo Eshun "Motion Capture" (CCRU)

Paul Gilroy *The Black Atlantic: modernity and double consciousness,* 1993.

Gil-Scott Heron, "Whitey on the Moon", 1972.

Kevin Kelly vs Brian Eno "Gossip is Philosophy" *Wired* 3.05 (May 1995)

Paul D. Miller vs Bruce Sterling "Future Tense", *djspooky.com*.

Keith Obadike, project description for *Untitled (the interesting narrative)*, 2000.

Simon Reynolds vs DJ Spooky *Generation Ecstacy*, 1999.

Mark Sinker "Loving the Alien" *The Wire* 96 (February 1992)

David Toop vs. Lee Perry *Ocean of Sound*, 1995.

"Black Street Technology (The Whitey on the Moon Dub)" was originally published in the second volume of the South African print journal Chimurenga. It is published with the permission of its editors.

THE TURNTABLE

Charles Mudede

Common talk deserves a walk, the situation's changed/ everything said from now on has to be rearranged.

– T La Rock

The hiphop DJ is a meta-musician, an author, a programmer, an organizer of recorded fragments and a builder of databases whose talents are uniquely suited to survival and meaningful cultural production in our emerging era of total digital cross-reference.

– David Goldberg

At the dead center of the spiraling galaxy of hiphop culture is the turntable. This is where everything starts: on the grooved surface of a record spinning on the wheels of steel. All truth is here, all meaning—everything that is hiphop...Indeed, an act of pure hiphop devotion might be to let a record play from start to end on a turntable...

– DJ Dusk

Scratch 1

The line between electronic and live music is unbroken. The forms may appear impressively distinct but they are organized around the same act: playing a musical instrument (a keyboard, drum pads, so on). In electronic music—which finds its definitive moment in the '70s, with the popularity of the German band Kraftwerk—a musician plays a musical instrument and is concerned about, for instance, the key he/she is playing in. This is not the case with hiphop. Hiphop is organized around the act of replaying music; and it is this act, replaying, that marks the real rupture in the mode or method of the forms.

Scratch 2

There are no musical instruments in hiphop (or proper hiphop, and there is such a thing as proper—or closer yet, real—hiphop). This is a truth many critics and hiphop lovers find hard to accept. They instead force matters by placing the idea or image of a guitar or a drum next to that of a turntable, as in the case of Bill Murphy's and Rammellzee's liner notes for the compilation CD *Altered Beats*: "The turntable is more like a drum than anything else. Aside from the obvious physical resemblance of the circular platter to the typical drum head, the turntable/mixer system is in effect 'played' with hands, the black wax rhythmically manipulated by the fingers, just as the tightly wound skin of a congo or West African tribal drum is coaxed into sonic nuances with open-handed slaps." But in fact the African tribal drum is a musical instrument; the turntable is not. Even the West Indian steel drum (closer to the turntable in the sense that it is repurposed—more on this later), is still very far from what the turntable is and what it produces, which is not even real music but meta-music (again, more on this in a moment).

Scratch 3

In Tone-Loc's 1989 video for his wildly popular single "Wild Thing," his DJ (or the actor who pretends to be his DJ) plays something that is half a guitar and half a turntable. There are two reasons for this monstrosity. One, "Wild Thing" sampled Van Halen's "Jamie's Cryin'" (without permission), and so the guitar/turntable contraption functions as a sign for this gimmick: hiphop sampling rock. Furthermore, this sign (hiphop sampling rock) is held (or played, or closer yet, replayed) by another sign, that of the DJ, who in the video represents what sampling is: an advanced digital form of the initial and manual DJ practice/science of scratching and connecting breaks into a sonic series.

The second reason has to do with the turntable's relative newness. Even in 1989, long after its departure from the actual production of hiphop music (the turntable was at the this point, like a DJ in the video, nothing more than a reference to the essence of hiphop), there was still some confusion as to what exactly it was—meaning, what does it resemble? Which family does the turntable belong to? What is it actually doing? Making music? The contraption in the video asserts that it is not very different than a guitar. Indeed, the "Wild Thing" video says, if you were to hold a turntable flat against your stomach and attach a neck to it (no strings or keys—so it is a pure neck), then this fact would be apparent. The turntable is a musical instrument.

Scratch 4

The "Wild Thing" video seems silly—and at the level of promoting a pop rap song, it is. But on another level, the level of assembling connections between emerging hiphop and other established musical forms, it is dead serious. The video attempts to explain to rock and soul skeptics what this new thing, which is used in a particular/peculiar way by the hiphop DJ, is. The "Wild Thing" video assumes that due to the turntable's shape, traditional musicians are unable to recognize it as an instrument. In a pure instance Platonizing the reality of an image, the video invents this thing, this useless contraption (which is not a guitar, nor a turntable—you can't scratch that way without the record falling off) that has the form of an electric guitar so that the skeptics can finally recognize the turntable's essential sameness with other, traditional instruments.

Scratch 5

To replay a record with your hands is different from playing an instrument with your hands. The one object (the turntable) says to the hand, "Don't touch me, for I'm must complete my cycle and fulfill that which is recorded on the 12inch"; the other (the musical instrument) says to the hand, "If you don't touch me, if you don't pull my strings or strike my keys, I'm nothing, I'm a useless object." The turntable is always wrenched out of sleep by the hand that wants to loop a break or to scratch a phrase. In a word, the turntable is awakened by the DJ who wants to make (or, closer yet, remake) music (or, closer yet, meta-music); whereas the instrument always sleeps when it is used to make real music. Indeed, even during the performance of the loudest rock song, the instrument is fast asleep in the hands of the long-haired thrasher.

Scratch 6

The turntable is a repurposed object. It is robbed of its initial essence. But the void is soon refilled by a new essence which finds its meaning, its place in the hiphop universe, in the service of the DJ.

Scratch 7

A thing (Kant) or implement (Heidegger) or commodity (Marx) that is repurposed does what it is not supposed to. It is made by the hands of a manufacturer (Kant), an artisan (Heidegger), a laborer (Marx) to perform (and literally disappears into) a specific task, but the repurposed object ends up doing something else. Think, if you will, of a film projector, which is used to show a movie. That is its purpose: to show a movie, not to make a movie—a filmmaker uses a camera for that. And yet this is what a turntable is forced to do: to make meta-music (music about music) instead of playing previously recorded music.

Scratch 8

Hiphop is less "music," per se, and more "about music"—so radical is its difference from previous methods or modes of music production. Hiphop doesn't so much make music the way, say, The Average White Band, or James Brown, or The Police made music; it instead makes music out of and about real music—meaning, it makes music its subject. "Punk, rock, new wave and soul" (G.L.O.B.E) are subjected to the reproductive logic of hiphop. In this respect, hiphop is, as Afro-futurist/culture critic David Goldberg points out in his essay "Put The Needle On The Record," meta-music—music made out of and about other music.

Scratch 9

Real Hiphop does not sample real sounds, like the flushing toilet in Art of Noise's "Close (To the Edit)" (1984), but samples copyrighted music. The hiphop DJ does not shape raw sound into a form recognized as music, but shapes information into a sonic series recognized as meta-music.

Scratch 10

I borrow the term "repurpose" from David Goldberg, who in his short essay "Put The Needle On The Record" used it, as I do here, to explain what exactly happens when a hiphop DJ handles (or mishandles, or best yet, manhandles) a turntable. Goldberg

writes: "The scratch explodes all previous relationships to sound by completely repurposing the turntable, and by bringing a real-time interactivity to the manipulation of what was originally intended to be a permanent archival medium. Because the scratch is based on a recording, it becomes the manipulation of information and not just the vibrational properties of air."

Scratch 11

In an article I wrote for *The Stranger* in the fall of 2000, about a bridge in Seattle that is used as a self-willed exit from this world as reliably as it is used by cars to cross a body of water, I explained repurposing in this way:

> The German philosopher Heidegger once wrote that the essence of a tool (like a hammer) is only noticed when it is broken. If a hammer works, then it is nothing more than an extension of your hand, but if it breaks, you notice its 'hammerness.' This is close to what I mean by repurposing; the added and unexpected uses of the Aurora Bridge (e.g., the way it has been used to express political and environmental concerns, as in 1997 when Greenpeace protesters hung from it by huge ropes and prevented two American fishing trawlers from heading to the Bering Sea) knocked it out of the slumber of its primary function, and it is now wide-awake, alert, alive. Indeed, like Heidegger's broken hammer brings out the hammer's hammerness, repurposing brings out the 'bridgeness' of the Aurora Bridge.

A repurposed turntable brings out a turntable's turtableness.

Scratch 12

Because it is doing what it is supposed to be doing, a musical instrument is fast asleep when in the process of making music. (Indeed, the very fact of this may explain why Jimi Hendrix frequently lit his electric guitar on fire or played it with his teeth—anything to wake the damn thing up!) Turntables, on the other hand, are always wide awake or "enstranged." This is why the beloved heavy metal practice of smashing a guitar or kicking over a drum set at the end of a show cannot be translated into hiphop terms. How can a DJ break something that is essentially broken when serving his/her hiphop needs? To smash a turntable after it has been man/mishandled by a hiphop DJ seems like a terribly cruel thing to do.

Scratch 13

Enstranged, not estranged. Enstranged is a neologism that approximates the Russian word "ostranenie," which means "making it strange," or to defamiliarize something that has been smothered by habit. The Russian Formalist, and Victor Shklovsky specifically, argued that enstrangement is what distinguished poetic language from everyday language.

Scratch 14

During the heyday of European ethnic gangsters in North American cities, violin cases were famously repurposed for gangland wars. These cases which carried Tommy guns were wide-awake when in the hands of the gangsters and fast asleep when in the hands of classically trained musicians.

Scratch 15

A musician's case contains an instrument; a DJ's case contains information.

Scratch 16

Marx, like Heidegger, recognized the significance of enstranging an object. For Heidegger, a broken object exposes its thingness; for Marx, it exposes its source, the laborer, the one who has transferred his/her body's energy into the substance of the object. In *Capital*, *Volume One*, Marx writes: "[I]t is generally by their imperfection as products, that means of production in any process assert themselves in the character of products. A blunt knife or weak thread forcibly remind us of Mr. A., the cutler, Mr. B, the spinner. In the finished product the labour by means of which it has acquired its useful qualities is not palpable, has apparently vanished." A broken object is also wide awake or enstranged. Indeed, a broken hiphop turntable is a bizarre (if not the most bizarre) thing. When it's actually broken it can't be repurposed (or broken) by the (re)creative hands of the DJ.

Scratch 17

The production of one form (replayed music) occurs outside of the text/recording; the other (played music) within—if it is recorded at all. Indeed, hiphop doesn't really "vanish into thin air" in the manner evoked by jazz genius Eric Dolphy, but returns into the album sleeve to be replayed on another day.

Scratch 18

In the notes for "The Work of Art in the Age of Mechanical Reproduction" (which is the most important essay of the 20th century), Walter Benjamin (1892-1940) offers this quote from Leonardo da Vinci (1452-1519) which echoes the words of Eric Dolphy (1928-1964), which in 1996 were sampled by Parisian DJ, DJ Cam (1973-), on his CD *Mad Blunted Jazz*. da Vinci writes: "Painting is superior to music because, unlike unfortunate music, it does not have to die as soon as it is born...Music which is consumed in the every act of its birth is inferior to painting which the use of varnish has rendered eternal."

Scratch 19

Hiphop is the first musical form to break completely with traditional music in terms of production—how it is made, who makes it, and so on. Even dub, the closest form to hiphop—which was born in the 60s and employed dub plates in ways that are analogous to hiphop's use of records—has vital connections to live musical performance that hiphop doesn't. Dub is constituted by two significant practices that are not completely separated or in opposition: One, is to make dub with live musicians—a practice that finds its representative in Lee "Scratch" Perry and is related in many ways to electronic music, like Kraftwerk's; the other is to make a "version" (a remix) of a recorded piece of music—a practice that finds its representative in King Tubby and is distantly related to early hiphop, like Afrika Bambaataa's—whose "Planet Rock" famously sampled Kraftwerk's, "Trans-Europe Express" (sans permission). This is why dub presents significant theoretical problems; its mode of production is never as clear as hiphop (the total break), but always in a dub haze of live instruments and electronic equipment. Nevertheless, dub is the only link (or, more closely, a ghost of a link) between hiphop meta-music and instrument-based music.

Scratch 20

The real break began in the mid-70s when New York DJs invented the practice/science of looping a break from scratch. What the DJ establishes with the back and forth, blend and blur, is a series (loop after loop) of repeated information that forms a total sonic mix (or matrix) into which the rapper is inserted. The rapper is in the mix, in the house, in the place to be. The rapper does not perform *with* a band but *within* the meta-music.

Scratch 21

Started in the 70s, the looping of the break anticipated the sampler. The sampler digitally assembles multiple parts into a master mix. With the arrival of the sampler in the early 80s, the DJ abandons real turntables (at the club or in the park or the radio station) for the mixing-board.

Scratch 22

If you open up and then fold the note sleeves for the soundtrack to *What's The Worst That Could Happen*? (2001) in a certain way, the image of Eric Sermon on the mixing boards will be faced with the image of Marvin Gaye on the keyboards. Unlike the folding of the new $20 bills to produce what looks like the burning Twin Towers, the matching of Eric Sermon's method of producing music with Marvin Gaye's method of producing music is not coincidental.

Eric Sermon and Marvin Gaye

Scratch 23

Similar to the guitar/turntable contraption in the "Wild Thing" video, the matched images attempt to explain what is not yet fully understood or realized by making it correspond to something that is familiar. Meaning, the mixing-board is the hiphop version of the piano: The piano has keys, the soundboard has knobs; both have wide surfaces; both require that the pianist or mixing-boardist sit down and use the tips of their fingers—therefore both are instruments. But these parallels are only visual not actual. The mixing-board is not an instrument, that is not its essential purpose. The mixing-board was made, designed and installed in a soundproof basement to record instruments. It is repurposed by the hiphop DJ who, now a producer, collapses, within the electronic spaces of mixing-board, the function of recording into the function of remaking music.

If rearranged in such a way that the living hiphop producer Eric Sermon is on top and the ghost of Marvin Gaye is on the bottom looking up, we would have a better representation of what is actually taking place in the production of hiphop music. The phantom of the musician exists within the electronic depths of the soundboard. The musician is the subject of the hiphop producer.

Eric Sermon and Marvin Gaye

But even this is not close enough. A more precise representation of modern hiphop production should look something like this.

Eric Sermon, DJ Flash and Marvin Gaye

The modern mixing-board replacing the DJ who repurposed the LP that was produced by a live musician.

Scratch 24

The early practice of manually running or matching records on turntables, anticipated the current, virtual production of hiphop on mixing-boards in the way that dadaist practices at the end of the 19th century anticipated cinema. Here, of course, I'm referring to a passage in Walter Benjamin's essay, "The Work of Art in the Age of Mechanical Reproduction," which argues that "one of the foremost tasks of art has always been the creation of a demand which could be fully satisfied only later." Benjamin writes: "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...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. In recent years, such barbarisms were abundant in dadaism. It is only now that its impulse becomes discernible: Dadaism attempted to create by pictorial—and literary—means the effects which the public today seeks in the film."

Scratch 25

The sampler is not a musical instrumental (in the traditional sense of a musical instrument), it is instead repurposed to turn one DJ repurposing two turntables into a thousand mini DJs repurposing two thousand virtual, mini turntables.

Scratch 26

"One Day in '81 or '82 we was doin' this remix," says DJ Marley Marl in Tricia Rose's seminal book *Black Noise* (1994), "I wanted to sample a voice from off this song with an Emulator and accidentally, a snare went through. At first I was like 'That's the wrong thing,' but then it was soundin' good. I kept running back and hitting the Emulator. Then I looked at the engineer and said. 'You know what this means?! I could take any drum sound from an old record, put it in here and get the old drummer sound on some shit. No more of that dull DMX shit.' That day I went out and bought a sampler." The drum machine, which is an instrument, is "dull...shit" to the DJ, what is desired is a machine that does what a DJ essentially does when running LPs or singles on the turntables: remixing, replaying "old records."

Scratch 27

The following passage from a wonderful article, published in *The Face* (December, 1997), describes an encounter between Staten Island's Wu-Tang Clan and the Scottish pop band Texas in an NY recording studio. It not only makes abundantly clear the difference between the production of modern hiphop (which has its essence in the turntable) and the production of pop or proper music (which has its essence in the musical instrument) but also how hiphop is made nowadays—not with turntables but mixing boards and samplers that emulate turntables:

> RZA goes to work, feeding a succession of sample-laden discs into a sampler. He has a diffident, genius-at-work charisma about him as he sits with his back to the room, keyboard at side. With a flick of his prodigiously

> ringed hand he reaches out and conjures up a brutal bassline. The speakers pulse violently. RZA takes a sip of Hennessy. 'Record this, right here!' he tells the bewildered-looking engineer. RZA has decided to dispense with the original master tapes, shipped over from Britain. He wants a completely new version, recorded rough-and-ready without the standard safety net of a time-code. This convention-trashing, wildstyle approach to recording elicits some consternation from the studio's engineer, a central-casting white guy who warns RZA: 'You won't be able to synch to this, you know.' RZA waves him away and turns to [Texas' Bassist and leader] Johnny McElhone. 'This riff is in E,' McElhone tells RZA. 'Maybe we should try it in the original key, D.' 'What are you saying? I understand no keys,' says RZA.

Scratch 28

The real turntable has been dead for many years now; it's no longer used to reproduce music. The sampler has replaced it in studio and the DAT machine at live shows. (Indeed, when the Anti-Pop Consortium performs a live show they often say, "Let's give it up to our DAT machine" instead of "Let's give it up to our DJ.") The turntable is now a ghost machine within the complex circuitry of the mixing machine. When we see a DJ at a nightclub scratching records and reproducing music on the turntables—which by the way have not progressed or significantly improved in over 20 years; what was used to scratch records in the early 80s, if not earlier, are essentially the same Technics that are used today—we are watching something from the past, and, because of this, something that has about it the mode and mood of a ritual.

Like the saint he or she is, the 21st century DJ who cuts and runs the break of our favorite song is not innovative, they are not looking forward but backward, giving praise thanks to his/her great and departed ancestors—Jam Master Jay and DJ Scott La Rock—on what is now the altar of hiphop: the two turntables.

CARDBOARD RESISTANCE

DECONSTRUCTED ROCK AND THE POLITICS OF AUTHENTICITY

Phillip Vannini

> Let the youthful soul look back on life with the question: what have you truly loved up to now, what has drawn your soul aloft, what has mastered it and at the same time blessed it? Set up these revered objects before you and perhaps their nature...will give you a law, the fundamental law of your own true self.[1]

Resistance is disorder, rebellion, the chaotic cacophony of dissent. And yet, to resist is to exist, to give sense to a spitefully senseless experience, to be open to one's world, even if only to reject it. Resistance as noise, existence as harmony. The line between the two? Suffocated by the noise of harmony and the harmony of noise. Both, to be found in the artistic production of Constellation Records—a Montreal-based, deconstructionist, independent rock production label that finds itself at the forefront of an artistic and political movement of noise that strives to reject modern ideas of art, politics, and movement, and finds resistance in the harmony of noise itself.

Constellation's politics is as artistic as its art is political. Founded in Montreal seven years ago, Constellation has produced and distributed independent rock music mostly through a network of Mom-and-Pop stores across Canada and the United States, expanding its influence through web and underground zine coverage, word of mouth, and ultimately its website. At first glance Constellation Records' impact on the music industry and the world at large is minimal. No platinum records are produced here, no multi-million dollar contracts are signed, and no large arena concerts are planned. Some of its bands, notably 'godspeed you black emperor' (GYBE), may have reached international audiences but the gathering of hundreds of fans at shows is still despised in the name of a truly punk philosophy calling for the demolition of all hierarchies and boundaries between the music, the musicians, and the listeners.

While still unknown to the masses, GYBE, a nine-piece, multi-instrumental symphony-rock orchestra has recorded four albums, *'f# a# ∞,' 'slow riot for new zero Canada,' 'lift yr. skinny fists like antennas to heaven,'* and the latest *'Yanqui U.X.O.'* which lie at the forefront of its own musical sub-genre. GYBE's relative underground fame is also fueled by the legendary mystery surrounding the band, rumored to be living collectively in an abandoned rail yard in Montreal's Mile End district. On their part, GYBE members refuse to be identified by their last names and constantly shy away from interviews, appearances, or publicity. Their live shows take place in the dark, with the stage overflowed by cinematic images projected onto a background screen, with their violin and cello-driven rhythmic crescendos annihilating all interaction outside of melody. If at all possible, their music is even more mysterious. Loosely describable as apocalyptic gloom, doomed nostalgia, and melodic urban utopia, their voiceless rhythms re-cover tape loops of street recordings, bigots' rants, corporate mini-mart in-store public announcements, and ethnic chants. The few, sparse, unsystematic prose passages involve distant narrators' voices reciting decentered poetry, such as:

> The car is on fire and there is no driver at the wheel and the sewers are all muddied with a thousand lonely suicides. And a dark wind blows. The government is corrupt and we are all soul-mate drunks with our radio on and the curtains drawn. We're trapped in the belly of this horrible machine and the machine is bleeding to death...[2]

Why care about this, as critical theorists? Because through its cultural production Constellation is inherently and explicitly critical of commodified and standardized artistic expression. In words excerpted from its own manifesto, Constellation has

> attempted to evolve one possible model for the recovery of an independent music ethic, hoping to summon some real sense of indie rock in spite of its reduction to a branded slogan through corporate co-optation, its laissez-faire attitude towards the market and the means of production, and all the facile irony that helps pave the path for these content-negating trends.[3]

Constellation rejects the standardization typical of the music industry[4] and post-industrial society at large. By choosing to envelop its recordings in recycled cardboard and involving local craftspeople and artisans in the packaging process, Constellation condemns the plastic fakeness of commodified duplication and mechanical reproduction.[5] Neo-Luddites? No, cardboard resistance—I argue. This is resistance in the name of difference—a postmodern interpretive politics of authenticity set against the massified sameness of popular music and pop culture.

Constellation's art is inherently political, and clearly grounded in the social geography of postmodern cultural production and consumption. Constellation's production and distribution reclaim autonomy both from the corporate intellectualism of classical music production, and from the bastardization of the indie genre, first constructed then co-opted by global marketers of cool™. Yet, this is no post-rock, but rather the vindication of the original project of independent rock itself, a self-aware practice of protest against the unquestioning consumption of stable, certain, cliché formulas of musical expression corrupted by taste standardization. Constellation's re-discovery of independent rock works as a philosophical and political assertion of the value of creativity, uniqueness, and openness to change. Constellation's independence from the demands of profit and the corrupting pandering to the minimum common denominator is not only validating its difference, but also its human authenticity. This is not a logic of profit-maximization

then, but rather of individuation, an individuation fashioned from the contradictions of late capitalistic culture, and practiced reflexively through strategically interwoven moves.

Constellation's independence lies in its resistance to global music conglomerate co-optation—a resistance in both spirit and practice. Indie music is not a sound, or a look, or in other words an empty signifier, but a critical cultural stance toward the homogeneity of corporate-driven cultures. Corporatism standardizes, commodifies, de-individualizes, and turns humans into consuming serfs, false human beings who have lost their originality and independence—*Constellation Records' political manifesto* implies. Escaping the basic traits of capitalism, such as trade, may be impossible, but re-asserting the meaning of what is traded and of trade itself is indeed possible and worth pursuing. There is much Rousseau in this quest for authenticity, but there is just as much Foucault and Habermas:

> Independence is to our minds the affirmation of real community, real conversation, and the real exchange of artistic work. The urgent task is to build up and promote real dependency through a network of dissemination and valuation of culture that strives to address the truth of our human situation - a dependency based on freedom, critique, and dialogue. Obviously putting out rock music, however experimental and boundary-pushing, is only obliquely a political and social activity, but we nevertheless hope to contribute in a tiny way to a meaningful model of communication which takes its lead from art.[6]

Besides being a denunciation of art for art's sake, this artistic-political independence is also a rejection of postmodern simulacra and the superficialization and standardization inherent in simulation. Instead of empty, alluring imagery Constellation asserts the original signified of indie, the primacy resistance value of expressiveness, singularity, and reflexivity. Independence, however, is not a synonym of autonomy. Constellation Records must necessarily relinquish some control over production and distribution to certain stores and distributors whose main intent is to infiltrate the market with profit motivation in mind. Besides mundane convenience, the delegation of certain aspects of distribution to regional distributors allows Constellation to deflect responsibility, and thus minimize the personal corruption business practices entail. The ideals of autonomy and self-legislation are as utopian now as they were throughout modernity, and must be clearly kept separated from pragmatic resistance practice. If it is of authenticity that we speak in interpreting the significance of Constellation's cultural production, we must understand authenticity as distinct from the traditionally modern ideal of autonomy and self-legislation. Instead, we ought to ground the authenticity of Constellation's practice in difference, and in the intersections between art-politics, the subject, and the Other of artistic and politico-cultural production—in Constellation's case, the corporate music industry and commerce.

Indeed without this critical stance toward the commodified Other of music and culture, the art-politics of Constellation bands makes little sense. The authenticity of Constellation's cultural production indeed resides in its parodying a generalized and disavowed Other. In Constellation's deconstructed indie rock, authenticity is difference from corporate enemies, their retail "temples of payola" and their "warehousing of culture."[7] This re-assertion of difference is a form of "postmodern sensibility" as "a reflexive hyper-authenticity [...] a parody of the parody that is called the social"[8]—a postmodern authenticity as reflexive intersubjectivity.[9] And the music of GYBE is

filled with moments of parody. In one instance it is the recorded corporate message of a highway mini-mart denouncing the protest activities taking place outside the store, in another it is the rage of a street reactionary reciting paranoid poetry and voicing his passion for weaponry. And yet, we should not make the mistake of separating GYBE's art from its lived practice, for resistance is practice and not just ideal. Take for example the obscurity surrounding the band. GYBE's antipathy to undue exposure is not merely a quirk somewhat typical of eccentric alternative musicians, but rather a self-reflective and indirect protest of the implicit, and often explicit, collusion between the press and the pop culture industry regime. Interpreting an interview or a photo shoot as but a form of subliminal advertising much too often present in the era of quasi-pornographic MTV-style infotainment, GYBE find their music and cover art a sufficient means for self-expression. By reducing the visibility of the artist at a time when the commercial popularity of music is determined by the carnal appeal of its performer,[10] GYBE vindicate the primacy of the message and its content, rather than its medium and form.

Constellation's cardboard resistance is of crucial interest to the critical student of technology. Institutional discourses and their impact on subjectivities, such as the cultural and political forces of technologies, exist in different forms and are experienced in different ways. Constellation's cardboard resistance is indexical of an interpretive practice of the fluid meanings of discourses on technology, a creative practice through which individual and collective identities are constructed, namely identities grounded in resistance and independence from mainstream institutional discourses. This entails that we relinquish all meta-narratives and globally valid theoretical discourses on technology, and focus instead on the local practices and discourses created, undertaken, and experienced by Constellation.

Indeed, in the Lyotardian sense whereas *global* meta-narratives no longer make sense, *local* narratives constituted in the language games of everyday practice, and constructed at specific "nodal points" of interaction allow the subject, whether individual or collective, to exist "in a fabric of relations that is now more complex and mobile than ever before."[11] Lyotard writes that no one "is ever entirely powerless over the messages that traverse and position him [sic]" at the cross-roads of discursive formations[12]—Constellation's resistance indeed works as a self-repositioning at the cross-roads of commodified expression, independent rock label co-optation, and classical music re-interpretation. Constellation's subjectivity, in other words, is not entirely determined by the institutional discourses surrounding it, and it works well to understand it as "a particular set of sited language games whose rules discursively construct the semblance of a more or less unified subjectivity centered in experience."[13] In fact, notwithstanding the might of global entertainment conglomerates, Constellation has been able to excavate a niche for itself, or perhaps even a trench from which to resist the oligopolization of artistic expression. How can we make sense of Constellation's resistance, then? By understanding resistance and the ideologies behind it not as universal conditions, but rather as practices pragmatically reduced to their local validity within interpretive communities.

In this sense, Constellation's rapport with technology is easily understood within its ideology of difference and authenticity, and within the political and philosophical history of the punk and indie music interpretive communities. Through their choosing cardboard packaging over conventional plastic, and the production of an immediate and almost 'live' sound over studio over-production Constellation artists and artisans can actually ground their difference from a commodified mainstream in practice. Anyone

familiar with the specificities of music genres can promptly think of how the use of mastering and production techniques can be either lived and interpreted as inauthentic or authentic, depending on its context. In punk rock and much of indie rock, some technologies have been traditionally held to play a corrupting role between the ideally immediate force of the music and its listener. In its early days punk musicians could barely play their instruments and much of the ensuing distortion and imprecision was immediately thought to be directly representative of the genre's authenticity. Later, however, as musicians improved their technical skills and mastered the use of recording technology, distortion and dissonance were added during the recording process in the musical studio to make the music sound more real. However, music produced in the studio is not necessarily branded as fake. Consider the music of GYBE, a highly pure noise that is precisely executed and cleanly recorded free of errors and imprecision. Indeed, even though like all Constellation bands GYBE are known to stand for the raw and genuine immediacy of live performance over studio wizardry, both their studio-recorded tracks and live performances could not reach the same level of subversive purity without the bricolage of distant sounds, live play, and tape loops. How can this be lived as authentic? Because punk and indie rock's claim to authenticity lies not in the 'perfection' of digitally recorded mainstream pop—what Lack labels hyperreal music—but rather in the purity of a recording with distortions added—a form of authentic inauthenticity. A record, such as a tape or CD or vinyl album after all is but a mediation of the live, authentic sound. But not all reproduction technologies are by necessity corrupting of this original authenticity. A live performance re-mastered in a studio, or a 'live' studio performance that is not 'too' clean can also pass as pragmatic compromises between absolute noise and virginally pure, hyperreal sound. Constellation's use of certain forms of technology is then about reaching and maintaining a human scale, rather than letting technologies construct their human subjectivity:

> Mechanical reproduction, whether digital or analogue with regard to the music itself, whether at the local die-cutter or silkscreener with regard to packaging and printing, is accessible technology and allows for the duplication and dissemination of cultural work at the micro-level, even if the macroscopic potentials of the technology machine, with respect to art no less than labour practice or weaponry, are terrifying. It's all about maintaining a human scale. Fin-de-siècle capitalism both facilitates and threatens independent production, and the key for us is to utilise those technologies that capitalism itself has marginalised and dispersed in order to create cultural objects that are inherently critical of the system. To the extent this condemns us to pursuing quality at the expense of quantity, it is a fate to which we willingly submit.[14]

The need for another pragmatic compromise comes when records need to be packaged—some technologies are interpreted as corrupting, and others are seen as more authentic. That is why Constellation avoids standardized plastic jewel-cases and chooses instead to design fully recycled cardboard packaging for its CD releases. Cardboard packaging involves local artisans, craftsmen, environmentally-friendly small business suppliers, requires more creative human labor (from cutting and folding to trimming and drawing), and allows "the sensibility of the music [to be] reflected in and reinforced by the tactility of the package that contains it."[15] These

discourses-in-practice speak of the construction of the subjectivities of Constellation members, of the significance of their cultural resistance, of their interpretive practices, and identity politics.

Constellation's authenticities work as cacophonous voices further confounding the noise and doubts of postmodern culture, but sound like beautiful harmonies to those who choose to sing and listen. Much like GYBE's deconstructed rock strategies of indie representation, these cries are often suffocated in its own noise. Take GYBE's latest full-length recording, *'Yanqui U.X.O.'* for example, a genuine mise en garde of the power of deconstructed rock. *'Yanqui U.X.O.'* follows the irrational logic of a political aesthetics of protest, a cry of protest that is speechless and drowned in the noise of belligerent vibrations and notes, as no words are spoken throughout this recording. Yet it is in the periphery of the text that GYBE's voices are to be heard. The disc itself bears the inscription: "rockets fall on Rocket Falls" and "motherfucker = redeemer"—a clear indictment of the aggressiveness of contemporary US foreign policy. A folder depicting a hammer nailing the word hope and chasing away flying white chimeras with its motion reinforces this impression, corroborated by the photograph of a bomber jet on the cover. "U.X.O."—a writing on the inlet specifies—"is unexploded ordinance is landmines is cluster bombs. All of it mixed by god's pee..." [16]

Entertainment indeed blurs art blurs politics blurs technology in GYBE's music and Constellation records. Through the *'Yanqui U.X.O.'* album cover charts linking Sony, AOL Time Warner, Universal, and BMG to various military industries GYBE shed light not only on the connections between music and industry, but also between technology, entertainment, and military politics, much like a CNN "Showdown Iraq" or "Target: Terrorism" special which profits from the spectacle of military technology and turns politics into fictionalized entertainment from which the very same owners and perpetrators profit. This is in fact the art-politics of deconstructed rock, to bring the darkness of hegemonic power to light, only to submerge it in the noise of independent, i.e. authentic expression. The denouncement itself is a claim to difference "& hope still, a little resistance always maybe stubborn tiny lights vs. clustering darkness forever ok?" [17]

Notes

1. Friedrich Nietzsche, "Schopenhauer as Educator," in *Untimely Meditations,* Cambridge: Cambridge University Press, 1983, p. 129.

2. godspeed you black emperor, "The Dead Flag Blues (Intro)," *f# a# ∞.*

3. http://www.cstrecords.com/html/cowards.html

4. Theodor Adorno, *The Culture Industry: Selected Essays on Mass Culture,* ed. J. Bernstein, London: Routledge, 1991.

5. Walter Benjamin, *Selected Writings,* Cambridge: Belknapp, 1996.

6. http://www.cstrecords.com/html/manifesto.html

7. http://www.cstrecords.com/html/manifesto.html

8. Tony Lack, "Consumer Society and Authenticity: The (Il)logic of Punk Practices," *Undercurrent*, 1999, p. 3.

9. Alessandro Ferrara, *Reflective Authenticity: Rethinking the Project of Modernity,* London: Routledge, 1998.

10. Phillip Vannini, "Adorno's Legacy: Critical Theory, Cultural Studies, and the Global Political Economy of Britney Spears Inc.," *Illuminations, 2002*. Available online at: http: www.gseis.ucla.edu/faculty/kellner/Illumina%20Folder/adornolegacy.htm

11. Jean-Francois Lyotard, *The Postmodern Condition,* Minneapolis: University of Minnesota Press, 1984, p. 15.

12. *Ibid*.

13. James Holstein and Jaber Gubrium Jaber, *The Self We Live By: Narrative Identity in a Postmodern World,* New York: Oxford University Press, 2000, p. 70.

14. http://www.cstrecords.com/html/manifesto.html

15. http://www.cstrecords.com/html/pckg.html

16. godspeed you black emperor, *Yanqui U.X.O.*, Constellation Records, 2002.

17. *Ibid*.

FULL WITH NOISE

THEORY AND JAPANESE NOISE MUSIC

Paul Hegarty

1. Scratching the Surface

"Full with Noise..." is about noise music, specifically the version that has come to be called Japanese Noise—itself composed of many different strands. The first half deals with the question of noise. What is it, whose is it, and how can we think about it. Also, how does noise inflect our thinking, rather than being an object; at what point does noise lose its noiseness and become meaning, music, signification? Or—is there even a point where noise can subsist? Mostly, the text below takes the view that noise is a function of not-noise, itself a function of not being noise. Noise is no more original than music or meaning, and yet its position is to indicate the banished, overcome primordiality, *and cannot lose this 'meaning'*. Noise, then, is neither the outside of language nor music, nor is it simply categorisable, at some point or other, as belonging exclusively to the world of meaning, understanding, truth and knowledge. Instead, noise operates as a function of *differance*. If this term is what indicates and is subsequently elided, in/as the play of inside and outside (of meaning, truth, language, culture....), then we can form another binary with identity on one side and *differance* on the other, but with this difference—that differance is both one term in the binary, and that which is the operation of the binary. This is what noise is/does/is not. For Douglas Kahn, noise drifts across the binary empirical/abstract, such that "when noise itself is being communicated, [...] it no longer remains inextricably locked into empiricism but it transformed into an abstraction of another noise."[1] In other words, noise is (taken to be) empirical, belonging to the world that is there in itself, a world of sounds without conscious sources. When such a view is mobilised, by the dadas, the futurists and so on, then noise becomes second order: a demonstration of the noise that subsists beyond.

As Kahn rightly notes, there is no noise without the thought of noise, and ideas about sound can therefore "make an audible event called noise louder than it might already

be"[2]—noises come from specific places and specific conceptualisations. At some level, the use of noise is a bid (however unwitting) to master it (at least in Western modernism), and reduce its quality as noise: "avant-garde noise, in other words, both marshals and mutes the noise of the other: power is attacked at the expense of the less powerful, and society itself is both attacked and reinforced."[3] This of course includes the "actual" others of the Western male—woman and the foreign other particularly significant here. For the purposes of this essay, it is the use of the exotic other that might be at stake. Kahn observes that the early modernists "love of "the primitive" led them to (in)appropriate so-called primitive musics, and "thus, the grinding sound of power relations are heard here in the way noises *contain* the other, in both senses of the word."[4]

Perhaps this is what is going on in trying to theorise Japanese noise music, even when rendering this a theoretical agent. Maybe crucial cultural elements are missing, leading to presumptions about what is being produced, based on underinformed hearing. This may be so. But what needs to be added is that if noise is to be noise, then an authentic reading (of true meaning) cannot be, cannot take place. More importantly, Japanese noise has its roots as much in free jazz, experimental rock music and contemporary classical music, as in traditional or classical Japanese musics. Part of the "noise" that unites highly disparate musics under the banner of noise music is precisely a disruption of Western music and its genres.

Japanese Noise music has existed since the early 1970s, and since the late 1980s has been increasingly influential. This essay concentrates on the figure seen to epitomise Japanese noise: Merzbow, essentially the work of Masami Akita, and even then, only a tiny fraction of his output. The second half of the essay, including the conclusion, is an attempt to create a Merzbow/theory object—failing.

II. Scraped Subjectivity

A recent exploratory political document states that "noise is sound which has a negative effect on people (unwanted sound)."[5] According to C.S. Kerse, noise is "sound which is undesired by the recipient", "a sound without musical quality or an unwanted or undesired sound."[6] Noise, then is subjective, and this is what vexes the Law, which exists, according to Jacques Attali, as result of the transformation of noise into music, into a regulated system, which heralds all regulated systems, all that comes from the buried sacrifice at the origin of society.

Attali: "Primordially the production of music has as its function the creation, legitimation and maintenance of order. Its primary function is not to be sought in aesthetics, which is a modern invention, but in the effectiveness of its participation in social regulation. Music—pleasure in the spectacle of murder, organizer of the simulacrum masked beneath festival and transgression—creates order."[7]

Is noise subjective? Could we not instead say that noise has to do with the subject: that which occurs as/at the limit of the subject; that which signals an immanence outside of the subject/object divide, however reclothed in phenomenology? It would not then be enough to say "one person's noise is another's music" in some liberalist fantasy—rather we would have to acknowledge the constructedness of the "subjectivity of noise".

Technical books on acoustics often assert that noise is in some way biologically coded—'we' perceive certain sounds as noise because the vibrations are too close to the frequencies, rhythms, wavelengths of bodily functions. Others are noise because

they are too alien. This is not totally false, but what is really at stake here are discourses which presume that there is an absolute, shared biology, layered with personal freedoms of judgement, feeling and so on. Such a stratification is also not false, but that does not make it natural, nor the specific layering a given: it makes an apparent end-result (or beginning-result), where there could simply be process.[8]

If we are to listen to noise as music, noise designed as music, noise perhaps designed to stay noise, but to be heard in the conditions music is listened to, then something must give. Two possible models: firstly, learn to live with it—adopt an Adorno pattern (didactic) over a Hegel pattern (post-Hegelian, (un)phenomological), unwittingly championed by John Cage, and argue that we can, as result of listening to noise, rather than hearing it involuntarily, relearn how to approach the world and its cultural 'world' (of course, world and 'world' can be quickly reversed); second model—create a situation which exposes the 'noise-afflicted subject' to remain so—through an act of sovereignty (something in Bataille that seems to be mastery, but undoes itself) consign the subject and its supposedly subordinate vessel to chora-ness.

How to be a body without organs without being a fusion-loving hippie: after the schizo, paranoid, hysteric bodies, comes the masochist body: retrained and subjected as the last choice of the subject, the masochist body is "further" than the schizo body, leaking its internal organs, becoming pathway, becoming solid, becoming-becoming. The masochist body has the option of losing itself as organism through restraint, enclosure, containment (whilst also becoming someone else's body without organs, becoming body of the other): "it has its sadist or whore sew it up; the eyes, anus, urethra, breasts and nose are sewn shut. It has itself strung up to stop the organs from working; flayed, as if the organs clung to the skin; sodomized, smothered, to make sure everything is sealed tight."[9] As a result we have a version of 'the' body without organs: it "is what remains when everything is taken away. What you take away is, very specifically, the [masochist] phantasy, the whole made up of significations and subjectifications."[10] Except that not everything has been taken away—the ears remain open.[11] Is this so the masochist body can hear instructions? Is this because the body without organs is really about listening?[12] It is perhaps that the ears constitute 'an' organ that we cannot control, so to leave 'it' open is to close the possibility of control through closing—if the ears were closed, the masochist would again be in charge of the soundworld. The ears become wound.

A suspicion remains that the unclosed ears maintain a link to the world of sense—whilst the ears themselves might constitute a wound, it is an enabling wound, one that (like the pain now disallowed as warning signal) allows the possibility of processing the world into meaning. To block the ears would also instigate a possibility of self-awareness as organism, although a sense of panic, if it occurred, would be the undoing of this. Even so, the end-result, once we consider the ears as hearing device, whether open, closed, blocked, unblocked, the body without organs but with ears is a naturalised one, one that returns us to a primordial condition (even if a primordiality that was not primordial, but becomes that which is returned to as if it were primordial).

The body without organs whose ears are filled with noise, however, is more (or, more accurately, less) of a body without organs: the noise-filled ear is no longer capable of hearing the voice of reason, the warnings of danger, the patterning of sound we somehow have always come to believe constitute not-noise. The body without organs does not hear or listen to noise, but is (in) the hearing of noise that exceeds the body that first lost in the sound of its muffled breath, the movement of liquids and gases, the slight panic pulse.[13]

Deleuze and Guattari are right to note that the body without organs is about the failure to become: "There is no attaining the Body without Organs—you cannot attain it, you never finish getting to it—it's a limit."[14] The body without organs cannot become itself, or anything else, and the way in which this specifically cannot happen is through the multiple failure of hearing/ears: its mysterious amnesty in *A Thousand Plateaus*, its failure through noise to process sense, the failure to stop processing, the failure to return to the 'true' body, and the failure that is the return to the "true" body (in, for example heightened awareness of the body's function—although even if this were possible, it would constitute a forcible intervention in the functioning of the body). The body without organs is the failure of completion, the failure of this failure (organ resistance). The failure is the process of becoming, and becoming-failed is the noise of the attempt to get to the body without organs—the supplemental 'place' where it cannot be, where only it 'is'.

Another story of the ear related by Kroker is one in which "the ear finally comes into its own. But not the old ear attached to a living head."[15] The ear moves into (non) being as a post-masochistic organ without a body. But as we have seen, also an organ without a body without organs.

Noise can be seen as structural: in the realm of law, of good citizenship, it is "undesired", or "excessive" sound.[16] In the realm of Law as that which operates rationality, noise is that which has always to be excluded—the exclusion having always already been and (not) gone, in order that the Law exists. This seems to indicate noise as a category, like the sublime, of domesticated exclusion. But noise can be conceived of as process. For Russolo, "[the timbre of noise] is no longer an *effect* bound to the causes that produce it (motive energy, striking, friction through speed, bumping, and so on) owing to and inherent in the purpose of the machine or thing that makes the noise."[17] and if noise is process, is always a becoming-noise—or, alternatively, (not) coming into (not) being as noise, this exclusion (what we take to be in the exclusion) is undone when noise 'is', as noise is the coming-undone of noise/organised sound. Most particularly when noise 'is' where it cannot be—music.[18]

Noise also has to contain judgement: it is 'unwanted'. Can noise be wanted—clearly that would then define the noise in question as not-noise. If we are happy with tautology, we can stay there. Or—let us presume that noise is always unwanted as a function of wanting (desire, if you must)—it might even be "what you did not know you wanted"—as suggested by Attali, when he writes that new music always emerges as noise in what is to become "the old order": "despite the death it contains, noise carries order within itself; it carries new information";[19] as of course suggested by that prime mover of de- and re- territorialisation, the 'capitalist machine'. The unwanted is not a function of some lack-oriented mysticism about desire, but the actuality of wanting, once removed from subject/object control. More simply, though, what if you actually do want to hear something that is noise—in the shape of unorganised, unpredictable, violent (sometimes in terms of volume) sound? Attali makes the case that 'music' is heading toward noise, in the form of unavoidable background music[20] and in its increased standardisation, where "it is trapped in identity and will dissolve into noise".[21] The judgement 'I want to listen to noise' is a deterritorialised one—it is occurring without the subject intervening. Nonetheless, it might be the sign of the dying Subject grasping for some form of Authentic Existence before disappearing (accompanying the world of "performance art" into a world of hyper-simulated sacrifice).[22]

Music, according to Attali, is "the organization of noise".[23] Noise has an existence outside of our conscious control, which is partly natural, partly social environmental:

"life is full of noise and [...] death alone is silent: work noise, noise of man, noise of beast."[24] Life, then, is rationalised, brought into line, and rigorously limited. A general economy of sacrifice, murder, waste is lost, in music, "originating in ritual murder of which it is the simulacrum."[25] Attali, however, cannot go so far as to see that noise cannot be natural—that it is the equivalent of the Nature left behind at the signing of the social contract—only coming into (not) being as retrospective, excluded and forbidden. He clearly states that noise is that which is to be excluded, but not that the endless and impossible exclusion is where noise 'is'—crossing and not crossing the line that is (not) there, as with Foucault's transgression line. Why is death silent? At a literal level it is noisy—organs becoming extinct, collapsing, expanding, rotting—an endless carnival even before the arrival of other creatures. Death is silent in the sense of the subject not being there to hear it. Is this what occurs in Cage's silences? Is the hearing subject absented, rather than, as Cage wished, brought forcibly into the presence of sounds usually unheard?[26] Silence, however, is structurally speaking, death—the death of the system of organised sound, priority of voice, meaning, music.[27] The death that is fully recognised by the system that excludes it. Silence, unlike noise, does structure, or let come into structure, systems of meaning. Noise is too much, is excess as the working of excess (not just the excessive product).

Noise is excluded for being too natural, but also for being unnatural. Rupert Taylor, in a burst of retrospective utopianism, asserts that "at the same time man was learning to create pleasurable stimuli to his sense of hearing, in other words to create music, he was beginning to pollute his surroundings and blunt his hearing by making more and more loud and unpleasant crashes and bangs, grindings and rumbles."[28] Much, maybe all considerations in terms of noise as a social issue presume noise is that which is to be reduced (not wrongly, but...)—so that we can return to what is best for us ("like water and air pollution, most noise is the result of the decision for technological progress at the expense of the human environment."[29] The "human environment", endlessly stabilised, is not nature, however, and is not to contain silence. In fact, contain silence is precisely what it does, offering endless background noise (sometimes in the form of music) in order to actively silence, argues Attali.[30]

III. Endless Oscillation of the Material

Merzbow (aka Masami Akita) plays the double game of ambience Attali identifies: omnipresent sound, becoming noise; noise becoming background. Merzbow music consists of the debris of music, of sound: pulses, feedback, hisses, whirs, blasts, distortions, pure tones, shrieks, machine noise—all played extremely loud.[31] But this music is noise "all the way down"—there is no space for recognisably musical sounds to be overlaid with distortions (as in 1980s music in the wake of punk), just combinations of noises, that do not settle into a mantric pulse, or continual explosion ("not music at all, but rather the intensive expenditure of sound and silence").[32] The listener struggles to find a way through, in or above the noise music but gives up at a certain point: rhythms are to be found, frequencies to be followed—it is not just random, but—eventually "the listener" is pulverised into believing there is a link. Noise music becomes ambience not as you learn how to listen, or when you accept its refusal to settle, but when you are no longer in a position to accept or deny. Perhaps the "experienced listener" can manage whole albums, concerts—Merzbow has the answer in the shape of the 50CD *Merzbox*. The possibility of mastery, of "learning to hear anew" etc.—*held out as if possible*—endlessly broken (to keep the possibility open as indefinite promise) by alteration, by blurring

of the strata of sound, is what feeds the continual excess of noise music. Noise music is the endless sacrifice of art music didacticism and of restricted economy "noise" (metal, hardcore of all types).[33]

It seems like a claim could be made for Merzbow to be *the* avant-garde, perpetually renewing the art, moving the boundaries etc., but actually noise music inhabits the failure of the avant-garde to be, to come to be. Schwitters wanted his *Merz* to redefine our relation to the material, to value, to what art could be. This then is brought to the interior, and *shores up the monument of art*. Merzbow does not want to live in a house full of crap, or outside it, neither does it want to live in a new crappy house: it wants to knock down the house it lives in, to live in it. Even this is too much, though: Merzbow actually wants to find a rundown house made up of broken stuff, and break it. Over and over.

The reason Merzbow cannot be avant-garde (or is the avant-garde that cannot be: i.e., the avant-garde) is that the breaking is static: like Paul Virilio's **speed**, Merzbow's destruction of music attains a point of stillness, one composed of total movement (and like Nietzsche's "moment" of eternal return). The world of 'the now', this now, always now, comes together as interface, as the non-place of speed as non-movement.[34] This in turn signals the possibility of "crash music,"[35] emerging at a new stage of hearing (generally neglected with the presumption that the digital world is one of images alone), such that we can now take noise/"crash music" to be "so seductive because of its fascinating logic of an always promised imminent reversibility: pure ecstasy/pure catastrophe."[36] This imminent reversibility, occurs *as solid*, as immanence.

Merzbow eludes Adorno's critique of aleatory music (whilst wilfully staying within its purview): "today's artists would rather do away with unity altogether, producing open, unfinished works, or so they think. The problem is that in planning openness they necessarily impart another kind of unity unbeknown to themselves."[37] The apparent aleatorics of noise signal an endless closing, a ceasing filling, but always, at any one time, ceaseless. Noise music (which is admittedly not the same as Adorno's actual target—the music of Cage or those who followed in the 1960s and 1970s, but bearing in mind his even stronger 'critique' of jazz, I think we might be able to infer a line of tech flight to noise music), seems to fall into Adorno's trap: in terms of the title which takes on an increased significance, as we search to impose some form of sense, even if we do not necessarily seek to do this. Not having any titles would be just as caught within the loop: the subject now the ineffable abstraction of sound, noise, music, etc., or as with some abstract painting, the subject becomes the Subject, working itself through on the canvas. The title (in Merzbow's music) sets up a process wherein it cannot become the subject of the music: there is no metonymy, mimesis, metaphor to be had—and yet, the title makes it as if such things were possible—as with the structure of the 'pieces' (Akita: "When I use words, say album titles, they are not chosen to convey any meanings. They are merely selected to mean nothing."[38]

With this in mind, Merzbow's *Antimonument* (1991) can be seen as a mission statement—both for and against Schwitters, Merzbow attacks the solidity of Hegelianised Western culture, through five tracks of seemingly arbitrary lengths, made up of arbitrarily selected sounds, moving along but not. In fact, *Antimonument* is quite 'readable'—centred on arrhythmic, treated percussion: the monument has yet to be left behind—but this is still music with the music taken out—hardly any attack in the percussive sounds, distortion, and unpredictable 'interruptions' by hisses, static and so on constituting the material proper. Akita specifies that the reference to the *Merzbau* is one of decreasing relevance: "the name is only important to my early work,

which I thought related to the concept of *Merzbau*."[39] *Antimonument* is Akita leaving the building.[40] The building, the monument that is progressively deserted in *Antimonument*, as the tracks grow sparser, is a double one: it is the leaving of a traditional Japanese music (that Merzbow never completes—"Japanese sounds and instruments are used but their character is often purposely extinguished in the mix"[41]), and also the leaving of the Western monument. Why should he even be near this, except in a Western-centred model? Because philosophically, musically, politically and economically, Japan has not stayed outside the Western monument. This despite a certain exoticist attribution of lack of meaning, of, therefore, an atheoretical purity—"Japanese artists use Noise simply as cathartic release without the philosophical underpinnings"[42]—emptying the space to fill it, if not with Western meaning, then with Western emptiness. Masami Akita is interested in philosophy: in Eastern: "Japanese Noise relishes the ecstasy of sound itself and the concepts come from the sound. It is a tradition of eastern philosophy to base theory on real experience" [43], and in Western: in the form of explicit references to contemporary theory (Derrida, Foucault, and Bataille, whose use is contemporary), and implicit ones: "noise is the nomadic producer of difference."[44]

In today's restricted (but generalised) music economy, we have had the ludicrous 'world music', and also the real world music Attali hints at: ambient pap. Alongside these particular versions, is another (anti)global music: Japanese noise music: a refusal through over-acceptance of Western genre, such that genre does not work: hence Japanese noise music's different take on violence and sound, away from heroic (tragic) mastery of or submission to "the horror, pain etc., of the world" (this despite the importance of bondage as a reference for Masami Akita). Against generic noise, but with the noise of genre.

There is a sense of progression in Merzbow's oeuvre, as the materials alter, and the recording capacities of CD technology allow a greater range of frequencies to seep in. David Keenan argues that *Noisembryo* (1994) "is the quintessential Merzbow release"[45] due to its power, volume, and force—this, then is what had been aimed at all along, in the teleological version. Noise, however, does not necessarily have anything to do with these factors, and their having an apotheosis. The "sheer noise" of the mid 1990s releases could be described as a different sort of zenith in terms of the fact that there just is 'more'. Instead of a Hegelian progress, a Sadean, additive process. This 'more' has to be more than more; otherwise we are just in the realm of groups such as Whitehouse, whose purpose often seems to be to *attain* a position of mastery over noise.[46] This more than more is, perhaps inevitably, a less: Merzbow can never get to the zenith, because Merzbow's music is doomed to fall: it is always open to assimilation as music—or, it is not assimilable, and therefore it claims transcendence. Or, in some notional noise/music dialectic, in being on the limit, it fails to resolve, and fails to fail—because it is noise music, it cannot belong, dwell. Instead it is dwelling, part of a plateau, rhizome etc., with 'the listener', noise as becoming-noise, as well as becoming-music.

Noisembryo opens with a blast of noise that endlessly mutates across the album, interrupted by (the noise of?) silence three times. Always differentiated, this is noise that does not settle, where even the volume—or mass of sound—cannot be perceived as consistent as the pitches of the specific strata are continually shifting, whilst not at any one time covering the whole range. This album is noise as the immanence beyond, beneath, above the noise/music divide: noise as the emptying immanence.

It might seem that some form of communing, however perverse, might be possible. If so, it is that community which is not realisable, the one 'present' in Bataillean sacrifice—Thacker notes that in Music for Bondage Performance (1991) we see "the body of

music filled with excess and volume, presented as the tension-filled inability of excess to fulfil itself",[47] and this "body of music "is" the body of listener, the music as material, the hearing as solid, and the un-communion of these, all at once. Thacker further claims that noise is the accursed share of the sound worlds, and therefore itself in the position of that which is to be sacrificed.[48]

But it is Bataille's conception of immanence that is of interest here, as its dividing off of animal from human stands in parallel to that of noise and music, with the former term the always (to be) excluded that can return, but which 'we' cannot be. Bataille suggests that the animal is like "water in water",[49] which seems to be what is happening if immersed in noise, if liable to suggest some kind of sacrificial wholeness, a form of rescue.[50] Japanese noise will not get us there, any more than sacrifice. Immanence is not only what is beyond (performative negativities like object, nature, the other) but what is (not) beyond: that which is the beyond of the beyond, only insofar as there is no such place to be.

Bataille: "I am able to say that the animal world is that of immanence and immediacy, for that world, which is closed to us, is so to the extent that we cannot discern in it an ability to transcend itself. [...] It is only within the limits of the human that the transcendence of things in relation to consciousness (or of consciousness in relation to things) is manifested."[51]

There is no place for the object or the subject's transcendence, coming to be, getting beyond that coming to be in knowing about it, or being known, when immanence is the field. The 'consciously' constructed sound of *Noisembryo* moves into the smooth space of immanence as it eludes the knowable world of other noise (of noise 'in the world'), which is held at a distance. This set of sounds brings the distance near, and this just as much when blasts of 'different coloured' noises slide across each other, a third of the way into "Part Two" as when 'the' noise falls away into a distorted drone halfway into "Part Three". Noise as event, as excess of eventness, because unlike late serialism, it does not leave gaps peppered with inane atonalities. It is gap, non-tonality.

For Deleuze and Guattari, the non-place of the body without organs is (in) immanence, and is itself (as immanence) the non-place of desire.[52] However, they do not see any totally free music being the way, as "a material that is too rich remains too 'territorialized'"[53]—too diffuse, too noisy. Such emphasis on getting outside music has held us back/in, as "people often have too much of a tendency to reterritorialize on the child, the mad, noise".[54] We are back once more with Deleuze and Guattari's still open ears: open but not too open (not open enough?). These are ears that can learn, that can discern patterns, and the undoing of patterns, not ears that might be held forcibly open.[55]

What happens when you hit something like ultimate noise (it cannot be described as pure)? Where is there to go? In order for it to always (fail to) be ultimate, it must go nowhere, but go it must, dromological. Before the sovereignty of *Merzbox* (which is largely older materials in any case), comes *Pulse Demon* (1995). The title obliges an attribution of purpose: we know what Merzbow is up to, maybe he is becoming increasingly Hegelian, and attempting to map all noise, with this being his exploration of 'the pulse'. I suspect there are no more or less pulse actions in this album than any other mid 1990s Merzbow albums.[56] What is indicated is the arbitrariness of signification, an arbitrariness which serves to highlight another difference between Merzbow and Western 'avant-garde' music: randomness, as Deleuze suspects, is not really very interesting, but arbitrariness—chance as destiny, read as if there were variation (or indeed as if there were not)—carries noise as process, as that which intervenes

'between' noise and organised sound. *Pulse Demon* is undeniably 'organised sound'—it has differentiated tracks, titles for these, and seemingly significant times: we might get the impression that if all this noise has been split into 6.42 ("Woodpecker no.1"), or 24.53 ("Worms Plastic Earthbound"), that the duration might be significant. But many (possibly all) Merzbow 'pieces' of this period are cut, not ended. Their *beginning* is often cut, so there will never be a sense of attack—we are immediately in the realm of distortion, hiss, pulse, squawks etc.,—of the effects of actions, not the direct products—noise all the way down. The organisational frame of the album undoes the possibility of this being 'pure noise' or even an exploration of duration (very few Merzbow albums consist only of one track). Instead we are in the curious position of listening as if it were noise (i.e. because framed as if it were music). Any settling into listening to this 'stuff' as if it really were either noise or music is very much the 'consolation' Nietzsche hints at in The Birth of Tragedy as being our way of minimising the otherness of sounds presented in a musical frame.[57] Such a 'consolation' is not an individual failing, but a systemic success of failure to fail.

IV. Is Nothing not Enough?

Once again, and still: what if we do not want the consolation (consolation of noise being music really; of noise being natural; of noise being an escape, a line of flight that might go somewhere; of noise being a ruse of power)? Noise can perhaps never escape (it might be the 'as if' escape were possible), as it comes in with voice, language and meaning.[58] Derrida asks of philosophy (here, as often, standing for sense, rationality, discourse, (search for) truth, etc.) whether it can exceed itself: "can one violently penetrate philosophy's field of listening without its immediately—even pretending in advance, by hearing what is said of it, by decoding the statement—making the penetration resonate within itself [...]?"[59] Derrida's answer is, as always, that the outside of philosophy (or of organised sound as philosophy) is to be found at work in/on/as the inside of philosophy—with the inside being the outside of the outside, and the process that (never fully) establishes the divide. Zarathustra's hammer instead is the condition of its other, and the othering between Same and Other,[60] such that we should be interested in the limit itself, and not what is beyond it, the marginality of the margin itself, and so on. Japanese noise might be such a negotiation of the limit, but one that only works as such because it declares itself outside, is the declaration, the announcing of outside. The 'real' noise in noise music is this (not) crossing of the line that is (not) there: noise is not the other of the other that equals the same, but the other of the other as non-line, as what cannot be the same and cannot inhabit otherness. Where Derrida is outflanked by Merzbow is that Derrida says you cannot get outside, you cannot consciously undo philosophy with a hammer, therefore you should not do it—instead you should not attack directly;[61] should take an interest in "timbre, style, and signature [as they] are the same obliterating division of the proper."[62] Why *not* do it? Why not do it, knowing it cannot be done, that your noise is fatally compromised, part of failure?[63] Merzbow is the getting outside that is not the completion of a new "inside", but an endless outside, fated to be inside only to fail to ever be because of this arbitrary and perverse relation to the inside (of organised sound). Where Derrida says "no", Merzbow is an immanent "yes".

Notes

1. Douglas Kahn, *Noise Water Meat: A History of Sound in the Arts,* Cambridge, MA and London: MIT Press, 1999, p. 25.

2. Ibid., p. 20.

3. Ibid., p. 48.

4. Ibid., p. 45.

5. *European Commission Report: Position Paper on European Union Noise Indicators*, Luxembourg: European Communities, 2000, p. 71.

6. C.S. Kerse, *The Law Relating to Noise*, London: Oyez, 1975, p. 8. Rupert Taylor also describes noise as "unwanted sound" (*Noise*, Harmondsworth: Penguin, 1970, p. 22).

7. Jacques Attali, *Noise: The Political Economy of Music,* Minneapolis, University of Minnesota Press, 1985, p. 30. Originally written in 1977, this text remains vital in assessments of freedom, control, subversion, radicality, recuperation etc. in terms of human-produced sound. The argument here that "Japanese noise" is that which specifically exceeds his argument should in no way be taken as criticism of Attali. One criticism that could be made of Attali is that he presumes that music has a single origin/reason/purpose. Music could be said to be always already plural. Such would be the argument of Philip V. Bohlman's "Ontologies of Music", eds. Nicholas Cook and Mark Everist, *Rethinking Music*, Oxford and New York: Oxford University Press, 1999, pp. 17-34—even if this article provides nothing in the way of ontology, as understood since phenomenology.

8. Arthur Kroker: "Hearing has always been alchemical, a violent zone where sound waves mutate into a sedimentary layer of cultural meanings, where historical referents secrete into contemporary states of subjectivity, and where there is no stability, only an aural logic of imminent reversibility" (*Spasm: Virtual Reality, Android Music, Electric Flesh,* New York: St. Martin's Press, 1993). The alchemy is one of the body, the ears, the sound, noise, codings, listening practices etc. and cannot be definitively described or known, except as a statement about how a particular society, at a particular time, seeks to encode, to end transformations.

9. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus,* Minneapolis: University of Minnesota Press, 1987, p. 150.

10. Ibid., p. 151 (translation modified).

11. The body of organs, of identity (not forgetting that organs without a body might be more dangerous still) has privileged the eye, and in contemporary culture, makes this privileging a site of control: "the eye is a masochistic orifice in the age of panoptic power, capable of endless discipline and of being seduced beyond bodily subjectivity into a floating free fall within the society of the spectacle", leaving the ear repressed, except in terms of receiving "spectacular" sound (muzak, MTV) (Kroker, *Spasm*, 49). The body without organs, though, would not free us from this, but drive us further in, playing masochism beyond jouissance. "Freeing" the ear would not liberate us, either. Rather, the ear has to become masochistic, in the Deleuzian sense (see "Coldness and Cruelty" in *Masochism,* New York: Zone, 1994, pp. 9-138) instead of being forced to submit. It must then renounce both control and contract. There is, of course, another story of the eye—Bataille's, followed up by Foucault, in which the upturned eye, removed, trans(un)figured, is the site of the loss of meaning. Eugene Thacker assimilates this story with noise music: "the visuality of Bataille transgressing itself is analogous to the music of noise" ("Bataille/Body/Noise: Notes Toward a Techno-Erotics", p. 63, ed. Brett Woodward, *Merzbook: The Pleasuredome of Noise,* Melbourne, Cologne: Extreme, 1999, pp. 57-65). The comparison is perhaps too easy as the ear does not have the status of the eye, nor is music of noise in itself capable of the reversibility of the eye, which seeks to be both medium and control of media.

12. Derrida seems to "prefigure" this in writing that "to forget it [the role of the ear, and of listening]—and in so doing to take shelter in the most familial of dwellings—is to cry out for end of organs, of others" "Tympan," xvii (*Margins of Philosophy,* Brighton: Harvester Press, 1982, pp. ix-xxix). This occurs because the ear allows hearing of one's own self and voice, leading to the non-conception (as unproblematised) of self-presence or "absolute properness" (*Ibid*.). Derrida, however, in turn, has not questioned whether an ear can be less than open or

closed, and could in fact be filled. See also Hegel, making essentially the same point: "hearing [...], like sight, is one of the theoretical and not practical senses, and it is still more ideal than sight", as it gets the subject to "the first and more ideal breath of the soul" (*Aesthetics*, Vol. 2, London: Oxford University Press, 1975, p. 890).

13. C.S. Kerse, citing Samuel Rosen, notes that "at an unexpected or unwanted noise, the pupils dilate, the skin pales, mucous membranes dry; there are intestinal spasms and the adrenals explode secretions. The biological organism, in a word, is disturbed" (*The Law Relating to Noise*, 7).

14. Deleuze and Guattari, op. cit., p. 150.

15. Kroker, op. cit., p. 47.

16. Kerse, op. cit., p. 3.

17. Luigi Russolo, *The Art of Noises*, New York: Pendragon, 1986, p. 87.

18. Noise is not *differance*—it is an emptier of links, relations, processes, not that which holds them mysteriously together. It is Bataille's "NOTHING", not the nothing that is the opposite of something, or the reason why there might be something instead of nothing. It is the thing which stops there having been a reason for something over nothing.

19. Attali, op. cit., p. 33.

20. Op. cit., pp. 111-12.

21. Op. cit., p. 45.

22. The dying subject is not one reaching out for the answer, but reaching into its disappearance in noise. For Nietzsche, "the Dionysiac, with its primal pleasure experienced in pain, is the common womb of music and the tragic myth" (*The Birth of Tragedy out of the Spirit of Music*, London: Penguin, 1993, 115). In looking at tragedy, he writes, we seek to go beyond its pain, and, similarly "with reference to artistically applied dissonance [...] we want to hear and long to go beyond hearing" (*Ibid*.). Rather than take this as the suggestion we might learn from what is difficult, painful, etc., we could take this as stating the case for not going beyond noise: the act of listening to noise is one of supplementarity: the beyond of noise (initially music) is the precondition for listening to noise, so as to get to "the beyond of noise" (which now is that there is only noise, and that the beyond of noise is what can never have been attained). In listening to noise, though, the loss is played over again always for the first time, as opposed to being the excluded loss of foundation (the "birth of sense"...).

23. Attali, op. cit., p. 4.

24. Op. cit., p. 3.

25. Op. cit., p. 4.

26. Michael Nyman notes that Cage discovers the impossibility of silence on a visit to Harvard's anechoic chamber, where he still hears his own body (*Experimental Music: Cage and Beyond*, 2nd edition, Cambridge: Cambridge University Press, 1999, pp. 25-6). Cage's famous 4'33" "is a demonstration of the non-existence of silence" p. 26.

27. This has led many others, as well as Attali, to assert that noise is life, or nearer to life's "real processes". Russolo states that "noise [...] has the power of immediately recalling life itself" (*The Art of Noises*, 27). This, coming as it does from the "pioneer" of noise in/as music, could be taken not as a simple naturalism, but as a parallel with "bare" or "mere" life (Benjamin, Agamben). Noise for Russolo also signals the life that had already moved on from nature, that is the excluding of nature—i.e. the city. Masami Akita (Merzbow) concurs: "noise is one of the most primitive music forms in the modern city" (in ed. Woodward, *Merzbook*, 11). Is this to naturalise noise? Only before we think about music: for noise to be some sort of fundamental music demonstrates Akita's awareness that the noise of the city comes as a result of organisation, of power systems, of restricted economies of signification.

28. Kearse, op. cit., p. 16.

29. Kearse, op. cit., p. 1. Adorno claims aeroplane noise ruins walks in the forest (*Aesthetic Theory*, London: Routledge and Kegan Paul, 1984, p. 311)—noise is wrong because not part of true nature, but what Adorno is also claiming ("despite himself") is that noise is also ruinous of nature as acculturated Nature—as it is an uncontrolled incursion into a humanised sphere,

immanence in the subject/object field. Hegel argues that to overcome this "problem", music must moderate "the natural": "the notes [are] not to be a purely natural shriek of feeling but the developed and artistic expression of it" (*Aesthetics*, vol II, p. 910)—so music is neither too natural nor unnatural (it is to express what is now left behind as natural).

30. Attali, op. cit., p. 20 and passim.

31. Amplification—the technological means for producing noise as volume of sound, as well as feedback systems (if not the only means) is an essential part of the development of noise music, which at the risk of being slightly determinist, arises (in the Japan of the early 1970s) out of the combination of improvised music in the form of free jazz, and the improvised rock of a similar period, which relies for its effect, on the power of amplification, the distortions of feedback. Douglas Kahn, dealing with experiments with noise and sound, signals the importance of technological developments in the alterations in ways of thinking sound, noise, music (see *Noise Water Meat*, pp. 2-13 and passim).

32. Thacker, op. cit., p. 63.

33. Noise music is also the sacrifice of the "music business", the rendering of it as general, rather than restricted economy, through its disruptive methods of releasing recordings on many labels, in limited and peculiar editions, direct sales. Woodward notes "the creation and production of such items intentionally subverts late capitalism's notions of the marketplace, the performer/audience relationship and entertainment commodity production and distribution" ("A Machinic Scream," p. 33, in *Merzbook*, pp. 33-6). Before we get carried away with some postmodernistic praise for the artisanal symbiosis between musician and listener, it is worth noting that concerts are infrequent, and a literal distance maintained, a distance allowed by the very processes of subverting "late capitalism". This is a deterritorialisation that stays one—i.e. carries no autonomous radicality.

34. See Virilio, *The Lost Dimension*, New York: Semiotext(e), 1991.

35. Kroker, op. cit., p. 54.

36. Ibid.

37. Adorno, op. cit., p. 204.

38. Akita in *Merzbook*, p. 40.

39. Akita cf. Edwin Pouncy, "Consumed by Noise", *The Wire*, vol. 198, 2000, p. 29.

40. Op. cit., pp. 26-32. This interview and overview is a solid introduction to Merzbow, whilst being caught up with the "musicality of the noise". Pouncey stresses the learning experience, with statements such as "when the listener has attuned his or her hearing perspective" (p. 26), "the fact is that to understand, enjoy and eventually reach noise nirvana through Masami Akita's work, you have to listen to a hell of a lot of it" (p. 27). These sentiments are echoed by David Keenan's top ten Merzbow albums (*The Wire*, vol 198, 32-3).

41. Akita, in Woodward, op. cit., p. 11.

42. Woodward, op. cit., pp. 14, 12-15.

43. Akita, in *Merzbook*, op. cit., p. 23.

44. Op. cit., p. 9 and elsewhere, as the contributors love repeating it.

45. *The Wire*, Vol. 198, p. 33.

46. See for example *Never Forget Death* (1992), which warns that "Torture Chamber" (a track of mounting "white noise") should not be played excessively loud—i.e. because it is inherently loud.

47. "Bataille/Body/ Noise: Notes Toward a Techno-Erotics," op. cit., p. 58.

48. Op. cit., p. 59.

49. *Theory of Religion*, New York: Zone, 1989, p. 23.

50. Op. cit.

51. Op. cit., pp. 23-24.

52. Deleuze and Guattari, op. cit., p. 154.

53. Op. cit., p. 344.

54. *Ibid*.

55. To be fair to Deleuze and Guattari, Japanese noise was far from a breakthrough in 1980, although nearly all of today's "recognised practitioners" were active then. Their unfortunate espousal of the "influential" Varese is just one example of why caution should be taken with imagining Deleuze and Guattari as signposts for the future. In one sense this lack of awareness of the contemporary is itself contemporary—not in terms of some sort of "dumbing down", but just in terms of the retro-future we seem to inhabit in terms of future music (for example in *The Matrix*, whose future remains 1985).

56. If this seems a very specific dating, it nonetheless applies to perhaps 20 albums. Merzbow's output is immense: in addition to the 50 contained in *Merzbox*, there are another 150+ recordings.

57. Nietzsche suggests that if music can rediscover its links to the emptiness that is "true reality, through an appreciation of every "phenomenon", then we will experience some kind of catharsis (see p. 94, in particular). In the light of the later preface, however, where "perhaps as laughers you will consign all metaphysical consolations to the devil—and metaphysics in front of the rest!" (p. 12), much of the main text suggests a proto-Bataillean recognition of a fearful, sacrificial, dangerous general economy of "ugly" sound, brought inevitably into a restricted economy where we "get something from it". See for example pp. 83-4, where "consolation" with regard to the ineffability of things is one of "three levels of illusion" (p. 84), not the hidden truth, or goal. The inevitability of the restricted economy can be seen in the inevitable influence of Apollo (rationality, wisdom, accumulation of knowledge): "the Apolline lifts man out of his orgiastic self-destruction, and deceives him about the universality of the Dionysiac event, deluding him into the idea that he can see only a single image of the world" (p. 102).

58. This despite the ineffability claimed for noise (and claimed throughout history for "that which goes beyond language"—music, the image, the world, gods, etc). Woodward's version of this: "It's almost the inability to definitively describe Merzbow's music with the limitations of the written word that is the testament to its thrill and power, intricacy and convolution" ("The Nomadic Producer of Difference", in *Merzbook*, p. 9).

59. Derrida, "Tympan," p. xii.

60. Op. cit., pp. xii-xiii.

61. Op. cit., p. xv.

62. Op. cit., p. xix.

63. We can compare Derrida's deconstructing binaries with those Attali establishes through noise and music, as in the following: "Music responds to the terror of noise, recreating differences between sounds and repressing the tragic dimension of dissonance—just as sacrifice responds to the terror of violence. Music has been, from its origin, a simulacrum of the monopolization of the power to kill, a simulacrum of ritual murder" (*Noise*, p. 28). Noise and music blur when sacrifice is at issue, when music is excessive and essentially ritual, such that "music functions like sacrifice; listening to noise is a little like being killed" (*Ibid*.).

GO WITH THE FLOW

Bo Vibe

We define the machine as any system that cuts the fluxes. Thus sometimes we speak of technical machines, in the ordinary sense of the word, sometimes of social machines, sometimes of desiring machines.[1]

Napster was the culprit that let the cat out of the bag, and 'the cat' carried the plague, at least in the eyes of the established music industry. This originally independent software company (started by 19 year old Shawn Fanning) came to symbolize how new technology, *new machines* emerged to challenge the prevailing system in the industry. By and large the major actors in the field of culture production (record and movie companies) have responded to the challenge of rapid dissemination of copyrighted material by trying to shut down this flow (by legal as well as technical means).

Personally, I had the opportunity as an observer to spend 6 months tracking the unfolding events surrounding Napster, and I feel that recognizing the *machinic* properties of an entity like *Napster* (which embodied a software company, an internet site as well as numerous other "things") will facilitate a more somber, analytic insight into this area. And, since within *this* particular territory in our era of the New Media Napster was the original *Mean Machine* (being the first operator to offer free mp3 downloads with a certain quality in a larger scale) we can gain some insight by examining the inner workings of that machine. Since Napster is being re-launched as a 'pay-to-play' service it is interesting to take a closer look at it's 'machinic trajectory' the first time around and possibly draw some conclusions regarding the interaction of the machine with its surroundings and the ensuing control issues connected to the controversy.

First, let's make a concerted effort to dispose with the "traditional" or conservative view of what *a machine* represents; "we have to shed our mechanist visions of the machine and promote a conception which encompasses all of its aspects: technological, biological, social, theoretical, and aesthetic."[2] The notion put forward by Deleuze and Guattari indicates that a machine is not just an assemblage of mechanisms or digital codes, and I would argue that within a domain such as the Internet it is particularly helpful to acknowledge the *non-technical* characteristics of a machine. Looking beyond the mere mechanical elements that constitutes a machine will have implications for any action connected to it.

The Napster controversy offered many opportunities to question the notion of *the machinic* . The extensive debate concerning the Napster lawsuits understandably centered around the copyright issues and did not contribute enough to shed light on most aspects of this *machine;* it "moves," it "cuts the fluxes." Identifying fluxes and machines helps us to avoid seeing an entity and a story as disconnected and separated from other social/technical areas and practices which are connected to our object of interest on one level or another.

The machine produces an interruption in the flow only insofar as it is connected to another machine that supposedly produces this flow.[3]

Since a machine is a "system of interruptions or breaks" it should prove productive to identify which *fluxes* Napster cut into and to what other *machines* it connected itself. The fact that Napster could be said to be the first to offer a technologically successful system for users to download mp3 files for free certainly led to a "production of a flow, in relation to the machine connected to it."[4] Here we have been presented with an organized territory of a large, seemingly impenetrable system (a very different type of *machine*),that of music production and distribution, then as a "line of flight" emerges from a break (Napster) in this flow the image suddenly seems to shift quite radically.

In the logic of signs, as in the logic of symbols, objects are no longer tied to a function or a *defined* need. This is precisely because objects respond to something different, either a social logic, or to a logic of desire, where they serve as a fluid and unconscious field of signification.[5]

To assess the relationship between the machine and its surroundings (designer, users, markets, etc.) it is necessary to recognize how it cuts into a *chain of signifiers*. A successful innovator manages to *attach* the artifact in question to some form of social/cultural "signifying chain" by *inscribing* [6] *a "vision" of this interaction between the object and its environment. This might be embedded in technical as well as design solutions (this might be why we have kitchen appliances that look like spiders!). Napster, then, was inscribed* in such a manner it cut into the prevailing sign-system (remember: signs can be *technical* as well as *cultural*) of the CD. This operated basically in two (interconnected) ways; [A] by excluding the visuals (cover art) and [B] by diminishing the *genre* aspect.

The relevance of the first aspect to the future format(s) of music distribution could be summed up in two ways:

> 1. "You're never going to have the relationship with a file that you have with a CD... I don't think the subscription Napster will work, as people won't pay for something so ephemeral." (my italics)
>
> -- Nigel Godrich, producer of Radiohead and REM.[7]

> 2. "The romanticism of buying a record from your local record store has gone. Thirteen year old kids prefer to burn their own CDs with tracks downloaded from the web."
>
> -- Chuck D, Hip-Hop legend.[8]

Recognizing the *significance* of the format (and its signifying aspects) makes it difficult to agree with John Alderman, author of *Sonic Boom,* that in the online domain only music's "soul remains, its digital code"[9] since formats (technical issues aside) are not just vehicles for transporting specific files (a limited *code*) but carry a "cultural cargo" (an *unlimited code*) as well. A digital representation of the artifact does *not* sufficiently cover what constitutes the artifact's (meta/physical) body.

As a result of a new openness in the system (regarding all types of flows) the way we consider genres and relate to objects (acquisition as well as use) is challenged, something which has ramifications for every aspect of the industry, from artistic expression to consumer behavior.

Entering the record store (physically, virtually or metaphysically) we see how every item is carefully genre-categorized, whereas if, through Napster, you searched for, say *The Thrill Is Gone* you could choose to download *Chet Baker's* as well as *Faith No More's* version. This *instantaneity* in relation to locating and acquiring music was naturally a key aspect of Napster's allure, and a truly *polyvocal* representation of musical expression which still represents a challenge for an industry preoccupied with marketing Britney Spears.

It is important to note that *inscribing* is also an attempt to "configure the user,"[10] an attempt to set parameters for user actions. And the work of the innovator concerns "inscribing this vision of (or prediction about) the world in the technical content."[11] It could, however, be argued that the inscription process is far more comprehensive then "configuring the user" by way of the "technical content." When dissecting an entity like Napster or strategizing over the fate of the CD it seems advisable to simultaneously regard this process as both less of a tangible and more of an encompassing experience.

There is more to this action than strategy and technology -- other actions might occupy a space within the negotiations of disparate factors without necessarily being granted this space by agenda-pushing actors. The choice of logo, the choice of name, and even design features are potentially 'accidental' incidents which contribute substantially. The idea that the *inscription* is described only in the technical content and that it refers somewhat exclusively to the designer/user relationship is a vital element in this particular controversy as the music industry and the movie industry seem particularly concerned with this part of the process.

A natural consequence of this outlook is that when *building a machine* you're not just dealing with technical components or solely digital codes, but an intricate system of actors in which the *constructor* needs to strike a balance through allegiances. This is the situation no matter the environment or the strategy of the *constructor/s*. As for the strategy of the music (and motion picture industry) in their construction (redevelopment) of a marketing and distribution system it has lately been one of *control*. Trying to *inscribe* parameters for user behavior by encoding products (CDs, DVDs) to hinder copying.

This is a strategy that certainly involves "taking the long way around" considering the astronomical number of actors that will have to "pledge allegiance" (including *recruiting* codes that won't easily be hacked). The object should be to keep the number of necessary allies to a minimum while maximizing the number of crucial allies.

The industry could benefit from a strategy of "double motion"; maximizing *and* minimizing its number of allies. The aim is to construct a system where a maximum amount of allies are recruited, and to facilitate this one need to minimize the number of allies which *have* to be recruited to make the system work. This is the more *constructive* course of action. The problem of control is two-fold and concerns a "balance of control" and naturally originates in the alliance issue: too little or too much control.

The first problem relates to how to encode a device sufficiently to avoid "breakage." As exemplified by the "DVD-Jon case" in which the Norwegian teenager Jon Johansen was acquitted of "breaking into another person's locked property to gain access to data that no one is entitled to access."[12] The *Motion Picture Association of America*

brought charges (through the economical crime unit in Norway) against Johansen after he was found to be instrumental in creating the 'DeCSS' program which allows the user to unscramble DVD thus facilitating use on computers, and subsequently the possibility of copying. The fact that the user is entitled, according to this ruling, to this type of control over the products illustrates how neither the legal nor the technical amount of allies necessary has, so far, been recruited for the system the industry is creating, the *machine* it is constructing.

It seems fairly likely these enfolding attempts to *configure the user* might result in a situation where the user is increasingly alienated. For instance, it is not very efficient if the music industry inscribes CDs with codes to hinder copying which simultaneously render them unplayable on certain devices. The consumer realizes there is a freedom to choose and an opportunity to interact with the machine. And, this strategy certainly goes against the grain of user needs by reducing these options. The first time around Napster instigated a virtual *soft-war* as numerous software companies scrambled to either ensure 'digital rights management' (protecting content before public release) while others sought to offer de-scrambling solutions to counter attempts to copy-control files.

The way programs and codes transmogrify and multiply like wild flowers when a rupture occurs in such a system further underscores the *machinic* properties of an entity instrumental in this event, and illustrates the monumental task of those intent on imposing a maximum level of control on the new environment/territory. Instead the industry could choose to "go *with* the flow." The "flow-cutting" incidents led to (or should lead to) questioning just about every practice within the field of music production, distribution and marketing. This should, basically, entail a rethinking of the *inscription* process concerning the artifact. Simplifying the system could be obtained by a strategy to *re-present* the *machine* anew. This means looking beyond the emphasis on the "patterns of use" part of the process and to recognize its "sign-function"; a *sign* is "an indicator of future potential and a symptom of a past."[13]

With regard to *a sign/a machine/an artifact* which serves the purpose of presenting music to connect itself to its "natural habitat" (from the music store, virtual or real, to listening spaces) the music industry cannot afford to continue ignoring *the machinic* properties of their products, and merely seeing this entity of music production as an object . In a sense, this requires putting the *art* into the artifact, not as some sort of high-brow strategy but as a recognition of an 'object's' *interactive* elements. A key factor in the relationship between artist, work and *appropriator* (listener) is the investment of the *self* (dreams, desires, aesthetic ideals etc.) in the process. Now, technology is allowing for new ways of investing; *Radiohead* posting loops at their web-site for fans to incorporate into new expressions and *Public Enemy* allowing access to original master tracks of the vocals for open remixing are just two examples of how an artistic event will not be represented in a *pure* and *final* form. A call for *re-presenting* is an argument against strategies which go against the grain of *the machine* by attempting to shut down flows and to close off the *form(at).*

If the focus continues to be almost exclusively on music as an object with a linear trajectory: from the producers to the distributors to the consumers, those at 'the end of the line' (consumers) will probably keep looking for other openings into the system -- not content with their role in the hierarchy. The original *Mean Machine* might have crashed and burned to be reborn as a, slightly charred, Phoenix from the ashes with questionable capacity for taking flight but there are still plenty of others out there, and the major companies now have the opportunity to inter-act with instead of re-acting to the dynamics of this territory. A strengthening of the ties between *art*ifact and *appropriator* (by

allowing expressions that encourage *self investment*) simplifies the inscription process by enrolling key allies and excluding certain legal and technical actants that could be left obsolete to said territory.

Factors like instantaneity, availability, marketing possibility are certainly elements of the "mp3 revolution" which record label executives are perfectly aware of. One strategy is to buy market information concerning download numbers at P2P operators like *Kazaa*. Assigning these networks/actants with a new identity-that of market analyst and A&R (artist and repertoire) entity is clever, but hardly compatible with a strategy to identify those very same "informants" as "illegals." If the industry chose to focus less on viewing music as an object under strict ownership, but more of an event (still created and disseminated by identifiable actants, for certain.) I feel it would be easier to take advantage of the heightened awareness concerning presentation and contribution of such a beloved cultural entity ("the long-play"). The fact that software *machines* have been instrumental in the development of a more open territory (production, distribution, consumption) within the entertainment industry is a situation that probably will be beyond the control of a set of dominant actors, and the sooner this is acted upon the sooner it is possible to benefit from this heightened awareness.

This is the Napster lesson.

I'd like to chat some more about it, but I have some vinyl shopping to do...

Notes

1. Gilles Deleuze, *Chaosophy*, Small Press Distribution, 1998, p.98

2. Felix Guattari, *Chaosmosis* , Bloomington: Indiana University Press, 1995, p.107.

3. Gilles Deleuze and Felix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, NY: Viking Press, 1977, p.34.

4. Deleuze and Guattari, p.34.

5. Jean Baudrillard, *Selected Writings*, Mark Poster, ed., Stanford: Stanford University Press, 1988, p.44.

6. Madeleine Akrich and Bruno Latour, "A Convinient Vocabulary," in *Shaping Technology*, Cambridge: MIT Press, 1992, p.259-64.

7. Hamish Macintosh, "Working it out," *the Guardian*, 19/07/01.

8. speaking at the *Netsound* Conference, London, 02/05/01.

9. John Alderman, *Sonic Boom*, Perseus, 2001, p.4.

10. Keith Grint and Steve Woolgar, *The Machine at Work*, Cambridge (UK): Polity Press, 1997, p.72.

11. Madeleine Akrich, "the de-scription of technological objects," in *Shaping Technology*, Cambridge: MIT Press, 1992, p.208

12. www.dagbladet.no/download/dvd-dommen.htm.

13. Brian Massumi, *A User's Guide to Capitalism and Schizophrenia: Deviations from Deleuze and Guattari*, Cambridge: MIT Press, 1992, p.11

POLITICS IN THE WIRES

ARMED PERCEPTION

PRIMING THE PUMP OF WAR

ORBITAL SPACE

1000 YEARS OF WAR

DANGEROUS PHILOSOPHY

NETWORKS, SWARMS AND MULTITUDES

POLITICS IN THE WIRES

Arthur and Marilouise Kroker

In *Pure War*, the French political theorist, Paul Virilio, argued that the first and most primal act of war by the state was always against its own citizens. Virilio termed this process "endocolonization:" the control of domestic populations by any means possible—law, regulation, policing, propaganda, ideological conditioning. For Virilio, what is really at stake in contemporary cyber-war where the act of war is conducted in the context of totally mobilized systems of mass media is the *colonization of perception*: the hijacking of the deepest perceptions of domestic populations by a war machine which seek now not to control territory but to colonize the realm of imagination.

The contributors to *Politics in the Wires* represent brilliant probes of the accuracy of Virilio's understanding of cyber-war as primarily focused on the colonization of perception. However, unlike Virilio, who has his own story to tell about technology and the decline of civilization, Jordan Crandall and Dion Dennis transform the analysis of specific aspects of contemporary cyber-war into comprehensive insights into the nature of contemporary war, perception and propaganda. These are studies concerning how cyber-war is *actually* conducted: its methods, strategies, dreams and casualties. In their analysis, the unfolding future of cyber-war is probed for what it tells us about our future of soft propaganda and unmanned perception.

Thus, Jordan Crandall, undoubtedly fresh from having his perception worked over by the mass media reporting of the latest Gulf War with its embedded journalists, Predator Drones and Cruise Missiles, begins the hard task of theorizing what he has just been through. With cyber-war the state might have unleashed a massive campaign of televisual propaganda intent on shaping global perceptions concernng Iraq's role in the war on terrorism, but it meets its match in Crandall's attentive, critical thinking. Not trying to avoid the question of the colonization of perception, but instead privileging the question of what happens to mass and individual perception in cyber-war, Crandall's article opens up a deeply original series of insights into the who, what, when and why of perception in the age of mass media. For Crandall, the aggressive media strategies associated with cyber-war create a new order of perception—"unmanned

perception"—which is simultaneously embodied (we are encouraged to "see" the war through the first-hand witness reports of embedded journalist and disembodied (cyber-war itself is relentlessly conducted with the optical tracking systems of a full-frontal electronic array of sensors, satellites, remote video feeds, and disembodied cybernetic control mechanisms). In the simple, almost unavoidable, act of 'watching' the war, we actually become first-hand participants in the war: civilians who are positioned by the state as media soldiers of the new world order, representing by our presence a silent complicity in the triumph of unmanned perception. Is the first act of cyber-war that it hijacks perception, shutting down private perception and private understanding in favor of a new space of perception—unmanned perception—in which we begin to see the war, and ourselves, in the image of the vision machine? There are memories here, memories of Kafka and Orwell and Machiavelli, memories of how traditional questions concerning power and domination do not end with electronic culture, but begin to speak a new language of embedded journalists, optical ground tracking of cruise missiles remotely controlled, and anxious citizens who may think they are 'watching' the unfolding of the Iraqi War, but may, in reality, be participating in a carefully staged communication aimed at colonizing imagination, channeling perception, and mobilizing "shock and awe."

However, what happens when the politics of "unmanned perception" leaves remote battlefields, entering directly into the domestic scene in the form of a diffuse, seemingly inclusive, language of persuasion. What happens when the ideology of the vision machine is actually realized in daily political life in the new language of soft propaganda, in the media language of billboards, televison and radio ads aimed at creating on a deep emotional level a unitary "we" out of a society of disparate individuals. Like an early warning system alert to the first flashes of power, Dion Dennis' article, "Priming the Pump of War," reflects on the nature of power today in contemporary technological societies which pride themselves on being "post-ethnic and post-racial." Very much like the Russian novelist, Solzhenitzen, who did his very best critical writings on power and domination in the context of Soviet era prison camps, so too Dennis writes out of the depths of hardscrabble America. Dennis' perspective is like thought itself, a stubborn, recalcitrant fact that just won't go away, that just won't be denied its moment of expression by the widening gulf between what the political economist, Harold Innis, once described as "consciousness of much without the ability to do anything about it." More than is customary, Dennis is an *embedded theorist* providing on-line theoretical analysis—urgent, lean, passionate, provocative, with no apology or unnecessary nuance—about the unfolding future of America. Coincidentally since this article was written the extensive media campaign of *The Foundation for a Better Life* with its billboards, radio and TV advertisements, and multimedia web sites celebrating a nostalgic version of the new American "volk" community has now gone beyond the Midwest and the southern states to claim pride of (advertising) space in New York's Time Square, symbolically close at hand to sacred, hallowed "Ground Zero." Extrapolating from Dennis' analysis in "Priming the Pump of War," this may indicate that the media politics of the *Foundation for a Better Life* has now moved into the symbolic centre of American value production. For Dennis what is at stake in this media campaign is less the effectiveness or not of a specific advertising campaign seeking to provide a more harmonious vision of a united America, but the question of the nature of propaganda itself in the culture of globalization. Dennis argues, in effect, that the tactics and strategies of "unmanned perception" with its soft management of perception and preparation for total emotional mobilization of a population yearning for political revenge have infiltrated the cultural

imagination by way of the language of seduction. "Priming the Pump of War" is, its own terms, about Goebbels for the age of soft propaganda. Or as *The Foundation for a Better Life* would say: "Pass it on."

If "Priming the Pump of War" is a passionate analysis of the production of "manufactured consent," then Paul Virilio's interview with John Armitage ("The Kosovo War Took Place in Orbital Space") and the Manuel De Landa interview ("1000 Years of War") provide a series of provocative insights concerning the character of war.

The author of numerous books on speed and war (*The Information Bomb*, *Ground Zero*, *Pure War*, *Speed and Politics*, *Strategie de la deception*), Virilio explores the NATO intervention in Kosovo as a "war that totally bypassed territorial space"—a military "campaign by air" where real space is conquered by the "real time" of space. At first focusing on the lessons to be learned from Kosovo concerning the nature of cyber-war, Virilio expands on the dominant themes of his overall theoretical project: the rise of the "military-scientific complex," the blast of the "information bomb," globalization as a "chronostrategy" moving at the speed of light, and the "logistics of perception" involved in the real object of contemporary war: the control of images. To read Virilio on cyber-war is to exit the mass media's rhetoric machine of "manufactured consent" in favor of a critical understanding of the relationship between technology and militarism in the 21st century. Which is, of course, Manuel De Landa's starting-point. For De Landa, the "integration of information technology and artificial intelligence" in cyber-war is only the most recent example of the emergence of a style of war fit for an age "when the people who do not go to war (the central planners) get to make the decisions." With this we are suddenly projected into the era of "predatory machines," where, in the interests "of getting humans out of the loop," war is increasingly designed for "intelligent machines." From the German Blitzkrieg to the air wars of Afghanistan, Kosovo and Iraq, war at the behest of "central planners" may be prejudiced towards "getting humans out of the loop," but, as De Landa argues, questions of material history and human contingency will not be denied. "Biological terrorism" emerges as a political challenge to the imperial control of cyber-war, "machinery, specifically the ground forces(i.e. tanks, jeeps, personal transports, etc.) break down," "contagion models" best describe mass violence: in short, we are living in a turbulent world caught midway between *War in the Age of Intelligent Machines* and *A Thousand Years of Non-Linear History*. If this is the case, then in De Landa's account we desperately require a new method of understanding *Politics in the Wires*: a form of political thought that is realist, historically contextualized, and sensitive to the unpredictable ("non-linear") patterns of human behavior. Perhaps the spirit of De Landa's plea for the recovery of a realist perspective on contemporary politics and culture is most eloquently expressed by his refusal of Marxism in favor of a form of thought more clearly aligned with the non-linear flows, intensities, and lines of flight of Deleuze and Guattari's *A Thousand Plateaus*:

> …I think Marxism is Deleuze and Guattari's little Oedipus, the small piece of territory they must keep to come back to at night after a wild day of deterritorializing. Who could blame them for needing a resting place, a familiar place with all the reassurances of the Marxist tradition (and its powerful iconography of martyrs and revolutionaries)? The question is whether we need that same resting place(clearly we need one, but should it be the same? Shouldn't each of us have a different one so that collectively we can eliminate them?).

Which is a question very central to Eugene Thacker's formative analysis of net politics in his article, "Networks, Swarms and Multitudes." Thacker asks:

> A question: are we connected because we are collective, or are we collective because we are connected? Another, related question: in the "network society," is it possible to reformat the body politic without resorting to the paradigm of modern sovereignty.

In this article, the reality of net culture implodes traditional understandings of politics. In an era increasingly characterized by the "technological model of networks, the biological model of swarms and the political model of multitudes," conventional understandings of political sovereignty have been challenged by fundamental transformations in the nature of political reality itself. Reflective of a modern era in which power was "hierarchical, compartmentalized and mechanistic," conventional interpretations of political sovereignty are increasingly of limited value in interpreting power which circulates through the body politic in ebbs and flows of different intensities, taking possession of people's imaginations and emotions, expressing itself in very different localities: power and gender, power and identity, power and media, power in the age of globalization, power and post-colonialism, power in the biotech century. Opening his perspective to the new realities of net politics, Thacker challenges the concept of political sovereignty with other emergent models: networks, swarms, and multitudes. Present at the eclipse of political sovereignty, Thacker's perspective is important because it begins to provide a new political vocabulary for understanding the interplay of (cybernetic) networks, (biological) swarms and (political) multitudes in shaping our lived understanding of contemporary political experience. The question then: What is the fate of democracy in a world of networks without connectivity, swarms without history, and multitudes without collectivity? The fate of 21st century politics may depend on the resolution of this question. The networks, swarms and multitudes of net politics are the essence of Politics in the Wires.

UNMANNED

EMBEDDED REPORTERS, PREDATOR DRONES AND ARMED PERCEPTION

Jordan Crandall

During Gulf War II, around 600 journalists were assigned positions alongside combat and support troops—intended to give us all "front row seats to the war." Previously trained by the Pentagon in week-long media boot camps, these "embedded" journalists were not allowed to carry guns but they were allowed to carry cameras. If the first Gulf War (where the reporters were confined to hotels) was something like a war game, this war would seem to be something more like reality television. Buoyed by its collaborations with Hollywood—which is riding high on an unprecedented wave of revenue from reality TV programming that now constitutes over half of the top 10 shows in the US—and increasingly information-savvy, the Pentagon now knows that stage-managed "real life" is where the action's at. It will no longer be accused, it thinks, of withholding or controlling information. It will give us real life on the front lines, truth behind the facades, Ted Koppel in a tank.

However, like the overproduced reality television show that ends up squeezing out any sense of spontaneity, these images turned out to be as misleading as those of the first Gulf War. There were rules of engagement that all embedded journalists had sworn to abide by. The details of military actions could only be described in general terms and journalists were prohibited from writing about possible future missions, classified weapons, or sensitive information. There was a social code of conduct among personnel as to what could be said. The commander of an embedded journalist's unit could block any reporter from filing stories via satellite connection at any time. Much of what appeared to be live was actually recorded hours earlier. And the whole thing got fed into the graphics-heavy, soundbyte-oriented news machine anyway, itself a primary interface to a media-driven market of investors who "play the war" and who trade based on news. Embedded reporting was itself embedded within a host of now-familiar conventions, accompanied by scrolling updates, computer-generated

flyovers over Baghdad, animated EarthViewer satellite imagery, drum rolls, and links to websites that allowed us to fondle 3D animations of munitions. The war didn't end up looking like reality television so much as a carnivalesque media Olympics.

Standing out prominently alongside these embedded images were the familiar echoes of the first Gulf War: those haunting images from camera-mounted bombs (or rather, bomb-mounted cameras) that explode upon impact and mask any repercussion at groundlevel. Those flying points of view to which we have only virtual access.

Camera handheld on the ground. Camera precision-mounted in the sky. Which viewpoint are we to assume?

One wonders, as always, what the real artillery is in this war—images or bullets. Perhaps the soldiers should be allowed to carry cameras, or the camera and gun should simply collapse into one another. For the military, the distance between has been narrowing for quite some time anyway. It has been narrowing in terms of what has been called the military-entertainment complex. (Already it is difficult to distinguish between managed combat information, news, and entertainment.) It has been narrowing in terms of the windows between detection and engagement, "sensor" and "shooter," intelligence-gathering and deployment—which in many ways drives military development and especially its aerial imaging.

There are two modes to this collapse. We might call them the manned and the unmanned.

A channel of re-embodiment opens up via reality media and its focus on unfiltered immediacy. At the same time, a channel of disembodiment opens up via the operational, machine-visioned image. Think of two modes. One is the handheld camera, live and on the scene. We watch seemingly immediate, raw footage through it. The other is the disembodied gaze. It derives from no possible human position. It is the gaze that belongs to everyone and no one. The camera-riding bomb is only one example. There are many other examples that we can't see. In many senses, this gaze has moved into the status of a condition. That is, it has moved from something that we can represent to something that helps to structure representation itself, as if lurking behind the visual field.

So which is it? If we think of perception as being relocated—and in many ways warfare is about such relocation—can we say that it is becoming re-physicalized, or disembodied? I want to consider both of these modes. In so doing, I want to also introduce another element—in a sense, outfitting these concepts with armaments. I want to suggest that the condition of this relocation of perception is its subsequent arming—its subsequent backing by an apparatus of conquest and defense. Can we think of perception as becoming armed in this way? How could such an increasingly ephemeral and distributed capacity be simultaneously fortified, couched within an apparatus of warfare? Dematerialized, yet weighted?

The Drone

The current star of the unmanned vehicles is the Predator, which had its major debut in 1995 in Bosnia. The Predator is a toylike and windowless vehicle, originally built for reconnaissance missions, that is flown by both the military and the C.I.A. There is no pilot in its cockpit—there is an operator who sits hundreds or thousands of miles away at a console (most recently, in Nevada). The Predator beams a continuous live video feed to military and intelligence personnel in such bases as in Virginia and California, who send it to analysts and commanders around the world.

The Predator was never conceived to be able to fire upon targets. It has on many occasions captured potential targets on video but was unable to do anything about it. In other words, it had "got them in its sights" but was unable to fully capture—i.e., shoot—as if it were impotent. For example, a Predator drone once captured a "tall turban-wearing man" on video in Afghanistan that many officials believe was bin Laden. But there was nothing to be done except to relay the information back to command posts, who may then channel it to other vehicles equipped for interception. There was no chance to eliminate that which appeared in the image, an act which seems to negate the very purpose of photography. Meanwhile, the target slipped from view.

The impotence of the image led to the reforging of the vehicle. In the new regimes of the image, there can be no possibility of escape. Vision must be outfitted, the body retooled, the apparatus armed.

Institutional effect: The military has always been seeking to reduce the time from "sensor to shooter" to almost zero. It has sought to more closely integrate the apparatuses of detection and engagement. The growing urgency reached its culmination after September 11. Now Predators were being hastily equipped with Hellfire missiles and laser-targeting systems. On the nose and underside of the Predator now stood video camera, targeting system, and missile launcher, which could work in tandem. Missile and video camera sit side-by-side, pointed toward the ground, aimed to capture, mounted on the belly of a windowless airplane.

Recording-launching. Seeing-aiming-firing.

Photography was once an accurate replica of the world, driven by the need to remove the human from direct physical contact with the site of experience. The need to place the human "on the other side" of representation as a kind of shield from reality. The need to protect one from the vicissitudes and dangers of physical presence and to allow a form of disembodied presence. Presence through removal. I am there yet not there. The image and its technical support act as protector, as life-giver, yet they are bound up in a technical development that threatens the human with obsolescence. They provide a means for its extension, yet a means for its removal. Warfare: protection through the aid of the image, countered with the annihilation that the image also facilitates.

Who are its agents? During the conflict in Afghanistan, Air Force officers monitored groundlevel activity at the C.I.A. headquarters in Virgina, where, as reported by The Washington Post, they were occasionally "surprised to see an explosion, only to learn later that the C.I.A. was firing a missile." Who is watching, who is analyzing, who is flying the plane, who is shooting? Such capacities are suspended within an uneasy alliance between agencies, who are themselves often in competition.

We have the narrowing of divisions between the technologies of detection and engagement, as well the blurring of the roles of intelligence-gathering and deployment. Think of the blurring of the roles and limits to the F.B.I. and the C.I.A. and the creation of the new intelligence unit within the Department of Homeland Security. From this consolidation "erupts" the technology itself. Or is it the other way round? Then there is the image, and the role of seeing. The image both tracks and aims, traces and targets, its framings operating as a new development of perspective. If we think of perspective as a way of locating relationships between objects in space and their representations, what is it, then, if we seek to collapse that space? Is this a perspective aimed at obliteration? A final collapse of the referential fallacy, an implosion in the midst of an explosion? A precise freezing in time and space, a precise sedimentation of image, referent, and projectile in realtime, in order to guide and mark an annihilation?

Strike 1. In February of 2002, several men on the ground in Afghanistan, after having been monitored for some time by the US military and the C.I.A, were shot down dead by a Predator drone. The men were determined to have been involved in "suspicious activity" and one of them was suspected to be bin Laden himself. The strike was a mistake. The men were subsequently thought to have been simply foraging for scrap metal on the ground. The Pentagon defended the attack, but at the same time, it tried to distance itself and blamed the C.I.A. It was the first time that the public learned that the C.I.A. was involved in firing missiles.

Strike 2. About three months later, on May 9, Gulbuddin Hekmatyar, a suspected Afghan factional leader, was also shot at by a Predator drone. He survived. It was the first confirmed mission to kill someone who was not officially part of the fallen Taliban government or the Al Qaeda network.

Strike 3. On November 3, 2002, a missile fired from a Predator drone killed Qaed Salim Sinan Harithi, also known as Abu Ali, a senior leader of Al Qaeda. He was traveling by car in Yemen with five low-level associates who were also killed. The car and the bodies were incinerated. The attack was the first using an armed Predator against suspects outside of Afghanistan.

Strike 4. More recently, on June 20, 2003 a Predator drone destroyed a convoy that was traveling near the Syrian border in western Iraq. The convoy was believed to be carrying fugitive Iraqi leaders and there was speculation that it was carrying Saddam Hussein himself.

In each of these cases, in each of these strikes, I remember trying to picture the scene. One man—standing alone or in a group, or traveling by car—is suddenly fired at from the sky, as if zapped by a lightning bolt. He is singled out for destruction among the others standing nearby, as if by an act of God. To what remote hidden bunker was this image sent, whose hidden hand released its payload? In the New York Times, Walter Kirn wrote that, from the perspective of his sofa, this latest incident had the quality of an "immaculate destruction." "It may well have been Thor doing the shooting," he wrote. "Or me." He said that "with no individual human being to take credit for the hit—no swaggering flying ace, no deadeye tail gunner, no squinting rifleman—it felt like a pure projection of my will."[1] It felt like a pure projection of his own continuing anger about terrorism.

One can immediately picture a peculiar kind of armed couch potato, caught somewhere between a videogame and the news. We hold our own remote devices that give us the fictions of instant command, and sitting in front of our television sets or computer screens, we are oddly enough about as close to the action as the actual pilots get—as well as those secret teams who have their fingers on the triggers. Part of a distributed mass with no fixed contours, with no one person to locate at the helm, the unmanned system is no ONE yet everyone. Its projectile: the extension of some inner combative state? A distributed, armed intent?

One can think of the action of slamming the phone down as somehow "getting back" at the person on the other line, or of blasting the horn at a stupid driver who nearly caused an accident. We transfer anger through our devices. Through remotes of all kinds, we can picture the very common gesture of the "point and shoot." None of these actions are anywhere near that of launching an actual missile, of course. But

we can identify with the gesture, the response mechanism, the conditioning process, the interceptive goal. We can speak of mechanisms behind the "decision to engage." One can speak metaphorically of "pushing one's buttons," which means that someone is deliberately exploiting one's soft spots, inciting anger in a knee-jerk reaction. The device marks a loop between perception, technology, and the pacings of the body. Eye, viewfinder, and trigger. A structure for orienting attention and facilitating differentiation or division. Subject/object, me/you, friend/enemy. We choose this over that. We locate ourselves to "this side" of image, to the safe side, against the enemy it protects us from. We draw lines in the sand; we say, "I stand here against you," defining ourselves by that which we oppose. How far are we willing to go to defend it? What kind of technology backs us?

The Reporter

The surprise attack on the Iraqi command bunker that launched Gulf War II was supposed to be the mother of all smart strikes. Think of all of the computational power and intelligence that went into the determination of that one precise moment. It was supposed to be the apex of the entire operation, the magnum opus, the punctum, the crowning glory of the American military machine. Imagine: to obliterate Saddam Hussein himself in one enormous zap, one precise blast from the sky, as if God himself had struck the man down. The blast over Baghdad that morning shook the city and the entire world.

Later, Donald Rumsfeld, who likes to simulate forms of combat machinery in his gestures, gripped both sides of his lecturn, elbows up and head thrust forward, as if morphing into an Apache helicopter looming above its prey. Such precision we could have never before dreamed of, he says.

Meanwhile, battalions of soldiers and reporters were already advancing into the country.

It has been said that there is so much reporting today, it often gets ahead of the news. Think of the swarms of reporters in Washington DC during the sniper attacks confronting the police force as if they were swat teams. In a cutthroat commercial news media world, timely information is artillery, and journalists are fighters. Virilio once said that it is now reality that has to keep up with media, rather than the other way round. It is easy to see how embedded journalism would arise in a culture of "behind the scenes" entertainment, immediacy, and rapid media technological advance, and impatient with the kind of secrecy such as the Pentagon has shown in the past. "Truth is the best defense" said Col. Jay DeFrank, the Pentagon's director of press operations, as legions of Americans grabbed their popcorn.

Camera and weapon, in the trenches together on the battlefield. Trigger click, camera click. With the Predator, the distance between was narrowed in the drive for "capture" in its most violent sense. That is, there could be no escape for the represented. It fuses with its image as it is obliterated. An image and a life are both "taken" as eye and projectile join. The distance for human error shrinks since it is a machine that coordinates. Here at groundlevel, however, camera and weapon cohabit a space through the agency of a fallible human. The camera shakes. Its bearer's life is on the line. In the field between seeing and shooting a human is not removed but reintroduced. In a sense, it is the human that is deployed to serve a need within the workings of the apparatus.

What is that need?

It is well known that, within the scrims of hyperreality, a mode of witnessing has been lost. An indexical bond has been severed. Through a verité of the everyday, real life media arises to fill the gap. It purports to put us on the front lines. Media moves into the space of the audience by allowing its "authentic" participation. A sense of unscriptedness counters the polished quality of the media mis-en-scène and opens up an entry point. The deceptive character of the media is suspended for a moment, and one can project oneself inside. I do not abandon myself to the image, or live in the world of images. Rather, this "realness" allows a seamless interface between. A port of synchronization is opened up that allows a shuttling back and forth. "Real feelings" and "real people" are what code authenticity. We identify with the people on screen because they are somehow more like us, in situations and under conditions that are more like life. The distance that voyeurism relies on for its source of pleasure migrates into other geometries. These real-time image streams, life-like settings, "real actors," and seemingly live actions and effects however could only have opened up a site of identification for a populace that had already been conditioned to see itself through media self-reflection. This could not have taken hold unless the media mise-en-scene had already arisen, as it has, to form the sole authenticating construct of our time—the cultural background for awareness, identity, and representation, the background against which subjectivity and social relations are formed.[2]

Through embeddedness, I am put back in the place that photography had once purported to remove me, in order to protect me. I am (seemingly) reintroduced at the other side of the shield, dropped onto the battlefield of the Real and (seemingly) subject all of its dangers.

Embeddedness, then, constitutes a language that signifies the real—a real that has been under siege in more ways than one—by helping to develop new coherencies and cohabitations against a violent other. It offers a form of indexical compensation. The seemingly spontaneous, handheld, grainy video mode has come to signify a mode of real presence—and here the staggered motion and artifacting brought about by limited transmission capacity serves as a kind of transmission verité. The "real" equals credibility via its sense of unfiltered immediacy. The reality of representation is substituted for the representation of reality. That is, "authenticity" arises less from the authenticity of reality per se than the authenticity of the means by which reality is portrayed.

The compensation works linguistically as well. Listening to the embedded reporters, one notices that they sometimes seemed to talk like they are soldiers instead of journalists. They used military-speak and said "we," as if they were part of the combat force. "'We' went out on patrol." "We took out about 30 or 40 Iraqis" in a firefight. Warfare is always about such divisions and cohesions, as they traverse language. Newscasters say "we" or "us" in order to create an interior of cohesion against an exterior of disarray. An interior of safety against an exterior of danger. Margaret Morse has pointed out that through such mechanisms, which include stacks of hierarchically-arranged worlds, sartorial and acting codes, graphics, and other carefully ordered conventions, a cohesive world is constructed that contains its viewer in a comforting here-and-now. We see in such news constructs a public being taught its place according to the conventions of power and position in discourse.[3] Through carefully arranged divides within the news, where, for example, newscasters can address the viewer directly but the represented public cannot, positions are reinforced, battlelines are drawn and power is maintained. If we see a process of differentiation actively at work, we can regard this as part of a machine of subjectivity. An arsenal, in effect, of producing an interior/exterior divide.

Such mechanisms do not only represent the war. They are the war.

In the heat of battle, one does not think too much. One acts. Especially in a crisis state (increasingly the norm), the military machine does my thinking for me. In civilian terms: The construct is couched within what Elaine Scarry would call a mimesis of deliberation—a simulation of deliberation that replaces one's own thinking.[4] The media construct is such that it does its own thinking through mirroring one's own thought processes, seducing one into a direct interface, a mind-meld. Automated deliberation, seamlessly achieved. I am there on the front lines and I virtually witness what is shown on the screen, it is real. This occurs within a news construct that virtually does my thinking for me. The image that I see—the smart image of high technology weaponry or the smart image of the multiformat newscast with its text crawls and weblinks—is the image that thinks for itself, harboring cognition within its own confines. In some cases, as when image and ammunition coincide, it even destroys itself.

The "sightless gaze" of the unmanned system tends to acquire exceptional power since its bearer cannot be pinned down. The reinforced gaze of the embedded eye acquires its power precisely because it can.

Perhaps it is both that turn out to be equally "unmanned"—the latter being more insidious because it traffics in the guise of its opposite.

Postscript

During the heat of the war, I saw a scene on CNN that was shot with a night vision camera. Someone was panning the area, casting it in the familiar green glow of combat. But this time the camera was not focused at the enemy. It was wielded by an embedded reporter, who scanned the soldiers in that battalion—his battalion, "our" battalion—as they, in turn, scoped out the landscape, their weapons poised. A concert of gazes both armed and unarmed. In the place of the cold unflinching stare of the military machine, the presence of a human—a civilian—is reinstated behind the lens. Could it be "me"? What is the difference between the way that I see and the way that the military sees? I look for something out of the ordinary, something to reinforce me or to militate against.

Critic? Seducer? Victim?

Notes

1. Walter Kirn, "Bring it All Back Home," New York Times Sunday Magazine, November 17, 2002, pp. 17-18.
2. With thanks to Ursula Frohne, "Screen Tests: Media Narcissism, Theatricality, and the Internalized Observer" in [CTRL]SPACE: Rhetorics of Surveillance from Bentham to Big Brother, Thomas Levin, Ursula Frohne, and Peter Weibel, eds., Cambridge, MA: MIT Press, 2002, pp. 253-77.
3. Margaret Morse, Virtualities: Television, Media Art, and Cyberculture, Bloomington and Indianapolis: Indiana University Press, 1998, pp. 36-67.
4. Eliane Scarry "Watching and Authorizing the Gulf War" in Media Spectacles, Marjorie Garber, Jann Matlock, and Rebecca L. Walkowitz, eds., London and New York: Routledge, 1993, pp. 57-73.

PRIMING THE PUMP OF WAR

TOWARD A POST-ETHNIC, POST-RACIAL FASCISM

Dion Dennis

They first appeared in the summer of 2002. Driving across the major interstate highways (10 and 35) in San Antonio, large white billboards emerged. With a few words, and evocative graphics, they sell simple "prosocial" virtues. For example, one such billboard is composed of two main elements: The visual element is an evocative depiction of a young, blond, white girl of five or six. Her arms, head and eyes are extended upward, as if she is ready to take flight from her father's shoulders. At the top of the photo, extended from her right hand, colorful and vibrant as it ascends above a dark sea of brown heads, is a vivid and bright American flag. The second element, the text, is to the right of the picture. It proclaims: "What Makes Us Great – UNITY – Pass It On." Below all of this, in much smaller type reads: "The Foundation for a Better Life."[1]

Across from the Downtown campus of the University of Texas at San Antonio, another of the Foundation's billboards, in the same format, delivers a message that I found foreboding. On the left, the visual is taken from the ruins of the World Trade Center. Amidst the rubble, two ash-crusted New York firemen hoist up an American flag (again composed so it is at the top of the visual frame) in front of the collapsed vertebrae of one of the towers. The text to the right of the picture reads: "No Setback Will Set Us Back – DETERMINATION – Pass It On." And again, below all of this, in much smaller type is the sponsor of this message: "The Foundation For a Better Life."[2] With visual similitude to both the urban devastation of Hiroshima and Nagasaki, and the flag raising at Iwo Jima, the terroristic tragedy of the WTC was deployed in imagery well suited to prepare a population for an imminent campaign of total war.[3]

These are just miniscule samples of an ongoing and prominent multi-media campaign. Almost entirely ignored as objects deserving of media scrutiny, ten thousand of these billboards, bus placards and signs, all evocatively depicting "simple" virtues such as courage and perseverance, were initially planted across the major highways and thoroughfares of the US, beginning in 2002.[4] The reach of the Foundation's televised ads is equally impressive. On their home page is the following claim about how frequently and widely they propagate their message into the mundane choreography of our lives, via their video spots:

> (pass it on) The Values We Live By ARE WORTH MORE When We Pass Them On:
>
> These award winning Public Service Announcements produced for television are being seen on average over 2 million times per day on seven networks and over 900 TV stations. They are also being shown in all United Artists, Regal and Edwards movie theaters totaling over 6,000 screens.[5]

The Foundation's video spots, billboards and web site are all clearly aimed, in the words of one famous propagandist, to "develop [a] crisp, clear idea into a system of thought that includes all human drives, wishes and actions [into a coherent] world-view."[6] The Foundation's website is clearly the repository, library and showcase for the varied messages, media and strategies employed in propagating a uniquely 21st Century, post-racial, post-ethnic Fascism. As such an artifact, it deserves a closer look.

The Foundation for a Better Life Website: A Critical Archeology

Patient Iteration of the Message

The Foundation's website <www.forbetterlife.org> contains several subpages linked off the home page. They are "Values," "Good News," "TV Spots," "Billboards" and "About FBL " (a generic mission statement). Clicking on "Values" brings up a page in which a facsimile of a continuous celluloid film strip (in frames) is exhibited; each miniature image frame (over a scroll bar) is captioned with a "value." (There are fifty-two "values," mirroring the number of cards in a typical deck). Typical value captions over the visuals are "Appreciation," "Class and Grace," "Compassion," "Cooperation," "Gratitude," "Hard Work," "Loyalty," "Right Choices," etc. When the web surfer clicks on a caption or its associated image, the graphic (Flash) opens into a new screen. The new screen displays a larger iconic image originally seen in the film-strip frame. (Many of them are reminiscent of psychological projective test imagery). Then a short story on the selected "value" comes to the fore, such as the one below (graphically composed with an image of a son and father fishing on a small boat):

> Patience
>
> My fondest memory of my Dad occurred one summer day out in the middle of a mountain lake. "Don't jerk it. Just reel it in real slow," my father whispered. But it was so difficult. I hated to wait for anything. I usually took forever to decide what I really wanted, but once I decided, I wanted it right now. And right now I wanted to catch a fish.
>
> My father seemed to sense my impatience. "The big ones didn't get that way by snapping the first thing to hit the water," he said quietly. "You'll soon find that anything big and worthwhile usually takes a lot of time." Then, with a smile that I will never forget, he added, "After all, I've already spent twelve years on you."
>
> "The values we live by are worth more when we pass them on..."[7]

The phrase, "pass it on" (as a linked icon) surrounds the story on three sides, as it does for almost all of the fifty-two parables of values on the site. This perpetually repeated suggestion to "pass it on" finds an echo in a famous 1928 essay on propaganda:

> Winning people over to something that I have recognized as right, that is what we call propaganda. Propaganda stands between the idea and the worldview, between the worldview and the state... At the moment at which I recognize something is important and begin speaking about it... I begin making propaganda. At the same moment, I begin looking for other people to join me. Propaganda is nothing other than the forerunner to organization. Once it has done this, it is the forerunner to state control. It is always a means to an end.[8]

The narrative that surrounds this particular "virtue" of patience also unintentionally announces pieces of the methodology and tactics of the Foundation's campaign: These general tactics are patience, and repetition and iterative spread of the message ("pass it on"). This constant exhortation mirrors Goebbels' statement that such "clear" ideas "seek escape through the mouth." But the similarities between the FBL's campaign and Goebbels' ideas doesn't end with these general prescriptions:

Targeting the Message to Multiple Audiences

> Propaganda adjusts itself to the prevailing conditions [and] is always flexible. That means that propaganda cannot be limited [because] it changes according to whom I am trying to reach. Propaganda should be popular, but not intellectually pleasing... The propagandist's speeches or posters that are aimed at farmers will be different than those aimed at employers, those aimed at doctors will be different than those aimed at patients. The task of leaders and followers is to drive [our] knowledge ever deeper into the hearts of our shattered nation.[9]

This flexibility is mirrored by the diversity of deeply aestheticized and idealized racial, ethnic and class images, coupled to equally idealized narratives, targeted to different audiences on the Foundation's values sub page. As Guillermo Gomez-Pena notes, they clearly echo

> a 'benevolent' form of multiculturalism [that] has been adopted by corporations and media conglomerates across borders, continents and virtual spaces. And our major cultural and educational institutions have followed suit. This global transculture artificially softens the otherwise sharp edges of cultural difference, fetishizing them in such a way as to render them desirable.[10]

And, as Gomez-Pena laments, the propagandists of this "new" capitalist multiculturalism have outsmarted "us" by so cleverly disguising the serious social contradictions and covert violence under the surfaces of these images and intended messages. It is equally obvious that the Foundation's hired and pro bono spin meisters have also learned from them. The Foundation appropriated, in the billboard portion of the campaign, some of the best recognized and diverse icons of 20th Century and contemporary millennial culture: Winston Churchill and Shaquille O'Neill; Mother Teresa and Whoopi Goldberg; Abraham Lincoln and Muhammad Ali; the 1989 photo of an anonymous Chinese student trying to halt a line of tanks into Tiananmen Square and hockey great Wayne

Gretzky. In some of these, historical images of defiance to a repressive state apparatus (Tinanamen Square, Ali's refusal of the Vietnam-era draft, for example) are recoded as embodying consensual, conventional and "prosocial" values. The recoding of icons (the reframing, and often the inversion, of denotative and connotative meanings) is a constant, even a defining feature of the Foundation's website. But beneath the inscription of structural-functionalist themes onto postmodern life lies a genealogy of money and power.

The Foundation for A Better Life: A Political Genealogy

Behind the anonymous narratives, images and video products (no direct claims of authorship can be found for any of the visual or textual products on the Foundation's website), there is a traceable and specific genealogy of money and power. Thanks to work done by a initial contributor named Rexella and followed up assiduously in greater detail by Jeremy David Stolen, for the Portland Independent Media Center <http://portland.indymedia.org/en/2002/02/7597.shtml>, the unique history around the Foundation is visible. According to these sources (and confirmed by my WHOIS search of registration databases), the Foundation's domain name, forbetterlife.org, is owned by the Anschutz Corporation. Their IRS-990 form shows that four of the six board members are from Anschutz's family.[11] And the physical address of this non-profit Foundation is the address of the Museum of Western Art, a private collection of Anschutz-owned Western art. Who is Philip Anschutz?[12] For a number of distinctive reasons, Anschutz's personal and financial history, and the relationship of that history to the project that the Foundation represents is an intriguing study.

The Strange Attractor: Philip Anschutz – Veteran Corporate Raider

Anschutz made his initial fortune in "old economy" enterprises such as oil exploration in the 1960s, gas in the 1970s and railways and agribusiness in the 1980s. In the 1990s and beyond, Anschutz has concentrated on "new economy" enterprises. These include the following: Anschutz is the majority shareholder in Qwest Communications. Qwest remains under investigation by the U.S. Security and Exchange Commission for $1.4 billion in "accounting irregularities," similar to those of the recently bankrupt WorldCom. Because of these "irregularities," Qwest has been compelled to withdraw its original earnings reports between 1999 and mid-2002, as its stock plummeted to levels that triggered its delisting by the New York Stock Exchange.[13] With a current debt load of $17.6 billion and restated assets of approximately $6 billion, Qwest is a junk bond (according to Moody's, as a result of values that plummeted 90 percent from early 2000 to early 2002). At the end of 2003, CNNMoney dubbed Qwest, whose stock plummeted an additional 24.2 percent in 2003, as among "2003's biggest losers."[14]

Anschutz was sued by the New York Attorney General's Office as part of its probe of brokerage houses (Goldman Sachs and Salomon Smith Barney) who "rewarded" select clients with preferential early allocations of IP0s. Anschutz was one such elite client who profited handsomely and swiftly from these early IPO allocations. In a 2003 settlement of this civil suit, Spitzer forced Anschutz to disgorge 4.4 million dollars in personal profits from such early allocations to selected New York charities.[15]

Anschutz's holdings are not limited to Qwest. He has the majority interest in the property firm that owns the Los Angeles Staples Center. He has a twenty-five percent ownership stake in the Los Angeles Lakers, and is a co-owner (with Rupert Murdoch) of the Los Angeles Kings. Anschutz is also the principal owner of the London

Knights, and the future redeveloper of London's Millennial Dome. Besides the oil refineries, pipelines, seven professional soccer teams, metropolitan entertainment arenas, and prominent European sports arenas, Anschutz also owns 20,000 miles of railroad lines across the U.S. Fitted parallel to many of these freight and passenger rail lines are two newer transportation and delivery systems, spanning from coast to coast. The older delivery system consists of thousands of miles of Anschutz-installed oil pipelines. The newer parallel delivery system, for information and images, consists of fiber-optic cables.

According to a special *BoxOffice Online* report, "The Deal Maker of Denver" the Anschutz Corporation and a partner have been "acquiring controlling debt positions" of major theater chains across the U.S., such as United Artists, Regal and Edwards.[16] According to this article, when Anschutz has completed all of these acquisitions, he will have purchased control (at discounted prices) of 20 percent of all the commercial movie screens in the U.S. Not surprisingly, perhaps, Anschutz plans to use his fiber-optic lines for the digital delivery of movies to the 6,000 plus screen empire his corporation now controls. This imminent technological advance will allow centralized control of films, as it eliminates costs associated with freight and projector maintenance. The jobs of film splicer and projectionist will also disappear.[17]

As the Portland Independent Media Center article notes, the sum total of all this activity is that Anschutz is assembling a production, distribution and point-of-sale nexus that has all the economic characteristics of a vertical monopoly. And, the Foundation's claim that its messages play in more than 6,000 theaters every day can be taken at face value. After all, Anschutz owns both the message and the means.

Philip Anschutz: Private and Political Man

According to one source, Anschutz puts in twelve-hour workdays, six days a week, building and maintaining his financial empire. Now in his early 60s, he often rises at 4:30 a.m. for an early morning run as preparation for local marathons. He is a leader of his neighborhood Evangelical Presbyterian church.[18] Uncritical profiles, such as a 1999 Fortune article, describe him as "friendly and unpretentious."[19] According to two separate sources, he has never been heard to use a curse word.

Additionally, Anschutz has been a significant financial contributor to conservative Republican causes. Between his own personal donations and those of his corporation, Anschutz gave close to $180,000 to conservative Republican causes, including $10,000 to fund the anti-gay rights Proposition 2. The 2000 election cycle total is about half of what Anschutz gave to the Republican Party ($363,750) in the 1996 election cycle, when Bob Dole, Anschutz's personal friend, ran for President).

Imagineers

The PR firm Bonneville Communications, a wholly owned subsidiary of the Church of Jesus Christ of Latter-day Saints, bought a five-year license to a corporate "values" campaign, reassembling images and transcripts for the FBL.[20] On their home page, Bonneville Communications struts its "stuff:"

> [We have] designed public service messages for national nonprofit organizations such as the American Cancer Society, Boy Scouts, Junior Achievement, and the Salvation Army... We know that people remember what they felt long after forgetting what they heard. So Bonneville creates those unforgettable

> feelings. . .
>
> Bonneville Communications is an advertising agency engaged in Comm unications for a Quality Life.® Driven by a belief in advertising as a powerful influence on the values and lives of its audiences, Bonneville emphasizes HeartSell® – strategic emotional advertising that stimulates response.[21]

And much of this Mormon PR recoding consists of, as Guillermo Gomez-Pena points out, recoding icons and social histories of conflict and difference into a structural-functionalist unity, as preparation for war.

Rewriting Icons, Reinscribing the Present

There are a number of propagandistic TV spots available for viewing on the website. Available at <http://www.forbetterlife.org/main.asp?section=tvspots&language=eng>, these are PSAs that run in all of Anschutz's theaters and on cable TV. Each "spot" exemplifies some "trait" or "value" by rewriting the meaning of conventional identities and icons. This rewriting always moves from the sharper edges of cultural difference and conflict toward some sort of improbable "unity." And, as the web surfer moves down the sequence of the dozen PSAs on the page, the message becomes more nationalistic and hawkish. For purposes of demonstrating the recoding of icons, a brief description of the initial PSA, "Biker," will suffice.

As an archetype, the idea and reality of "biker" subculture is an outgrowth of the immediate post-WWII period. The conventional iconography of "the Biker" has been of a mobile, and deviant "outsider" who was the inverse image of many of typical middle class values of mid-20th Century American Society. Over the last half-century, the symbolic import of bikers has been fused with a number of other elements, such aspects of the drug culture, or, more recently, as a boomer icon in the form of high-priced, fetishized Harley Davidson motorcycles. In "The Biker," all of this (and more) is recoded into a message of domestic unity.

Accompanying the opening strains of "Born to Be Wild" (a countercultural anthem of the late 1960s, prominently featured in 1969's "Easy Rider"), the video opens with the typical MTV-style of quick, staccato cuts. We see first a longhaired biker, and then a series of bikers, from various angles, hopping on their motorcycles, in front of a 60s-style diner, to the opening lyrics of the song ("Head out on the highway, looking for adventure," etc.) A large, muscular biker, a skinhead who bears more than a passing resemblance to the wrestler "Stone Cold" Steve Austin, finds that his bike has stalled. Frustrated, he hops off the bike, gestures angrily at it, and galumphs to a pay phone, aggressively digging in his jeans for some non-existent change. Concurrently, on the left side of the screen, two small and elderly black women exit the diner and wobble on down the street. They approach the payphone as the lyrics tell the listener to "take the world in a love embrace." Just then, the biker turns to them, and peevishly announces that the "phone's taken," evidently fearing that these elderly black women are in the habit of using public phones. One of the elderly, bespectacled black women looks at him with obvious concern, and diagnosing the situation, offers up some coins, as her voice creaks out the question, "Will this help you?" To the strains of "we were born, born to be wild," the biker, a bit startled, examines the coins, and takes off his sunglasses. We see his face slope downward and soften. Softly he says "Hey, thanks." The two women smile, and as they wobble away, he says, "I appreciate it." As this biker puts the coins into the payphone, the graphics "Gratitude," and "Pass It On"

appear on the screen with the Foundation's ID, just as the voiceover reiterates the words on the screen, and the name of the sponsor (The Foundation for a Better Life). Apart from the simplistic moral tale, a number of iconic reinscriptions have occurred here. First, both the denotations and connotations of the song, "Born to Be Wild," and its most famous setting (in Easy Rider) have been flipped on their "heads." "Easy Rider" chronicles the life and death of two "long-haired" bikers who take LSD with hookers while in a New Orleans graveyard. They also smoke a bit of marijuana, and as drug couriers, are essentially assassinated by rednecks in the segregationist U.S. southland. The main characters played by Peter Fonda (Wyatt "Captain America" Earp) and Dennis Hopper (Billy) function as iconic magnets for overt conflict over the implicit boundaries of "the American Dream" throughout the film, as they ride from Los Angeles to New Orleans, on their way to Mardi Gras. They are not symbols of unity and social harmony.

Likewise, the "biker's" skinhead appearance in the FBL's video gives him an "Aryan Nation" patina. As iconic skinhead, it seems very unlikely that elderly black ladies would approach such a figure. Given the decades of hostility between white supremacists and the black population of the U.S., a more realistic response would have been to quickly pass by the pay phone, saying nothing. Obviously, that's not what happens in the video. What occurs is a recoding of these icons and histories into a structural-functionalist consensus (over gratitude and all the other common and desirable virtues). In doing so, they well illustrate Gomez-Pena's claim about the shape of a corporatist multiculturalism that "artificially softens the otherwise sharp edges of cultural difference."[22] But why? And, why now?

PRIMING THE PUMP FOR WAR
TOWARD A POST-ETHNIC, POST-RACIAL FASCISM

When Goebbels was pumping out pre-WWII propaganda, the product consisted of dual poles. One pole focused on creation and maintenance of the National Socialist Order, in line with state prescribed goals. Much of that propaganda was also relatively "positive" and "prosocial," extolling such virtues as motherhood, responsibility, cleanliness, honesty, and all the public virtues. The second pole consisted of the intense vilification and persistent dehumanization of Jews, Gypsies and others. These negative campaigns were justified by the Nazis in terms of mounting a social defense over "the purity of the race." Because of their intense focus on conflating their notion of a nation constituted by "blood" (Volk) with that of the state (Reich), Fascism became synonymous with racialization. But perhaps Fascism has morphed into a more subtle and socially acceptable form in the intervening decades. Revisiting Walter Benjamin's astute definition of Fascism, we find that there is no mention of racialization as its central defining characteristic:

> Fascism attempts to organize the masses without affecting the property structure... Fascism sees its salvation in giving these masses not their right, but instead a chance to express themselves. The masses have a right to change property relations; Fascism seeks to give them an expression while preserving property. The logical result of Fascism is the introduction of aesthetics into political life... [via] an apparatus which is pressed into the production of ritual values.[23]

There's nothing in these prescient utterances about the necessity of tying any eugenic discourse to Fascism. The applicability of Benjamin's statement to contemporary social reality can be understood as follows: For an inherently heteroglot nation that is at the

center of postmodern globalization, an overt notion of identity and "manifest destiny" based on racialization cannot work. Internally, it would not unify, but permanently divide the nation and the state. It's both ideologically and, in a very pragmatic and propagandistic sense, impossible to successfully and invisibly meld racialism with Fascism in 21st Century Los Angeles. But it was perhaps never really necessary either, in terms of creating a structural-functionalist consensus. The production of such a consensus is based not on biology, but on inscribing hegemonic attitudes, behaviors and values.

Roughly speaking, the FBL's campaign has a certain homology and resonance with the first pole of Goebbels' propaganda machine. It extols all the conformist mythologies and virtues, as it renders any sort of systemic analysis of risk or social inequities external to its frame. And it busily and repetitively attempts to inscribe a unified American Volk through the production of common social virtues and sensibilities, while it gestures to icons (such as the World Trade Center) as representative of a dangerous and evil world. And it does so, both in terms of its representational digital formats, and its substantive themes, as Benjamin claims, by aestheticizing technology and war:

> War and war only can set a goal for mass movements on the largest scale while respecting the traditional property system. This is the political formula for the situation. The technological formula may be stated as follows: Only war makes it possible to mobilize all of today's technical resources while maintaining the property system... If the natural utilization of productive forces is impeded by the property system, the increase in technical devices, and speed, and in the sources of energy will press for an unnatural utilization, and this is found in war.[24]

The FBL's site, and its distribution network, is a significant cog in the propaganda machine that creates this priming of consensus, this priming for war. The fact that this site can be traced to one of the world's richest men, with far-flung interests in industrial, transportation, agribusiness, entertainment and telecommunications, just the makes the point unusually concrete. In this new century, at this place and time, we may be witnessing a nascent iteration of Fascism, one that has learned to leave the negative pole in the shadows, at least for the time being.

Notes

1. A facsimile of the billboard can be seen at http://www.forbetterlife.org/images/eng/billboards/billboards/32_billboards.jpg

2. A facsimile of this billboard can be seen at http://www.forbetterlife.org/images/eng/billboards/billboards/24_billboards.jpg

3. The connection between this image and the Iwo Jima flag raising is made explicitly (through a fade between the two) in a video spot, The Spirit of America, on the website. Still photo facsimiles of the raising of the flag at Iwo Jima can be seen at http://www.iwojima.com/raising/raisingb.htm

4. "The Media Business: Advertising; A campaign promotes noble behavior and the adoption of better values by everyone." The New York Times, Section C; Page 12; Column 1; Business/Financial Desk, Stuart Elliott, byline: November 9, 2001.

5. See the Foundation's Website's Home Page at http://www.forbetterlife.org

6. See Joseph Goebbels' "Knowledge and Propaganda" (1928). Available online at http://www.calvin.edu/academic/cas/gpa/goeb54.htm

7. See the following page of the Foundation's web site: http://www.forbetterlife.org/main.asp?section=values&valueID=40&language=eng

8. See Goebbels, Ibid.

9. See Goebbels, Ibid.

10. Guillermo Gomez-Pena, "The New Global Culture: Somewhere Between Corporate Multiculturalism and the Mainstream Bizarre" (a border perspective). The Drama Review 45, 1, Spring 2001.

11. An update on the "Portland Independent Media" site provides a direct link to a PDF copy of IRS-990 form, giving the relevant (1999) information on Anschutz's involvement with the FBL (as financial backer and Foundation chairman). Available online at http://63.136.234.78/2000/841/529/2000-841529209-1-F.pdf

12. According to Forbes.com, Anschutz's net worth at the end of 2003 is $4.8 billion, making him 62nd on the World's Richest People for this year. It's quite a fall from his 1999 ranking of 6th, with a net worth of $16.5 billion. The change is the result of the financial instability of Qwest and the junk bond status and value of Qwest. Available online at http://www.forbes.com/finance/lists/setters/keywordSearchSetter.jhtml?passYear=2003&passListId=10&passListType=Person&passKeyword=anschutz

13. See the Portland Independent Media stories: Jeremy David Stolen, "Foundation for a Better Life, more," (02/20/02, modified 10/10/02), "Foundation for a Better Life, even more" (03/04/02, modified 08/29/02).

14. Alexandria Twin, "2003 Biggest Losers: The Dogs of the S&P: they've slept through the rally and are set to post steep losses for the year," CNNMoney.com, December 26, 2003. Available online at http://money.cnn.com/2003/12/12/markets/yir_biglosers03. See also Quest Financial Statement, available online at http://finance.yahoo.com/q/ks?s=Q

15. Dan Ackman, "Anschutz, Spitzer Settle, Then Fight," Forbes.com, May 14, 2003, Available online at http://www.forbes.com/2003/05/14/cx_da_0514topnews.html

16. on Alon Walz, "The Deal Maker of Denver: Sports Franchise and Railroad Magnate Philip Anschutz Sets His Sights on Exhibition," BoxOffice Online Special Report, April 2001. Available online at http://www.boxoff.com/issues/apr01/anschutz.html

17. 1According to the BoxOffice Online article, Anschutz will have more than double the number of screens of its closest rival, Loews Cineplex Entertainment. But Loews was recently bought by one of Anschutz's current partners, Oaktree Capital Management (in partnership with other investment firms).

18. Jason Nisse, "The Lowdown: If Labour Gets Hung For the Dome, He'll Bring the Noose: Jason Nisse Checks Out Philip Anschutz, The Right-Wing Tycoon Coming to Greenwich," Independent On Sunday (London), Business, Pg. 7, 06/02/02.

19. Brian O'Reilly, "Billionaire Next Door." Fortune Magazine, Vol 140 No 5, page 139, 09/06/99. Available online at http://216.239.41.104/search?q=cache:AjXyMbx_S_4J:www.business2.com/articles/mag/print/0,1643,5288,FF.html+anschutz+%22billionaire+next+door%22&hl=en&ie=UTF-8

20. A Google search turned up this interesting item: "CUNA (Credit Union National Association) To Sell Rights to Old Values Campaign." Essentially, CUNA sold a licensing rights to the TV ads for its Values Campaign to Bonneville Communications on 09/16/99 for $150,000. According to the CUNA Press Release, Bonneville is said to use the visuals for a campaign it is producing for the Anschutz Foundation. Available at www.cujournal.com/archive/990916.htm

21. See an archive of Bonneville's home page at http://web.archive.org/web/20020806112311/http://www.boncom.com/aboutus.htm

22. Gomez-Pena, Ibid.

23. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction: Epilogue," Illuminations: Essays and Reflections. Edited and with an Introduction by Hannah Arendt. New York: Schocken Books, 1969, p. 246.

24. Walter Benjamin, Ibid.

CTHEORY INTERVIEW WITH PAUL VIRILIO

THE KOSOVO WAR TOOK PLACE IN ORBITAL SPACE

Paulo Virilio in conversation with John Armitage
Translated by Patrice Riemens

Paul Virilio is a renowned urbanist, political theorist and critic of the art of technology. Born in Paris in 1932, Virilio is best known for his 'war model' of the growth of the modern city and the evolution of human society. He is also the inventor of the term 'dromology' or the logic of speed. Identified with the phenomenology of Merleau-Ponty, the futurism of Marinetti and technoscientific writings of Einstein, Virilio's intellectual outlook can usefully be compared to contemporary architects, philosophers and cultural critics such as Bernard Tschumi, Gilles Deleuze and Jean Baudrillard. Virilio is the author, among other books, of *Bunker Archeology* (1994 1975), *Speed & Politics: An Essay on Dromology* (1986 1977), *The Information Bomb* (2000 1998), *Strategie de la deception* (1999), *Ground Zero* (2002), *Art and Fear* (2003), *Unknown Quantity* (2003) and, most recently, *Ville panique* (2004).His analysis of the Kosovo War is the subject of his conversation with John Armitage below.

CTHEORY: Professor Virilio, to what extent does your intellectual and artistic work on the architecture of war, and architecture more generally, inform your thinking in *Strategie de la deception*? Is it the case that, in common with other so-called 'postmodern' wars, such as the Persian Gulf War in 1991, the architecture of war, along with architecture itself, is 'disappearing'? How did you approach the question of the architecture of war and its disappearance in *Strategie de la deception*?

Paul Virilio: Well, let me put it this way, I have always been interested in the architecture of war, as can be seen in *Bunker Archeology*. However, at the time that I did the research for that book, I was very young. My aim was to understand the notion of 'Total War.' As I have said many times before, I was among the first people to experience the German Occupation of France during the Second World War. I was 7–13 years old during the War and did not really internalize its significance. More specifically,

under the Occupation, we in Nantes were denied access to the coast of the Atlantic Ocean. It was therefore not until after the War was over that I saw the sea for the first time, in the vicinity of St. Nazaire. It was there that I discovered the bunkers. But what I also discovered was that, during the War, the whole of Europe had become a fortress. And thus I saw to what extent an immense territory, a whole continent, had effectively been reorganized into one city, and just like the cities of old. From that moment on, I became more interested in urban matters, in logistics, in the organization of transport, in maintenance and supplies. But what is so astonishing about the war in Kosovo for me is that it was a war that totally bypassed territorial space. It was a war that took place almost entirely in the air. There were hardly any Allied armed personnel on the ground. There was, for example, no real state of siege and practically no blockade. However, may I remind you that France and Germany were opposed to a maritime blockade of the Adriatic Sea without a mandate from the United Nations (UN). So, what we witnessed in Kosovo was an extraordinary war, a war waged solely with bombs from the air. What happened in Kosovo was the exact reversal of what happened in 'Fortress Europe' in 1943-45. Let me explain. Air Marshall 'Bomber' Harris used to say that 'Fortress Europe' was a fortress without a roof, since the Allies had air supremacy. Now, if we look at the Kosovo War, what do we see? We see a fortress without walls—but with a roof! Isn't that disappearance extraordinary?!

CTHEORY: Let's talk about your theoretical efforts to understand and interpret the Kosovo war in *Strategie de la déception*. Is the campaign in the air the only important element that other theorists should pay attention to?

Paul Virilio: Let me emphasize the following points about the Kosovo War. First, while the United States (US) can view the war as a success, Europe must see it as a failure for it and, in particular, for the institutions of the European Union (EU). For the US, the Kosovo War was a success because it encouraged the development of the Pentagon's 'Revolution in Military Affairs' (RMA). The war provided a test site for experimentation, and paved the way for emergence of what I call in *Strategie de la déception* 'the second deterrence.' It is, therefore, my firm belief that the US is currently seeking to revert to the position it held after the triggering of atomic bombs at Hiroshima and Nagasaki in the 1940s, when the US was the sole nuclear power. And here I repeat what I suggest in my book. The first deterrence, nuclear deterrence, is presently being superseded by the second deterrence: a type of deterrence based on what I call 'the information bomb' associated with the new weaponry of information and communications technologies. Thus, in the very near future, and I stress this important point, *it will no longer be war that is the continuation of politics by other means, it will be what I have dubbed 'the integral accident'* that is the continuation of politics by other means. The automation of warfare has, then, come a long way since the Persian Gulf War of 1991. Needless to say, none of these developments will help the plight of the refugees in Kosovo or stop the actions of the militias operating there. However, the automation of warfare will allow for the continuation not only of war in the air but also of the further development of the Pentagon's RMA in the form of 'Global Information Dominance' (GID) and 'Global Air Power' (GAP). It is for these reasons that, in my new book, I focus for example on the use of the 'graphite bomb' to shut off the Serbian electricity supply as well as the cutting off of the service provision to Serbia of the EuTelSat television satellite by the EU. And, let me remind you that the latter action was carried out against the explicit wishes of the UN. To my mind, therefore, the integral accident, the automation of warfare, and

the RMA are all part of the shift towards the second deterrence and the explosion of the information bomb. For me, these developments are revolutionary because, today, the age of the locally situated bomb such as the atomic bomb has passed. The atomic bomb provoked a *specific* accident. But the information bomb gives rise to the integral and *globally constituted accident*. The globally constituted accident can be compared to what people who work at the stock exchange call 'systemic risk.' And, of course, we have already seen some instances of systemic risk in recent times in the Asian financial crisis. But what sparked off the Asian financial crisis? Automated trading programmes! Here, then, we meet again the problems I noted in earlier works with regard to interactivity. Moreover, it is clear that the era of the information bomb, the era of aerial warfare, the era of the RMA and global surveillance is also the era of *the integral accident*. 'Cyberwar' has nothing to do with the destruction brought about by bombs and grenades and so on. It is specifically linked to the information systems of life itself. It is in this sense that, as I have said many times before, interactivity is the equivalent of radioactivity. For interactivity effects a kind of disintegration, a kind of *rupture*. For me, the Asian financial crisis of 1998 and the war in Kosovo in 1999 are the prelude to the integral accident.

CTHEORY: How does your description above of the chief theoretical aspects of the Kosovo War map on to the important themes of your previous writings? I would like to start by charting your theoretical and architectural interest in questions concerning the two concepts of military space and the organization of territory. For example, even your earliest research—into the 'Atlantic Wall' in the 1950s and 1960s—was founded on these two concepts. However, before we discuss *Strategie de la déception* and the war in Kosovo in some detail, could you explain first of all what you mean by military space and the organization of territory and why these concepts are so important for an understanding of your work?

Paul Virilio: These concepts are important quite simply because I am an urbanist. Thus the whole of my work is focused on geopolitics and geostrategy. However, a second aspect of my work is movement. This, of course, I pursue through my research on speed and on my study of the organization of the revolution of the means of transportation. For me, then, territory and movement are linked. For instance, territory is controlled by the movements of horsemen, of tanks, of planes, and so on. Thus my research on dromology, on the logic and impact of speed, necessarily implies the study of the organization of territory. Whoever controls the territory possesses it. Possession of territory is not primarily about laws and contracts, but first and foremost a matter of movement and circulation. Hence I am always concerned with ideas of territory and movement. Indeed, my first book after *Bunker Archeology* was entitled *L'insecurité du territoire* (1976).

CTHEORY: In *Speed & Politics: An Essay on Dromology*, you write of the military and political revolution in transportation and information transmission. Indeed, for you, the speed of the military-industrial complex is the driving force of cultural and social development, or, as you put it in the book, 'history progresses at the speed of its weapons systems.' In what ways do you think that speed politics played a role in the military and political conflict in Kosovo? For instance, was the speed of transportation and information transmission the most important factor in the war? Or, more generally, for you, is the military-industrial complex still the motor of history?

Paul Virilio: I believe that the military-industrial complex is more important than ever. This is because the war in Kosovo gave fresh impetus not to the military-industrial complex but to the military-*scientific* complex. You can see this in China. You can also see it in Russia with its development of stealth planes and other very sophisticated military machines. I am of course thinking here about new planes such as the *Sukhois*. There is very little discussion about such developments but, for me, I am constantly astonished by the current developments within the Russian air force. And, despite the economic disaster that is Russia, there are still air shows taking place in the country. For these reasons, then, I believe that the politics of intervention and the Kosovo war prompted a fresh resumption of the arms race worldwide. However, this situation has arisen because the sovereignty of the state is no longer accepted. This is also why we are witnessing states rushing forward in order to safeguard themselves against an intervention similar to the one that took place in Kosovo. This is one of the most disturbing, if indirect, aspects of the war in Kosovo and one that I discuss at length in my new book. Of course, one of the most disturbing features is the fact that while we have had roughly a ten year pause in the arms race where a lot of good work was done, this has now come to an end. For what we are seeing at the present time are new developments in anti-missile weaponry, drones, and so on. Thus, some of the most dramatic consequences of the Kosovo war are linked to the resumption of the arms race and the suicidal political and economic policies of countries like India and Pakistan where tons of money are currently being spent on atomic weaponry. This is abhorrent!

CTHEORY: Before we turn to consider the aesthetic aspects of the 'disappearance' of military space and the organization of territory in Kosovo, I would like to ask why it was that in the late 1970s and early 1980s you first began to consider the technological aspects of these phenomena? What was it that prompted you to focus on the technological aspects at that time?

Paul Virilio: Because it was from that time onwards that *real time superseded real space!* Today, almost all-current technologies put the speed of light to work. And, as you know, here we are not only talking about information at a distance but also operation at a distance, or, the possibility to act instantaneously, from afar. For example, the RMA *begins* with the application of the speed of light. This means that history is now rushing headlong into the wall of time. As I have said many times before, *the speed of light does not merely transform the world. It becomes the world. Globalization is the speed of light. And it is nothing else!* Globalization cannot take shape without the speed of light. In this way, history now inscribes itself in real time, in the 'live', in the realm of interactivity. Consequently, history no longer resides in the extension of territory. Look at the US, look at Russia. Both of these countries are immense geographical territories. But, nowadays, immense territories amount to nothing! Today, everything is about speed and real time. We are no longer concerned with real space. Hence not only the crisis of geopolitics and geostrategy but also the shift towards the emergence and dominance of *chronostrategy*. As I have been arguing for a long time now, there is a real need not simply for a political economy of wealth but also for a political economy of speed.

CTHEORY: But what about the cultural dimensions of chronostrategy? For instance, although modernist artists such as Marinetti suggested to us that 'war is the highest form of modern art', Walter Benjamin warned us against the 'aestheticization' of war in his famous essay in *Illuminations* (1968) on 'The Work of Art in the Age of Mechanical Reproduction.' Additionally, in your *The Aesthetics of Disappearance* (1991 1980),

you make several references to the relationship between war and aesthetics. To what extent do you think that the Kosovo War can or should be perceived in cultural or aesthetic terms?

Paul Virilio: First of all, if I have spoken of a link between war and aesthetics, it is because there is something I am very interested in and that is what Sun Tzu in his ancient Chinese text calls *The Art of War*. This is because, for me, war consists of the organization of *the field of perception*. But war is also, as the Japanese call it, 'the art of embellishing death.' And, in this sense, the relationship between war and aesthetics is a matter of very serious concern. Conversely, one could say that religion—in the broadest sense of the word—is 'the art of embellishing life.' Thus, anything that strives to aestheticize death is profoundly tragic. But, nowadays, *the tragedy of war is mediated through technology*. It is no longer mediated through a human being with moral responsibilities. It is mediated through the destructive power of the atomic bomb, as in Stanley Kubrick's film, *Dr Strangelove*. Now, if we turn to the war in Kosovo, what do we find? We find the manipulation of the audience's emotions by the mass media. Today, the media handle information as if it was a religious artifact. In this way, the media is more concerned with what we feel about the refugees and so on rather than what we think about them. Indeed, the truth, the reality of the Kosovo War, was actually hidden behind all the 'humanitarian' faces. This is a very different situation from the one faced by General Patton and the American army when they first encountered the concentration camps at the end of the Second World War. Then, it was a total and absolute surprise to find out that what was inside the concentration camps was a sea of skeletons. What is clear to me, therefore, is that while the tragedy of war grinds on, the contemporary aesthetics of the tragedy seem not only confused but, in some way, suspicious.

CTHEORY: Almost inevitably, reviewers will compare *Strategie de la deception* with your earlier works and, in particular, *War and Cinema: The Logistics of Perception* (1989 1984). Indeed, the very first chapter of the latter book is called 'Military Force is based upon Deception.' Could you summarise the most important developments that, for you, have taken place in the relationship between war, cinema, and deception since you wrote *War and Cinema*?

Paul Virilio: For me, Sun Tzu's statement that military force is based upon deception is an extraordinary statement. But let us start with the title of *War and Cinema*. The important part of the title is not *War and Cinema*. It is the subtitle, *The Logistics of Perception*. As I said back in 1984, the idea of logistics is not only about oil, about ammunitions and supplies but also about images. Troops must be fed with ammunition and so on but also with information, with images, with visual intelligence. Without these elements troops cannot perform their duties properly. This is what is meant by the logistics of perception. Now, if we consider my latest book, *Strategie de la déception*, what we need to focus on are the other aspects of the same phenomenon. For the strategies of deception are concerned with deceiving an opponent through the logistics of perception. But these strategies are not merely aimed at the Serbs or the Iraqis but also at all those who might support Milosevic or Saddam Hussein. Moreover, such strategies are also aimed at deceiving the general public through radio, television and so on. In this way, it seems to me that, since 1984, my book on the logistics of perception has been proved totally correct. For instance, almost every conflict since then has involved the logistics of perception, including the war in Lebanon, where Israel made

use of cheap drones in order to track Yasser Arafat with the aim of killing him. If we look at the Gulf War, the same is also true. Indeed, my work on the logistics of perception and the Gulf War was so accurate that I was even asked to discuss it with high-ranking French military officers. They asked me: 'how is it that you wrote that book in 1984 and now it's happening for real?' My answer was: 'the problem is not mine but yours: you have not been doing your job properly!' But let us link all this to something that is not discussed very often. I am referring here to the impact of the launch of the television news service CNN in 1984 or thereabouts. However, what I want to draw your attention to is CNN's so-called 'Newshounds.' Newshounds are people with mini-video cameras, people who are continually taking pictures in the street and sending the tapes in to CNN. These Newshounds are a sort of pack of wolves, continually looking for quarry, but quarry in the form of images. For example, it was this pack of wolves that sparked off the Rodney King affair a few years ago in Los Angeles. Let us consider the situation: a person videos Rodney King being beaten up by the cops. That person then sends in the footage to the TV station. Within hours riots flare up in the city! There is, then, a link between the logistics of perception, the wars in Lebanon and the Gulf as well as with CNN and the Pentagon. But what interests me here is that what starts out as a story of a black man being beaten up in the street, a story that, unfortunately, happens all the time, everywhere, escalates into something that is little short of a war in Los Angeles!

CTHEORY: In *The Vision Machine* (1994 1988) you were concerned with highlighting the role of the military in the 'contemporary crisis in perceptive faith' and the 'automation of perception' more broadly. Has the Kosovo War led you to modify your claims about the role of the military in the contemporary production and destruction of automated perception via Cruise missiles, so-called 'smart bombs' and so on?

Paul Virilio: On the contrary. The development and deployment of drones and Cruise missiles involves the continuing development of the vision machine. Research on Cruise missiles is intrinsically linked to the development of vision machines. The aim, of course, is not only to give vision to a machine but, as in the case of the Cruise missiles that were aimed at Leningrad and Moscow, also to enable a machine to deploy radar readings and pre-programmed maps as it follows its course towards its target. Cruise missiles necessarily fly low, in order to check on the details of the terrain they are flying over. They are equipped with a memory that gives them bearings on the terrain. However, when the missiles arrive at their destination, they need more subtle vision, in order to choose right or left. This, then, is the reason why vision was given to Cruise missiles. But in one sense, such missiles are really only flying cameras, whose results are interpreted by a computer. This, therefore, is what I call 'sightless vision', vision without looking. The research on vision machines was mainly conducted at the Stanford Research Institute in the US. So, we can say that the events that took place in the Kosovo War were a total confirmation of the thesis of *The Vision Machine*.

CTHEORY: Let us turn to vision machines of a different variety. To what extent do you think that watching the Kosovo War on TV reduced us all to a state of *Polar Inertia* (1999 1990), to the status of Howard Hughes, the imprisoned and impotent state of what you call 'technological monks'?

Paul Virilio: There can be no doubt about this. It even held true for the soldiers involved in the Kosovo War. For the soldiers stayed mostly in their barracks! In this way, polar inertia has truly become a *mass phenomenon*. And not only for the TV audiences watching

the war at home but also for the army that watches the battle from the barracks. Today, *the army only occupies the territory once the war is over*. Clearly, there is a kind of inertia here. Moreover, I would like to say that the sort of polar inertia we witnessed in the Kosovo War, the polar inertia involving 'automated war' and 'war-at-a-distance' is also terribly weak in the face of terrorism. For instance, in such situations, any individual who decides to place or throw a bomb can simply walk away. He or she *has the freedom to move*. This also applies to militant political groups and their actions. Look at the *Intifadah* in Jerusalem. One cannot understand that phenomenon, a phenomenon where people, often very young boys, are successfully harassing one of the best armies in the world, without appreciating their freedom to move!

CTHEORY: Jean Baudrillard infamously argued that *The Gulf War Did Not Take Place* (1995 1991). Could it be argued that the Kosovo War did not take place?

Paul Virilio: Although Jean Baudrillard is a friend of mine, I do not agree with him on that one! For me, the significance of the war in Kosovo was that it was a war that moved into space. For instance, the Persian Gulf War was a miniature world war. It took place in a small geographical area. In this sense it was a local war. But it was one that made use of all the power normally reserved for global war. However, the Kosovo War took place in orbital space. In other words, war now takes place in 'aero-electro-magnetic space.' It is equivalent to the birth of a new type of flotilla, a home fleet, of a new type of naval power, but in orbital space!

CTHEORY: How do these developments relate to Global Positioning Systems (GPS)? For example, in *The Art of the Motor* (1995 1993), you were very interested in the relationship between globalization, physical space, and the phenomenon of virtual spaces, positioning, or, 'delocalization.' In what ways, if any, do you think that militarized GPS played a 'delocalizing' role in the war in Kosovo?

Paul Virilio: GPS not only played a large and delocalizing role in the war in Kosovo but is increasingly playing a role in social life. For instance, it was the GPS that directed the planes, the missiles and the bombs to localized targets in Kosovo. But may I remind you that the bombs that were dropped by the B-2 plane on the Chinese embassy—or at least that is what we were told—were GPS bombs. And the B-2 flew in from the US. However, GPS are everywhere. They are in cars. They were even in the half-tracks that, initially at least, were going to make the ground invasion in Kosovo possible. Yet, for all the sophistication of GPS, there still remain numerous problems with their use. The most obvious problem in this context is the problem of landmines. For example, when the French troops went into Kosovo they were told that they were going to enter in half-tracks, over the open fields. But their leaders had forgotten about the landmines. And this was a major problem because, these days, landmines are no longer localized. They are launched via tubes and distributed haphazardly over the territory. As a result, one cannot remove them after the war because one cannot find them! And yet the ability to detect such landmines, especially in a global war of movement, is absolutely crucial. Thus, for the US, GPS are a form of sovereignty! It is hardly surprising, then, that the EU has proposed its own GPS in order to be able to localize and to compete with the American GPS. As I have said before, sovereignty no longer resides in the territory itself, but in the control of the territory. And localization is an inherent part of that territorial control. As I pointed out in *The Art of the Motor* and elsewhere, from now on we need two watches: a wristwatch to tell us what time it is and a GPS watch to tell us what space it is!

CTHEORY: Lastly, given your analyses of technology and the general accident in recent works such as *Open Sky* (1997 1995), *Politics of the Very Worst* (1999 1996) and *The Information Bomb* (2000 1998), what, for you, is the likely prospective critical impact of counter measures to such developments? Are there any obvious strategies of resistance that can be deployed against the relentless advance of the technological strategies of deception?

Paul Virilio: Resistance is *always* possible! But we must engage in resistance first of all by developing the idea of a *technological culture*. However, at the present time, this idea is grossly underdeveloped. For example, we have developed an artistic and a literary culture. Nevertheless, the ideals of technological culture remain underdeveloped and therefore outside of popular culture and the practical ideals of democracy. This is also why society as a whole has no control over technological developments. And this is one of the gravest threats to democracy in the near future. It is, then, imperative to develop a democratic technological culture. Even among the elite, in government circles, technological culture is somewhat deficient. I could give examples of cabinet ministers, including defense ministers, who have no technological culture at all. In other words, what I am suggesting is that the hype generated by the publicity around the Internet and so on is not counter balanced by a political intelligence that is based on a technological culture. For instance, in 1999, Bill Gates not only published a new book on work at the speed of thought but also detailed how Microsoft's 'Falconview' software would enable the destruction of bridges in Kosovo. Thus it is no longer a Caesar or a Napoleon who decides on the fate of any particular war but a piece of software! In short, the political intelligence of war and the political intelligence of society no longer penetrate the technoscientific world. Or, let us put it this way, technoscientific intelligence is presently insufficiently spread among society at large to enable us to *interpret* the sorts of technoscientific advances that are taking shape today.

Ecole Speciale d'Architecture, Paris.

CTHEORY editors would like to thank Paul Virilio for participating in this CTHEORY interview, John Armitage for conducting and editing the conversation, and Patrice Riemens for translating the interview.

Bibliography

1. Baudrillard, Jean. *Seduction*. New York: St. Martin's Press, 1991.

2. Baudrillard, Jean. *Symbolic Exchange and Death*. London: Sage, 1993.

3. Baudrillard, Jean. *Simulacra and Simulation*. Sheila Glaser, trans., Minneapolis: University of Minnesota Press, 1995.

4. Baudrillard, Jean. *Passwords*. Chris Turner, trans., London: Verso, 2003.

5. Baudrillard, Jean. *The Spirit of Terrorism*. Chris Turner, trans., London: Verso, 2003.

6. Baudrillard, Jean. *The Vital Illusion*. Julia Witwer, ed., New York: Columbia University Press, 2001.

7. Deleuze, Gilles and Guattari, Félix. *Anti-Oedipus: Capitalism and Schizophrenia*. Robert Hurley, trans., Minneapolis: University of Minnesota Press, 1985.

8. Deleuze, Gilles and Guattari, Félix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Brian Massumi, trans., Minneapolis: University of Minnesota Press, 1987.

9. Marinetti, Filippo Tommaso. *Marinetti: Selected Writings*. New York: Farrar Straus & Giroux,

1972.

10. Marinetti, Filippo Tommaso. *The Futurist Cookbook*. Suzanne Brill, trans., Bedford: Bedford Arts, 1989.

11. Merleau-Ponty, Maurice. *Phenomenology of Perception*, trans. Colin Smith, London: Routledge & Kegan Paul, 1962.

12. Merleau-Ponty, Maurice. *The Structure of Behavior*, trans. A.L. Fisher, Boston: Beacon University Press, 1967.

13. Tschumi, Bernard. *Event-Cities*. Cambridge: MIT Press, 1994.

14. Tschumi, Bernard. *Architecture and Disjunction*. Cambridge: MIT Press, 1996.

15. Tschumi, Bernard. *Event-Cities 2*. Cambridge: MIT Press, 2001.

16. Tschumi, Bernard. *Glass Ramps/Glass Wall: Deviations from the Normative*. London: Architectural Association, 2001.

17. Virilio, Paul. *Popular Defense and Ecological Struggles*. New York: Semiotext(e), 1990.

18. Virilio, Paul. *The Aesthetics of Disappearance*. New York: Semiotext(e), 1991.

19. Virilio, Paul. *Lost Dimension*. New York: Semiotext(e), 1991.

20. Virilio, Paul. *The Vision Machine*. Bloomington: Indiana University Press, 1994.

21. Virilio, Paul. *Bunker Archeology: Texts and Photos*. George Collins, trans., Princeton: Princeton Architectural Press, 1994.

22. Virilio, Paul. *The Art of the Motor*. Julie Rose, trans., Minneapolis: University of Minnesota Press, 1995.

23. Virilio, Paul. *Speed and Politics: An Essay on Dromology*. New York: Semiotext(e), 1986.

24. Virilio, Paul. *Open Sky*. Julie Rose, trans., London: Verso, 1997.

25. Virilio, Paul and Lotringer, Sylvère. *Pure War*. New York: Semiotext(e), 1998.

26. Virilio, Paul. *The Virilio Reader*. James Der Derian, ed., London: Blackwell, 1998.

27. Virilio, Paul. *Polar Inertia*. London: Sage, 1999.

28. Virilio, Paul. *Politics of the Very Worst*. Michael Cavaliere, trans., New York: Semiotext(e), 1999.

29. Virilio, Paul. *A Landscape of Events (Writing Architecture)*. Julie Rose, trans., Cambridge: MIT Press, 2000.

30. Virilio, Paul. *Strategy of Deception*. Chris Turner, trans., London: Verso, 2001.

31. Virilio, Paul. *The Information Bomb*. Chris Turner, trans., London: Verso, 2001.

32. Virilio, Paul. *Crepuscular Dawn*. Sylvère Lotringer, trans., New York: Semiotext(e), 2002.

33. Virilio, Paul. *Ground Zero*. Chris Turner, trans., London: Verso, 2002

34. Virilio, Paul. *Desert Screen: War at the Speed of Light*. Michael Degener, trans., London: Continuum, 2002.

35. Virilio, Paul. *Art and Fear*. Julie Rose, trans., London: Continuum, 2003.

36. Virilio, Paul. *Unknown Quantity*. London: Thames & Hudson, 2003.

37. Virilio, Paul. *Negative Horizon*. London: Athlone Press, 2004.

38. Virilio, Paul and Lotringer, Sylvère. *The Accident of Art*. New York: Semiotext(e), 2004.

1000 YEARS OF WAR

CTHEORY INTERVIEW WITH MANUEL DE LANDA

Manuel De Landa in conversation with: Don Ihde, Casper Bruun Jensen, Jari Friis Jorgensen, Srikanth Mallavarapu, Eduardo Mendieta, John Mix, John Protevi, and Evan Selinger.

Manuel De Landa, distinguished philosopher and principal figure in the "new materialism" that has been emerging as a result of interest in Deleuze and Guattari, currently teaches at Columbia University. Because his research into "morphogenesis"—the production of stable structures out of material flows—extends into the domains of architecture, biology, economics, history, geology, linguistics, physics, and technology, his outlook has been of great interest to theorists across the disciplines. His latest book on Deleuze's realist ontology, *Intensive Science and Virtual Philosophy* (2002), comes in the wake of best-sellers: *War in the Age of Intelligent Machines* (1991), where De Landa assumes the persona of the "robot historian" to bring the natural and social sciences into dialogue vis-à-vis using insights found in nonlinear dynamics to analyze the role of information technology in military history, and *A Thousand Years of Non-Linear History* (1997), where he carves out a space for geological, organic, and linguistic materials to "have their say" in narrating the different ways that a single matter-energy undergoes phase transitions of various kinds, resulting in the production of the semi-stable structures that are constitutive of the natural and social worlds. When Evan Selinger gathered together the participants for the following interview, his initial intention was to create an interdisciplinary dialogue about the latest book. In light of current world events—which have brought about a renewed fascination with De Landa's thoughts on warfare—and in light of the different participant interests, an unintended outcome came about. A synoptic and fruitful conversation occurred that traverses aspects of De Landa's oeuvre.

I. War, Markets & Models

CTHEORY (Mendieta): In these times of "a war against terrorism," and preparing against "bioterrorism" and "germ warfare," do you not find it interesting, telling, and ironic in a dark and cynical way that it is the Western, Industrialized nations that are waging a form of biological terrorism, sanctioned and masked by legal regulations imposed by the WTO and its legal codes, like Intellectual Property Rights (IPR). Would you agree that the imposition of GMO—genetically modified organism—through WTO, NAFTA, and IMF, on the so-called developing world is a form of "legalized biotech and biological" terrorism? And then, as a corollary, what are the prospects for global justice and equity in light precisely of the yawing gap between developed and underdeveloped nations that is further deepened by the asymmetrical access to technologies like genetic engineering and genomic mapping?

Manuel De Landa: Though I understand what you are getting at I do not think it is very useful to use this label (biological terrorism) for this phenomenon. The point, however, is well taken. The way in which corporations are encroaching around the most sensitive points of the food chain is dangerous: they direct the evolution of new crops from the processing end, disregarding nutritional properties if they conflict with industrial ones; the same corporations which own oil (and hence fertilizers and herbicides) also own seed companies and other key inputs to farming; and those same corporations are now transferring genes from one species to another in perverse ways (genes for herbicide resistance transferred from weeds to crops). When one couples these kind of facts with the old ones about the link between colonialism and the conversion of many world areas into food supply zones for Europe (from the creation of sugar plantations to the taking over of the photosynthetically most active areas of the world by Europe's ex-colonies) we can realize that this state of affairs does have consequences for equity and justice. The key point is not to oversimplify: the Green Revolution, for example, failed not because of the biological aspect, but because of the economic one: the very real biological benefits (plants bred to have more edible biomass) could only be realized under economies of scale and these have many hidden costs (power concentration, deskilling of workforce) which can offset the purely technical benefits. The question of Intellectual Property rights is also complex. We should be very careful how we deal with this, particularly considering many of us bring old moral clichés ("private property is theft") into the debate without being aware of it. I believe this issue needs to be handled case by case (to solve the inherent conflict between lack of accessibility and incentive to create). For example, I am completely opposed to the patenting of genes but not of gene products, like proteins.

CTHEORY (Mix): In *War in the Age of Intelligent Machines* you discuss the German *Blitzkrieg* of WWII in relation to a synergistic tactic that unified air and ground troops. If we return to this time period, it becomes noteworthy to highlight that the synergy fell apart when the machinery, specifically the ground forces (i.e. tanks, jeeps, personnel transports, etc.) broke down and the soldiers manning them could not get them operational, and were forced to get mechanics to do the repairs, or else hope that the supply lines were kept open to bring in replacement vehicles. By contrast, many of the American G.I.s were "grease monkeys" and could easily repair their own vehicles. Since many of the components of the ground vehicles were interchangeable, they could scavenge usable pieces from damaged equipment, therein being able to fix problems on the spot and remain operationally mechanized. My question is: Because

contemporary military technology is built on principles that the average G.I. is not familiar with (i.e. the compatibility between the standard engine and military ground vehicles no longer exists), do you think that the benefits of the war machine will be outstripped by the lack of serviceability that probably will arise in the field under combat conditions? Do you think that we should be training our soldiers differently or do you think that we should modify the technologies they use?

De Landa: One of the themes of the *War* book was the tendency of military organizations to get "humans out of the loop." Throughout the book (and in my only live lecture to the military) I have very strongly criticized this, urging for the lowering of decision-making thresholds so that soldiers in the field with access to real time information have more power to make decisions than their superiors at the Pentagon. (This theme, of course, goes beyond the military to any kind of centralized decision-making situation, including economic planning.) The problem you raise is, I believe, related to this. If all technological decisions are made centrally without thinking of issues of maintenance in the field, and if there is no incentive for field soldiers to become "grease monkeys" or "hackers," the army that results is all the more brittle for that. Flexibility implies that knowledge and know-how are not monopolized by central planners but exist in a more decentralized form.

CTHEORY (Protevi): *War in the Age of Intelligent Machines* came out in 1991, just at the time of Operation Desert Storm. Do you see any noteworthy developments in the integration of information technology and artificial intelligence into US security / military operations from the time of Desert Storm, through Afghanistan and the Second Gulf War? I have two particular areas I would ask you to comment on: (1) developments in what you call the Panspectron in surveillance; and (2) the use of the robot drone plane to kill 6 suspected al-Qaida members in Yemen: is this a decisive step forward in your history of the development of autonomous killer machines, or is it just more of the same, that is, AI as an adjunct, without true executive capabilities? Finally, do you see any utility to the claim (a variation on the old "technological imperative" idea) that, among many other factors in the Bush Administration, certain elements of the Pentagon support the war campaign as providing a testing ground for their new weapons systems?

De Landa: I do not see the threshold I warned against (the emergence of predatory machines) as having been crossed yet. The drone plane was being remotely guided, wasn't it? At the level of surveillance I also fail to see any dramatic development other than a quantitative increase in computing power. What has changed is the direction that the migration of "intelligence" into weapons has taken, from the creation of very expensive smart bombs to the use of GPS-based cheap equipment that can be added to existing dumb bombs. I am not sure the Pentagon has a hidden agenda for testing their new weapons but I do think that it has been itching for a war against Iraq for years before 9-11, in a similar way they were itching for one during the Cuban missile crisis in the 60's. It was tough for Kennedy to resist them then, and so Bush had very little chance to do it particularly because he has his own family scores to settle.

CTHEORY (Mix): Medieval archers occupied the lowest rung of the military hierarchy. They were looked down upon and thought of as completely expendable, not only because the archers were mostly untrained peasants, but also in part because the equipment they used was quite ineffectual. At the level of military ethos, one could say that the archer lacked the romantic stature of the knight because their style of combat was predicated on spatial distance—shooting from far away seemed cowardly, whereas face-to-face

sword combat had an aura of honor to it. The situation changed for the English, however, due to the introduction of the long bow (a development that was materially dependent on the availability of the wood in the region, the yew trees). Years of training were invested in teaching the English archers to use this weapon with deadly effectiveness. Consequently, their stature increased, and for the first time, pride could be taken in being an archer. Today, some critics charge that using unmanned drones is cowardly because it involves striking at a distance. We can thus see the situation as somewhat analogous to the arrow let loose by the Medieval archer. My question is: Will the drones let loose by servicemen ever lose their stigma in the same way as the English archers did? Clearly, the drones like the English archers proved to be successful in battle. And yet, the image of the drone controlled by a serviceman does not evoke the same humanity as the embodied Englishman.

De Landa: I agree that in military history questions of "honor" have always influenced decisions to adopt a particular weapon. And distance per se was not always the main reason: early rifles were not particularly liked due to their increased precision, and the practices this led to (the emergence of snipers) were seen as dishonorable. Yet, once Napoleon had changed the paradigm from battles of attrition to battles of annihilation harassing the enemy via snipers became quite acceptable. Even more problematic was the effect of the rifle and the conoidal bullet in changing traditional hierarchies as infantry could now defeat artillery, forcing the latter to hide behind defensive positions (a hiding which must have carried a bit of stigma at first but that went away fast). I think the use of drones will only be seen as problematic from the "honor" point of view for a very short time.

CTHEORY (Mallavarapu): In your work you challenge anthropomorphic and anthropocentric versions of history. What implications does this have for politics in an increasingly militarized world? More specifically, is there a danger of the idea of self-organizing systems being used to justify and celebrate increasing militarization and the growth of so-called "free market" economies?

De Landa: I'll begin with the latter. Theories of self-organization are in fact being used to explain what Adam Smith left unexplained: how the invisible hand is supposed to work. From a mere assumption of optimality at equilibrium we now have a better description of what markets do: they take advantage of decentralized dynamics to make use of local information (the information possessed by buyers and sellers). These markets are not optimizing since self-organizing dynamics may go through cycles of boom and bust. Only under the assumption of optimality and equilibrium can we say "the State should not interfere with the Market." The other assumption (of contingent self-organization) has plenty of room for governments to intervene. And more importantly, the local information version (due to Hayek and Simon) does not apply to large corporations, where strategic thinking (as modeled by game theory) is the key. So, far from justifying liberal assumptions the new view problematizes markets. (Let's also remember that enemies of markets, such as Marx, bought the equilibrium assumption completely: in his book *Capital* he can figure out the "socially necessary labor time," and hence calculate the rate of exploitation, only if profits are at equilibrium). Now, the new view of markets stresses their decentralization (hence corporations do not belong there), and this can hardly justify globalization which is mostly a result of corporations. And similarly for warfare, the danger begins when the people who do not go to war (the central planners) get to make the decisions. The soldiers who do the actual killing and dying are never as careless as that.

CTHEORY (Selinger): On a number of occasions, we have discussed different aspects of computer modeling. In fact, you just brought up the topic of modeling in connection with war-games. I remain unclear on the following. To what extent should we use evidence from computer modeling in artificial societies to get us to rethink traditional notions about human behavior? For example, the standard metaphor that is used is to think about mass violence is contagion; this is because the violence seems to spread so quickly from person to person and neighborhood to neighborhood. Yet, Joshua Epstein's simulation of artificial genocide suggests that the view that a collective mind (or some sort of infectious hysteria) underlies mass violence is illusory, perhaps even folk psychological. Specifically, his work suggests that the origin of genocide might be a series of individual decisions whereby people turn violent as a result of their responses to local conditions. Thoughts?

De Landa: All models, by definition, simplify things. Contagion models can be very useful to study certain propagation effects, whether these are fads, fashions or ideas. Can they also be useful to study the propagation of affect? We can't tell in advance. What is important to see is that even if they turn out to be useless to study violence that does not affect their usefulness in other areas. Also, contagion models differ in the detail with which they portray agency, from completely mechanical models with no agency at all (a homogeneously socialized population) to models in which some form of virtual agent is included. But the key problem is that no one agrees what agency is: must it include some form of rational choice, and if so optimizing or satisfying rationality? Should all psychological effects be eliminated and only inter-subjective effects taken into account? How socialized and obedient should we assume agents to be, and should these qualities be modeled as homogeneously or heterogeneously distributed? Most of these issues have nothing to do with computers and will haunt any modeling effort however informal.

CTHEORY (Selinger): You have often questioned what is at stake, socially, politically, and conceptually, when intellectuals engage in criticism. Simply put, you are all too aware of the ease by which putatively "Critical Theorists" are easily swayed by dogmatic convictions and too readily cognitively stymied by uncritical presuppositions. One might even say that in so far as you characterize yourself as a philosopher—even if in the qualified sense of a "street philosopher" who lacks official credentials—you believe that it is the duty of a philosopher to be critical. By contrast, some of the more avant-garde STS theorists seem—albeit perhaps only polemically and rhetorically—to eschew criticism. For example, Bruno Latour's latest writings center on his rejection of criticism as an outdated mode of thought that he associates with iconoclasm. He clearly sets the tone for this position in *We Have Never Been Modern* in connection with acknowledging his intellectual debt to Michel Serres, and he emphasizes it in *Pandora's Hope*, *War of the Worlds*, and *Iconoclash*. Succinctly put, Latour claims that for six reasons ideology critique (which he implicitly associates with normative critique as such) is a faulty and patronizing form of analysis: (1) ideology critique fails to accurately capture how, why, and when power is abused, (2) ideology critique distorts how authority comes to be overly esteemed, (3) ideology critique imputes "extravagant beliefs" onto whatever group is taken to be oppressed, (4) ideology critique leaves the group that is perceived to be oppressed without adequate grounds for liberation, (5) ideology critique distorts the relation between critic and the object of criticism, and (6) ideology critique accusatively "destroys a way of arguing." What do you think of this position?

De Landa: First of all, I agree that the labels "critical" and "radical" have been overused. In the last analysis one should never apply these labels to oneself and wait for history to decide just how critical or radical one's work really was (once its consequences have been played out). Latour's problem seems to be more with the concept of "ideology" than that of "critique," and in that I completely agree: to reduce the effects of power to those of creating a false consciousness is wrong. But here is where the real problem is, since one cannot just critique the concept of "ideology," the real test of one's radicality is what one puts in its place. Or, to put it differently, how one re-conceptualizes power. And here one's ontological commitments make all the difference in the world. Can a realist like myself trust a theory of power proposed by a non-realist, for example? Can a realist ever believe in a theory of power developed, for example, by an ethnomethodologist, when one is aware that for that person everything is reducible to phenomenological experience? The same point applies to normativity: if one is a realist defending a particular stance will depend on developing a new ethics, not just critiquing old moralities. Here a Spinozian ethics of assemblages that may be mutually enhancing versus those that are degrading may be the solution, but developing this idea will also imply certain ontological commitments (to the mind-independent reality of food and poison, for example).

CTHEORY (Jensen): A similar question could be raised in relation to your work on markets and anti-markets. In contrast to *Empire* by Hardt and Negri, which explicitly hopes to have a political impact, your position is much less straightforwardly normative. If, in a realist vein, you take your analysis to be descriptive, how then do you think people might act to reap the benefits of your description?

De Landa: No, not at all. Remember first of all that a realist never settles for a mere description. It is explanation that is the key and the latter involves thinking about real mechanisms which may not be directly observable (or describable). The disagreement with *Empire* is over the mechanisms one postulates and the details of their workings. I do not accept the Marxist version of these mechanisms (neither those through which markets are supposed to operate nor those for the State) and believe the Marxist version leads to practical dead ends regardless of how ready to be used in social interventions the analysis seems to be. (To be blunt, any idea for social intervention based on Marxism will be a failure). I do take normative positions in my books (such that decentralization is more desirable than centralization for many reasons) but I also realize than in an ethics of nourishing versus degrading assemblages real-life experimentation (not *a priori* theorization) is the key. To use an obvious example from environmental ethics: a little phosphorous feeds the soil; too much poisons it. Where exactly the threshold is varies with type of soil so it cannot be known *a priori*. But the normative statement "do not poison the soil" is there nevertheless. Similarly for society: too much centralization poisons (by concentrating power and privilege; by allowing corruption; by taking away skills from routinized command-followers etc.) but exactly how much is to be decided by social experiments, how else?

II. Competing Ideologies & Social Alliances

CTHEORY (Protevi): *A Thousand Years of Nonlinear History* (1997) and your talk "A New Ontology for the Social Sciences" (2002) propose a "nested set" of individual entities in a "flat ontology." Like all your works, both pieces use nonlinear dynamical

concepts to discuss the morphogenesis of these individuals. However, your social ontologies seem largely to begin with adults as their lowest level, notwithstanding some mention of children in the section on linguistics in *A Thousand Years of Non-Linear History* (norm-learning and creolization). Do you avoid discussing child development, about which a lot of research has been done using nonlinear dynamics in studying brain development, motor learning, and so forth, simply for space and time constraints, or is there another reason? Would you agree that adding such discussions would be useful in demonstrating several areas of interlocking top-down constraint by family, institutional, civic, national, and perhaps even larger units?

De Landa: The key to the ontology I defend is the idea that the world is made out of individual entities at different levels of scale, and that each entity is the contingent result of an individuation process. Clearly, and despite the fact that I have ignored it so far, the individuation of a social agent during childhood, and even the biological individuation of an adult organism in that same period, are two crucial processes. Without these social and biological individuations we would not be able to account for adult individuals. If I placed less emphasis on this it is because through the work of Freud and Piaget (and others) we have a few models of how these processes could be conceived, but we have much less insight on how institutional organizations or cities individuate (in fact, the very problem is ignored in these two cases since both those entities are conceptualized as structures not as individuals). I will get to the questions you raise in due time, when I finally tackle the question of subjectivity. At this point in time, when everyone seems obsessed with the question of subjective experience at the expense of everything else, it seems the priorities must be reversed: account for the less familiar forms of individuation first, returning to our own psyches later.

CTHEORY (Selinger): In Chapter 4 of *Intensive Science and Virtual Philosophy* you discuss the implications that acknowledging the notion of "quasi-cause" brings with regard to the debates surrounding the D-N model of explanation. As is well-known, in the context of "modifying" and "supplementing" Hempel and Oppenheim's account, Mary Hesse argues that scientific explanation is metaphoric. Specifically, by appropriating Max Black's Interaction account of metaphor, Hesse claims that scientific explanation is a metaphoric redescription of the domain of the explanandum. In this account, it is not only metaphoric to say that "class struggle is the motor of history," but also to say that "gases are collections of randomly moving massive particles." Using the terms 'metaphor' and 'model' synonymously, one of Hesse's main points is that although scientific (unlike, she claims, poetic) metaphors must resemble what they refer to (which is why the history of science is filled with failed metaphors e.g. heat fluid or the classical wave theory of light), they are not strictly identical either. To this end, do you view the concepts you appropriate from complexity theory to be metaphors? If so, what does this mean to you?

De Landa: Well, although I do not question the idea that metaphors play a role in scientific thought I certainly do not think this role is central. In the book of mine you mention I make it very clear that a mathematical model is not just a formal version of a linguistic metaphor. Not to approach mathematics in its own right, reducing it to logic or to semiotics, seems to me the main error in most accounts of physics. (Remember that I do not believe there is such a thing as "science" in general, or a "scientific method" in general, so my remarks now apply only to physics). The key ideas of complexity theory (the ideas of "attractor" and of "symmetry-breaking bifurcation") come from real properties

of mathematical models. They are not just linguistic "concepts." And more importantly, they have turned out to be properties of many different models, that is, they are independent of the specific mechanisms in which they are actualized. It is this "mechanism-independence" which makes it promising they will be useful elsewhere (in social science, for example) since this independence may be evidence of a deeper isomorphism underlying very different processes. Deleuze's conception of the "virtual" is precisely an attempt to think this underlying reality.

CTHEORY (Selinger): What, then, is your account of reference? How does it relate to Deleuze's claim in the *Logic of Sense* that: "The genius of a philosophy must first be measured by the new distribution which it imposes on beings and concepts"?

De Landa: Unlike Hesse, I'm interested in the question of how reference is established non-discursively. So instead of metaphor, topological isomorphism is more important for a Deleuzian realist. In *Difference and Repetition* Deleuze starts with Foucault's analysis of the Cartesian episteme as having four dimensions—similarity, identity, analogy and contradiction (opposition). Deleuze sets out to create a philosophy that does not use any of these four dimensions, except as derivative concepts. He uses the concept of intensity to develop a new way of theory of difference. Deleuze is moving away from similarity—resemblance is the enemy for him. For Deleuze, there is a virtual entity that is topological and as realists we have a commitment to it. To return to the soap bubble example—it is an example of a single equilibrium obtained by minimizing surface tension. A salt crystal is another example obtained by the minimizing of bonding energy. Both are actualizations of the same topological point even though they have no resemblance to one another: one is a cube and the other a sphere. Topological isomorphisms are fine when we talk about soap bubbles and salt crystals, but what about society? Deleuze's book on Foucault is in my opinion the best application of these ideas to society.

CTHEORY (Mallavarapu): To ask a related question... In your introduction to *War in the Age of Intelligent Machines*, you take care to point out that your use of the idea of self-organization is "more analogical than mathematical." What are the problems and possibilities that arise from the use of analogies from chaos science to describe social phenomena?

De Landa: That remark is a disclaimer to draw attention to the fact that one does not have the legitimate right to postulate an "attractor" until one has some mathematical evidence one may be lurking there. (This, by the way, does not imply possession of a formal model. One can infer the presence of an attractor from an analysis of time series, such as those we have for production prices in economics, or voting patterns in political science). The remark in that book was to the effect that I did not model warfare either directly or through time series. That's the only way one can use these ideas non-metaphorically. (Then, of course, one has to show evidence that the actual physical or social system has an attractor by giving it a push, for example, injecting some energy or spending some money, and checking whether the system returns to its previous state after a while).

CTHEORY (Ihde): I would like to raise two questions that are organized around a single theme. (1) While it is fashionable these days to be "posthuman" or anti-anthropological, I remain curious about what would motivate such moves? If the problem is that all positions imply some sort of "metaphysics" and "humanism" in a postmodern

era shows its implicit humanist bias as linked to early modern epistemology, isn't a counter-move just as likely to have similar "metaphysical" tones? (2) Similarly, is a post-human position possible? and if so, what would its advantages be? It seems to me, in spite of efforts to the contrary, that even the most rigorous scientific claims imply the human since they have to be made in language and/or shown in perceivable images. (3) And, finally, while I deeply appreciate your moves to show that wholes and non-linear processes are more complex and richer than older notions of totality and linearity, isn't a move to notions of "self-organization" also just as metaphysical as earlier notions?

De Landa: First of all, the questions here are not so much "metaphysical" (a word which seems to have become an insult losing all its real content) as ontological. When one is not a realist, when one operates within an ontology of appearances, for instance, any claim about a mind-independent reality is labeled as "metaphysical" (as an insult). But of course, one can turn the insult around and call all Continental philosophy "metaphysical" as the logical positivists did. Either way it's all a waste of time. The real question is whether it is legitimate to have an "anthropocentric ontology", that is, to draw the line between the real and the non-real by what we humans can directly observe. What makes our scale of observation, in space or time, so privileged? Why should we believe in the Mississippi river (as Andrew Pickering does) but not in oxygen or carbon (as he does not)?. Why should we study things in "real time" (that is, at our temporal scale) instead of at longer periods (to capture the effect of "long durations")? I have always thought the word "post-human" is very silly and never used it. It is not a matter of a "post" here, but a matter of getting rid of all the non-realist baggage that is slowing us down, such as the Humean view of causality (as observed constant conjunction) instead of thinking of causes as real relations in which one event produces another event. The fact that in order to communicate these ideas one must use language is not an excuse to retreat to an idealist ontology. At the end of the day, Pickering is not a "post-humanist." It takes guts to say that oxygen does not exist, as someone coming from the constructivist tradition like Pickering does. But then I want to know: What happens then to the table of elements and the surrounding theories that allow us to predict how oxygen behaves and manipulate it? I'm willing to concede that quarks might have a questionable epistemological status, but what about electrons? As Ian Hacking says, if we can spray them, they are real. We have proof of the electrons in front of us in the television set. Both the positivists and the constructivists who are traditionally seen as having nothing in common with one another end up somehow assuming that only the observable is the real: the Mississippi is real, while oxygen is seen as having a problematic epistemological status. The underlying problem with these positions is that they are anthropocentric; they are limited to what we can see as human observers. What about telescopes and microscopes? They open up realms to us that we cannot verify through unmediated observation.

CTHEORY (Ihde): I agree with you here that we have to take technologically mediated ways of seeing into account. In my version of instrumental realism, experience is mediated through technology. This is why I differ from my phenomenological predecessors. I am critical of the subjectivist position that limits itself to individual experience.

De Landa: I don't want to say that human experience is not real, but you cannot make it the entire context of your ontology. This is what I find happening, often implicitly, in a wide variety of theoretical positions. The question of time that Pickering raises is also significant here. Pickering advocates a "real-time" approach to studying emergence that is limited precisely because it is anthropocentric.

CTHEORY (Ihde): This formulation makes Pickering seem like Bas van Fraassen, the analytic philosopher of science whose views on "constructive empiricism" limited his commitment to truth to that which is observable.

De Landa: Of course he wouldn't like to be characterized that way, but there is some truth to it. My point is that every filmmaker knows that there are non-real time phenomena. For example, shoot one frame every hour in front of a budding flower and play it back faster the next day. Or shoot hundred frames per second of a bullet hitting a target and slowing it down. A broader time scale is required which is not limited to the human time scale of observation.

CTHEORY (Ihde): But doesn't the film example essentially show how time can be translated into what we can see, what is visible for us?

De Landa: Again, the point that I am trying to make is that we should not privilege the viewpoint of the human observer. We need to acknowledge that realism is about what is out there, irrespective of whether we see it or not. Deleuze is interested in exteriority and assemblages, the relationship between bodies, not individual subjectivity. Deleuze is such a daring philosopher because he creates a non-essentialist realism. Once you divorce ontology from epistemology, you cannot be an essentialist.

CTHEORY (Mallavarapu): To return to the epistemological status of oxygen, could we not tell a Latourian story of competing networks (oxygen and phlogiston), with one network (oxygen) winning over the other because it is able to mobilize a larger set of allies in a complex network including human and non-human actants? It then makes sense to say that oxygen exists on the basis of the strength of the network.

De Landa: The story of competing networks seems much more fruitful when one looks at controversial science, science which is emerging. I'm also concerned about how network theories often amount to stories of competing ideologies and social alliances, even though I'm aware that Latour does include a lot of non-human elements in his actor-network theory. Latour acknowledges Deleuzian influences on his work, but it is hard to pin down where exactly he stands with regard to Deleuzian realism. In any event, a realist would certainly not be comfortable attributing the existence of oxygen to the outcome of network interactions.

CTHEORY (Jorgensen): In light of this answer, I would like to pose two questions that bring your work further into dialogue with Latour. One of your main claims associated with this call for a new ontology is that there are no essences—at least as traditional philosophy defines them. Rather, you insist that ontological analysis should focus on historically constituted, individual entities that operate on different scales, but yet still interact to form wholes. To account for these emerging wholes, you argue that the interaction between the groups of individual entities has to be accounted for. To some extent, this approach resembles Latour's style of investigation, according to which the analyst is required to give an account of the different actants being studied, and their relations, in order to give an account of the network they constitute. Can you elaborate on this connection?

De Landa: The claim I make (similar to the one Roy Bhaskar makes) is that to be ontologically committed to emergent wholes is to assert that these wholes have causal powers of their own. (And these cannot be Humean causes but real causes). It is not just a matter of examining a network of interacting causal agents, but of also showing

the emergent whole is a causal agent on its own. I do not know what Latour's position relative to causal relations is, but without a realist account of causality his work and mine can only be superficially related.

CTHEORY (Jorgensen): You continually stress the need to conceptualize wholes without appealing to traditional notions of totality. Indeed, you argue that the historical processes that give rise to the wholes have to be laid out by analysts who are interested in the problem of becoming. My question concerns stabilization, the moment when something becomes a whole. When something becomes a whole, such as an institution or a city, you might then say it becomes a "black box." Can you elaborate on the relation between individual entities, interaction, and emergent wholes in relation to Latour's theory of blackboxing?

De Landa: Blackboxing is something we humans do when we do not understand the mechanism through which an effect was produced, but do not wish to be bothered by that. For many purposes it is enough to understand that if something comes in as input, then we will always get this output (regardless of whether we know exactly how). Most claims in social science (to the extent that they do not specify concrete mechanisms) are of the blackbox type. So are many in the physical sciences (Newton basically blackboxed the mechanism through which gravity acts at a distance). Many scientists in their laboratories have no idea how exactly their tools work (they know the inputs and outputs only) so these tools are blackboxes. To the extent that we do not know the mechanisms through which organizations or cities operate, they are blackboxes. But as a realist, since I refuse to remain at the level of description and demand explanations, I have to open as many blackboxes as I can. I have to give accounts in terms of mechanisms. I believe that Deleuze "machinic" philosophy is partly about that: opening black boxes and understanding their inner machinery.

CTHEORY (Selinger): Getting off the topic of Latour... A few weeks ago I heard Stephen Wolfram give a lecture based on his book *A New Kind of Science*. There was a performative element to this talk which I found striking. Unlike the recent STS work on distributed cognition and distributed expertise, Wolfram reveled in depicting himself as essentially an isolated researcher who spent more time contacting historians of science and technology than current practitioners. This narrative served as the rhetorical basis for his claim to be a renegade scientist who inaugurated a paradigm shift. Have you read this recent book or any of his published material? If so, do you find his claims about cellular automata and complexity theory to correlate with unique insights on his part, or is it more the case that he is synthesizing ideas that have been well-known to researchers in the field of complexity theory for some time?

De Landa: Though I have not read his recent book, I think his claims have to be wildly exaggerated. In fact, it would seem that each famous scientists in this field would want his own theory or model to be the center of it all. Ilya Prigogine wants everything to be "order through fluctuations"; Roy Bhaskar wants it all to be about self-organized criticality (his sand piles with fractal avalanches); Stuart Kauffmann wants it all to be about "the edge of chaos", and now of course Wofram wants it all to be about this one CA rule. To me this denies the basic insight of nonlinearity, its plurality of effects. Enrico Fermi once said that to speak of "nonlinear mathematics" made as much sense as to speak of "non-elephant zoology." In other words, the dichotomy linear-nonlinear is a false one: there are many nonlinear effects and linear ones are one special case of it (so the word nonlinear should eventually disappear). Whenever one opposes chaos and linearity one

is bringing back the dichotomy. And so one does when one favors one particular phenomenon at the expense of the large variety of others. Wolfram has done very good work (classifying cellular automata, for example) and his claim to have discovered a special rule is probably serious. But so are the claims by the other scientists I just mentioned.

CTHEORY (Mix): Considering how much of your work focuses on computers, it seems appropriate to end this section by bringing up an Internet oriented question. In your essay "Markets and Anti-Markets in the World Economy" you follow Fernand Braudel in analyzing the flow of capital towards and away from "universal warehouses," defined as dominant commercial centers where one can purchase "any product from anywhere in the world." You not only note that historically cities such Venice, Amsterdam, London, and New York have served this function, but you further suggest that we may be: (1) "witnessing the end of American supremacy" and (2) that Tokyo may be the next "core." In this age of advanced Internet use, when one can now shop for global goods and services from almost any city of origin, how important is it to think in "warehouse" terms?

De Landa: The preeminence of the cities you mention was always contingent on the speed of transport: for as long as sea transport was faster than by land, not only goods but people and ideas flowed faster and accumulated more frequently in maritime metropolises. But the advent of steam motors (and the locomotive) changed that relation, allowing landlocked capitals (such as Chicago) to become universal warehouses. Hence, any technology that changes the speed of the circulation of goods and information (the internet plus Federal Express) will have an effect like this, maybe even making cities irrelevant as accumulation centers.

III. "I think Marxism is Deleuze and Guattari's little Oedipus, the small piece of territory they must keep to come back to at night after a wild day of deterritorializing." (Manuel De Landa, CTHEORY Interview)

CTHEORY (Selinger): My question here concerns your sense of the value of phenomenological analysis. Deleuze was a staunch critic of phenomenology. He saw it as a subjective style of philosophy that reduced the plane of immanence to that which appears for consciousness. However, I recently found a reference that struck me as interesting in light of your work. In order to explain to those who are not familiar with self-organizing processes how essences are created, you point to how it is not possible to explain the coming into being of the spherical form of a soap bubble with appealing to "endogenously-generated stable states." In other words, without appealing to the science of self-organization, it is impossible to explain how the essence of "soap-bubbleness" is *not* constituted by way of an ideal geometric form imposing itself upon an inert collection of molecules from the outside (i.e. hylomorphic schema). Let me use this example to initiate a dialogue with phenomenology. In Maurice Merleau-Ponty's early work, *The Structure of Behavior*, he tries to explain how an organism's preferred mode of behavior is constituted, such that what is experienced as "the simplest" and "most natural" is that mode of behavior that gives the organism a feeling of balance and facility. Merleau-Ponty writes:

> Is the orientation toward these preferred modes of behavior comparable to the formation of a spherical soap bubble? In the latter case, the external forces exerted on the surface of the soap bubble tend to compress it into a

> point; the pressure of the enclosed air on the other hand demands as large a volume as possible. The spherical solution which is realized represents the only possible solution to this problem of minimum and maximum. Can it be said in the same way that the preferred modes of behavior of an organism are those which, in the *de facto* conditions in which it finds itself, objectively offer the greatest simplicity and the greatest unity?

In his article, "The Current Relevance of Merleau-Ponty's Phenomenology of Embodiment," Hubert Dreyfus claims that Merleau-Ponty responds to this latter query in the affirmative:

> The bubble starts as a deformed film. The bits of soap just respond to the local forces according to laws which happen to work so as to dispose the entire system to end up as a sphere, but the spherical result does not play any causal role in producing the bubble. The same holds for the final gestalt of body and racket in my example. Indeed, I cannot represent how I should turn my racket since I do not know what I do when I return the ball. I may once have been told to hold my racket perpendicular to the court, and I may have succeeded in doing so, but now experience has sculpted my swing to the situation in a far more subtle and appropriate way than I could have achieved as a beginner following this rule.

What do you think of the phenomenological appeal to the self-organized process of a soap-bubble in order to explain the relation between perception and skill acquisition? Do you think that this example suggests there may be a richer relationship between phenomenology and Deleuzeian ontology?

De Landa: There have been many people who have tried to come up with some kind of "soap bubble" explanation for aspects of human behavior: the bubble minimizes surface tension, so we "minimize effort" or something like that. This is fine with me as long as it is clear this is just a hypothesis that needs testing. But to assume that there is some "law" that everything in the world must be governed by a "least principle" is wrong. (It assumes the only virtual multiplicities are those characterized by a single steady-state singularity). It very well may be that aspects of the stability of perceptual fields do in fact depend on least principles (or steady-state stability: the famous Necker Cube or the duck-rabbit illusion of Wittgenstein surely indicate our vision can jump from one to another stable state). But now, is there a way of discovering these stable states from within (phenomenologically)? Or do we have to use psychophysics and other disciplines (neural networks, for example, which do use steady states) in order to approach the question? And, at any rate, why only steady states, why not periodic or other singularities? And why a unique one (as in the soap bubble) as opposed to a multiplicity with broken-symmetry levels (to account for the fact that our experience changes if we ingest alcohol, or psychedelics)?

CTHEORY (Ihde): I agree. I have long been critical of Merleau-Ponty's interpretation of Necker Cubes vis-à-vis my notion of multistability. Like a number of psychologists, Merleau-Ponty mistakenly thinks that the reversibility of the cube is what is unique about the cube. In my version of phenomenology, the structures of perception are best discovered through variational method; this allows one to investigate the whole range of possibilities from those of ordinary sediments to the most extreme horizontal possibilities.

CTHEORY (Jensen): A different but related question arises from the fact that even though you take your analysis to be realist, this does not delimit the interpretive flexibility of readers—that is, their abilities to take your accounts as supporting their specific projects regardless of whether you would approve of that use or not. For instance, in a recent talk at Duke, Zizek invoked your understanding of Deleuze as the only correct one. Nevertheless, my feeling is that his psychoanalytically informed way of evaluating the correctness and plausibility of Deleuzian interpretations, including yours, is something you would vehemently oppose. As you espouse the idea of a "correct understanding," how do you think about and/or handle readers who misunderstand or otherwise misuse your work?

De Landa: Well, it would all have to be handled case by case. As long as Freud can be taken to have given us a process of individuation (via the Oedipal drama) his ideas fit the ontology I propose. A philosopher can only specify that a historical individuation process must be given but not what exactly those processes are (which is a question for the specialists). The part of Freud where he gives an account of personal individuation may be right or wrong in reality, but it is compatible with my ontology. The part where he attempts to define society as a kind of projection from these mental structures violates the ontology: institutional organizations and norms are individuated following another real historical process and are not just mental projections. So that part has to be rejected. A similar treatment would have to be given for each concrete individual entity. Now, to the extent that many proposed processes are compatible with the basic ontology (while they may be incompatible with one another) there can be many interpretations of it. Yet this does not mean any reading will be compatible: I still wonder how a phenomenologist would find my ideas compatible or even useful.

CTHEORY (Protevi): *Intensive Science and Virtual Philosophy* accepts Deleuze's use of axiomatics to analyze major or Royal science. Yet you are critical of Deleuze and Guattari's use of axiomatics as a way to conceptualize capitalism (e.g., *ATY* 331n7), which you see as an example of a top-down positing of a whole. I certainly would agree with you that far too much Marxist work has been simplistic, historical determinist, reductive, totalizing, functionalist, top-down, etc., but I wonder if you aren't being too harsh with Deleuze and Guattari's attempts to define a theory of capitalism that avoids each of these dangers? They certainly adopt a notion of "machinic surplus value," moving beyond a simple labor theory of value (machines as "congealed muscular energy," as you put it at *ATY* 79). Don't they also consistently deny any historical determinism of stages of development by emphasizing the contingency of capitalist formations, as well as conduct a sustained polemic against reductive base-superstructure models of society? Don't their constant reminders that the line of flight is primary prevent any totalizing accounts? Isn't their use of axiomatics an attempt to see capitalism as an adaptive meshwork of economic, state and quasi-state (IMF, WTO, etc.) institutions, rather than as a homeostatic organismic whole, as in crude functionalist accounts? In other words, haven't they, at least in principle, given us the outlines of a bottom-up account of a complex, open-ended, adaptive world capitalist system?

De Landa: I agree that if I had to choose among all the Marxist accounts of economic history I would probably pick theirs. It does have all the advantages you mention. Yet, I believe they would have benefited greatly from a better reading of Braudel. They seemed to have read only volume one of his history of capitalism and not the other two volumes, which are really the most radical part. This is clear when in *A Thousand Plateus* in one page they quote Braudel's stress on the role of cities and yet in the very next page Deleuze and Guattari go on to define capitalism as a "market economy",

an idea which Braudel attacks as historically false. So I wonder what would have happened to their theory had they understood the last point: that there is no such thing as "the market" in general and no such thing as a "logic of exchange" in general (doesn't the idea of a capitalist axiomatic depend on the idea of a logic of exchange?). Once we separate oligopolies from the market (they are strategic not primarily exchangist entities) and identify capitalism with oligopolies (as Braudel does) we can still use some of Deleuze and Guattari's ideas since markets have always caused "lines of flight" to pass among societies, particularly closed societies (it's in the marketplace that we meet outsiders; that foreign objects and ideas enter a city; that heterogeneity is injected etc).

CTHEORY (Protevi): Yes, you're completely right that Deleuze and Guattari overlook Braudel's distinction between market and anti-market and use an abstract sense of capitalism as a "market economy" whereby "market" means "any exchange system whatsoever, whether it is composed of atomic producers and consumers who must act as price-takers (the Braudelian sense of 'local market') or whether it is composed of producers and consumers with varying degrees of power to be price-setters (the Braudelian sense of 'anti-markets')." Even though it's sometimes hard to make that distinction clearly all the time (for instance, when you say in your answer "it's in the marketplace that we meet outsiders; that foreign objects and ideas enter a city" I think Braudel would attribute this to long-distance trade dominated by anti-market corporations, even if it occurs in the same physical location as local market exchanges), I agree we should by all means incorporate that distinction into our analysis of the economies (note the plural) operating today worldwide. Here the neo-Marxist notions of formal and real subsumption (roughly speaking, the relations between capitalist and non-capitalist economies, and the tendency of the former to replace the latter) would have to be brought to bear, notions that Hardt and Negri use often in *Empire*. (Just to be clear before I continue: I completely agree with you in everything you say about Marx himself in the 19th century being wed to equilibrium analyses, about the complete bankruptcy of top-down and centralized social and economic planning, about the necessity of using non-linear analyses of economic processes that show the inadequacy of equilibrium and optimizing models, and so forth.) Here is my question to you: I wonder if Deleuze and Guattari ignore the Braudelian distinction because, like Marx, they locate the important element to be examined in capitalism to be production rather than exchange? Recapitulating what they say in both *Anti-Oedipus* and *A Thousand Plateaus*, what they call in *What is Philosophy?* "Marx's concept of capitalism" is the conjunction of the deterritorialized flows of labor and capital, and these meet in production, not in exchange.

De Landa: Well, no, not really. I agree that the dichotomy "market/antimarket" does give that impression, hence I probably won't use it again. But the same distinction applies to production: it's the difference between economies of scale and economies of agglomeration. That is, between oligopolies using managed prices, routinized labor, hierarchical structure, vertical integration etc. and networks of small producers using market prices, skilled labor, decentralized structure and functional complementarities. You must remember the study that compares Silicon Valley and Route 128 as production systems (mentioned in *A Thousand Years of Nonlinear History*) or what I have written about Emilia-Romagna. Braudel (and Jane Jacobs following in his steps) places a great emphasis on this distinction (though he does not use the terms) and views it as applying across history for at least a millennium (hence economies of agglomeration would not be a late stage of capitalism as some Marxists have tried to argue using the term "flexible specialization" or the ridiculous one of "post-Fordism") but an alternative to economies of scale (also much older than the Industrial Revolution) which has been there for a while.

CTHEORY (Protevi): What about the emphasis on production as the key ontological concept in *Anti-Oedipus* (the whole world, nature and humans together, is composed of interlocking series of connected machines that produce materials that are fed into other machines)?

De Landa: This is correct. I myself add to this when I attack the Humean notion of causality (as perceived constant conjunction) and define it as a real connection in which one event *produces* another event. And more generally, when I stress that to get rid of essences one must always give the intensive process of production that yields any individual entity (atoms, organisms or commodities). Intensive thinking in general is about production.

CTHEORY (Protevi): From this productivist perspective (which I think is amenable to a nonlinear dynamics analysis of the material and energy flows that keep the open production systems far-from-equilibrium), the key issue is the productive conjunction of capital and labor (here machinic surplus value vitiates a pure labor theory of value), whether or not the products of that labor flow into markets or anti-markets. And the key to coercing labor into exploitative production processes is to threaten the production of labor power with interruption of the flows that sustain it.

De Landa: Well, but the same point applies here: the conjunction of capital and labor can take place in different forms (scale, agglomeration) and it is clear that only the economic power of the former allows the kind of threat of withdrawal you are talking about: only if a firm is very capital intensive (large machines, large start-up costs functioning as barriers to entry) and if the process is based on routinization (the less skills a worker brings the less bargaining power he/she will have when it comes to set wages) can this form of coercion work. I am not saying that power relations are absent from networks of small producers but there the ability of workers to bargain for a fair wage (particularly if unions exist) is much greater and the permeability of the division between classes is greater too (if a typical firm has less than 100 employees and it is not capital intensive, it's much easier for a motivated, creative worker to start his/her own business). The point is that all of this is obscured (if not made invisible) by the blanket concept of "capitalism." As to theories of value: we need to go beyond the very notion of surplus value. (It's not enough to simply add the "machinic" type to escape the labor theory). Why just adding machines to "abstract labor" (read, routinized labor)? Why not also fossil fuels, starting with coal? And what of knowledge, skills and organizational procedures? And then, the main defect of labor theory here is to include supply factors and not demand factors, but the latter also matter, and so marginalist approaches to this side of the equation must be added. (Over the objections of Marxists who would rather die than include bourgeois marginalism in a theory of value).

CTHEORY (Protevi): Okay, but even if the shift from an exchangist to a productivist perspective doesn't work for you, does it at least seem to you a fruitful way of explaining Deleuze and Guattari's tenacious loyalty to (some suitably modified) form of Marxist analysis, as well as their insistence on a systematicity to capitalist production? Or do we have to change so much in Marx to reach what Deleuze and Guattari say in analyzing things that their insistence on calling what they do a form of Marxism simply the result of their social position in the "gauchiste" (non-Communist) left of France in their lifetimes? In other words, their Marxism is a way of thumbing their noses both at neo-liberals and at party loyalists?

De Landa: Well, frankly, I think Marxism is Deleuze and Guattari's little Oedipus, the small piece of territory they must keep to come back at night after a wild day of deterritorializing. Who could blame them for needing a resting place, a familiar place with all the reassurances of the Marxist tradition (and its powerful iconography of martyrs and revolutionaries)? The question is whether we need that same resting place (clearly we need one, but should it be the same? Shouldn't each of us have a different one so that collectively we can eliminate them?). I believe that the main task for today's left is to create a new political economy (the resources are all there: Max Weber, T.B. Veblen and the old institutionalists, John Kenneth Galbraith, Fernand Braudel, some of the new institutionalists, like Douglass North; redefinitions of the market, like those of Herbert Simon etc) based as you acknowledged before, on a non-equilibrium view of the matter? But how can we do this if we continue to believe that Marxists got it right, that it is just a matter of tinkering with the basic ideas? At any rate, concepts like "mode of production" do not fit a flat ontology of individuals as far as I can tell. But then, this is the part of my reconstruction of Deleuze that I am the least sure he would accept: in *Difference and Repetition* he cheerfully talks about the "virtual multiplicity of society" (using Marx as his example, of course) a term I would never use (since my ontology explicitly rejects totalities like "society as a whole").

CTHEORY (Mallavarapu): In your new book *Intensive Science and Virtual Philosophy*, you point out Deleuze's relevance not just to continental philosophy but to analytical philosophy as well. There have been significant differences between continental and analytical approaches to fundamental epistemological questions. This has formed the background to the so-called "Science Wars" debates between the realists and social constructivists. Does the Deleuzian concept of materiality offer a way out of the Science War debates?

De Landa: Absolutely. You have to remember that constructivists have more in common with scientists (who are positivists, not realists) than with realists. Larry Laudan has explored the ways in which relativism (of any type) overlaps with positivism. Both make heavy use of conventions; both ignore mathematics and focus on language etc. Deleuze offers an alternative to both of them, and in my view, allows us to rescue the objectivity of science without accepting the myth of its achievements. (For example, we can accept that classical physics did get it right, within a limited sphere of reality, but not that it discovered the eternal laws of the universe).

CTHEORY (Jensen): Finally, a question about your way of reading Deleuze about which it could be argued, rightly, I think, that it is highly selective. Deleuze, of course, wrote at great length about Kafka, Proust, and numerous other writers. He also wrote two books on cinema. And he has been received with considerably more interest in American literature departments than in their philosophical counterparts. But to you Deleuze's discussions of self-organization, the differential calculus, morphogenesis, and other scientific concepts and ideas have been much more consequential than his invocation of artistic ones. Can you elaborate on your way of reading Deleuze and its almost unilateral stress on aspects of his works relating to the natural sciences rather than the arts? How do you think these aspects hang together? And, finally, could it not be argued that your systematic selectivity is imposing on the Deleuzian corpus an interpretation, which not only could but *effectively would* have been quite different if other aspects of his work had been emphasized at the expense of those of your preference?

De Landa: I agree that my reading of Deleuze is highly selective. The idea was: once we

know how his world works (a virtual space becoming actual via intensive processes) aren't we in a much better position to understand the other parts? For example, in the theory of memory he takes from Bergson, one does not retrieve a memory trace from the brain, one literally jumps to another space (the virtual with its own always-past temporality). Now, without a realist ontology this would be a useless theory (if there is no virtual space where do we jump to?). But isn't it the same with his other uses of Bergson (e.g. in the Cinema books)? Or take for example his affirmation that all great art involves a becoming-animal of one sort or another. What would this mean if we cannot say what in reality these becomings are? (They are transformations not of organisms, like werewolves, but of the virtual multiplicities underlying the organisms). Or take the line of flight (also called the quasi-causal operator): this is the entity that builds the plane of consistency out of multiplicities. But without this definition (and the rest of the ontology) could we understand what it means to follow a line of flight in painting or music?

Bibliography

Braudel, Fernand. *On History*, trans. Sarah Matthews, Chicago: University of Chicago, 1982.

Braudel, Fernand. *The Perspective of the World: Civilization and Capitalism 15th-18th Century*, trans. Sian Reynolds, University of California Press, 1992.

Braudel, Fernand. *A History of Civilizations*, New York: Penguin, 1995.

De Landa, Manuel. *War in the Age of Intelligent Machines,* New York: Zone Books, 1991.

De Landa, Manuel. *A Thousand Years of Non-Linear History,* New York: Zone Books, 1997.

De Landa, Manuel. *Intensive Science and Virtual Philosophy,* New York: Continuum, 2002.

De Landa, Manuel. "Markets, Anti-Markets, and Network Economics." <http://www.telefonica.es/fat/edelanda.html#delandapaper>

Deleuze, Gilles. *Cinema I: The Movement Image*, trans. Hugh Tomlinson and Barbara Habberjam, Minneapolis: University of Minnesota Press, 1986.

Deleuze, Gilles. *Foucault*, trans. Sean Hand, Minneapolis: University of Minnesota Press, 1988.

Deleuze, Gilles. *Cinema II: The Time Image*, trans. Hugh Tomlinson and Barbara Habberjam, Minneapolis: University of Minnesota Press, 1989.

Deleuze, Gilles. *The Logic of Sense*, trans. Mark Lester with Charles Stivale, New York: Columbia University Press, 1990.

Deleuze, Gilles. *Difference and Repetition*, trans. Paul Patton, New York: Columbia University Press, 1994.

Deleuze, Gilles and Guattari, Félix. *Kafka: For a Minor Literature*, trans. Dana Polan, Minneapolis: University of Minnesota Press, 1986.

Deleuze, Gilles and Guattari, Félix. *A Thousand Plateaus*, trans. Brian Massumi, Minneapolis: University of Minnesota Press, 1987.

Deleuze, Gilles and Guattari, Félix. *What is Philosophy?* trans. Hugh Tomlinson and Graham Burchell, New York: Columbia University Press, 1994.

Dreyfus, Hubert. "The Current Relevance of Merleau-Ponty's Phenomenology of Embodiment." *The Electronic Journal of Analytic Philosophy* 4: Spring 1996.

Hacking, Ian. *Representing and Intervening,* Cambridge: Cambridge University Press, 1983.

Hacking, Ian. *The Social Construction of What?* Cambridge: Harvard University Press, 1999.

Hardt, Michael and Negri, Antonio. *Empire,* Cambridge: Harvard University Press, 2000.

Hesse, Mary. *Revolutions and Reconstructions in the Philosophy of Science,* Bloomington: Indiana University Press, 1980.

Ihde, Don. *Technology and the Lifeworld*, Bloomington: Indiana University Press, 1990.

Ihde, Don. *Instrumental Realism,* Bloomington: Indiana University Press, 1991.

Ihde, Don. *Expanding Hermeneutics: Visualism in Science,* Evanston: Northwestern University Press, 1998.

Ihde, Don. *Bodies in Technology,* Minneapolis: University of Minnesota Press, 2002.

Ihde, Don and Selinger, Evan. *Chasing Technoscience: Matrix for Materiality*, Bloomington: Indiana University Press, 2003.

Latour, Bruno. *Science in Action*, Cambridge: Harvard University Press, 1987.

Latour, Bruno. *The Pasteurization of France,* Cambridge: Harvard University Press, 1998.

Latour, Bruno. *We Have Never Been Modern*, trans. Catherine Porter, Cambridge: Harvard University Press, 1993.

Latour, Bruno. *Pandora's Hope: Essays on the Reality of Science Studies,* Cambridge: Harvard University Press, 1999.

Latour, Bruno. *War of the Worlds: What About Peace?* Chicago: University of Chicago Press, 2002.

Latour, Bruno and Weibel, Peter. *Iconoclash: Beyond the Image Wars in Science, Religion, and Art*, Cambridge, MIT Press, 2002.

Merleau-Ponty, Maurice. *Phenomenology of Perception*, trans. Colin Smith, London: Routledge & Kegan Paul, 1962.

Merleau-Ponty, Maurice. *The Structure of Behavior*, trans. A.L. Fisher, Boston: Beacon University Press, 1967.

Pickering, Andrew. *The Mangle of Practice: Time, Agency, and Science*, Chicago: University of Chicago Press, 1995.

Pickering, Andrew. "In the Thick of Things." Keynote address, conference on "Taking Nature Seriously: Citizens, Science, and Environment," University of Oregon, Eugene, 25-27 Feb 2001.

Protevi, John. *Political Physics,* New York: Athlone Press, 2001.

Wolfram, Stephen. *A New Kind of Science,* Champaign: Wolfram Media Inc., 2002.

DANGEROUS PHILOSOPHY

THREAT, RISK, AND SECURITY

Irving Goh

> "We have seen [the State war machine] set its sights on a new type of enemy, no longer another State, nor even another regime, but the 'unspecified enemy'; we have seen it put its counter-guerilla elements into place, so that it can be caught by surprise once, but not twice… Yet the conditions that make the State or World war machine possible, in other words constant capital (resources and equipment) and human variable capital, constantly recreate unexpected possibilities for counterattack, unforeseen initiatives determining revolutionary, popular, minority, mutant machines. The definition of the Unspecified Enemy testifies to this… 'multiform, maneuvering and omnipresent… of the moral, political, subversive or economic order, etc.,' the unassignable material Saboteur or human Deserter assuming the most diverse forms."
>
> Deleuze and Guattari[1]

> "We plan a comprehensive assault on terrorism. This will be a different kind of conflict against a different kind of enemy. This is a conflict without battlefields or beachheads, a conflict with opponents who believe they are invisible."
>
> George W. Bush[2]

> "Words can be turned against me."
>
> Jean Baudrillard[3]

Questions of Philosophy

If Deleuze and Guattari were to write and publish their philosophy of the nomadological war machine today, in the still dark light of the omnipresent retaliatory and aggressive political discourse that has emerged from the ruins of September 11, would their philosophy have a chance? And given that there is always the risk of an

irresponsible reading, i.e., a reading that chooses to omit, conceal, ignore, forget, gloss over, critical premises of an argument or concept, would not the "unspecified enemy," which is also the very real and somewhat invisible ("real and nonactual"[4]) nomadological war machine in Deleuze and Guattari's philosophy, be terribly and terrifyingly misread as terrorist material? In that viral vein of misreading, would the text or philosophy of Deleuze and Guattari be also charged to be advocating terrorism and hence a threat to the security of humanity? And consequently, would it also not risk its survivability, its possible public dissemination to a time of reading in the world, since the "comprehensive assault" by the Bush Administration is also committed to inflicting military force on "anybody who houses a terrorist, encourages terrorism"?[5] Is it still able to hold space within all social and/ or academic discourses? Or will it have to burrow space, move only in subterranean fashion by creating holey spaces? And even so, will it still risk itself being flushed out by "smart" thermobaric bombs—"They run to the hills; they find holes to get in. And we will do whatever it takes to smoke them out and get them running, and we'll get them"?[6] Taking away the innocent chronotropic distance between the present "time of terror"[7] and the time of Deleuze and Guattari's writing, should the reading of Deleuze and Guattari's philosophy be rejected today? Put in another way, would a contemporary philosophical counterpart of the nomadological war machine be possible today?

All these questions would not be limited only to Deleuze and Guattari's philosophy. A reactive or reactionary (mis)reading of Deleuze and Guattari's philosophy would also incriminate other philosophies, if not generate a domino effect of witch-hunting of philosophies, which likewise construct counter-thoughts that refuse to adhere, accede, or surrender to the dominant thought of the State. For instance, Baudrillard would be treading on a thin red line in his recent writing on points of resistances—not unlike the "unspecified enemy"—that strike out against the State's globalizing political, economic, and technological forces.[8] All these questions would be a question of the future possibility of philosophy, really. It would especially be a question of the future of philosophy as mapped out by post-structuralist thinkers like Deleuze and Guattari, Derrida, Baudrillard, Virilio, etc., who, after Nietzsche, would like thought to be actively combative, would like the invention of philosophical concepts and their heterogeneous interpretations from the outside to cross-swords, not allowing thought to uncritically accept any monolithic interpretation of the world, especially that of the State.[9]

We will not forget to make clear that the questions posed in the beginning are still entirely hypothetical. Philosophy has not (yet) been interrogated of its risk or apparent threat to hinge toward or to appear to be in proximity with a discourse made to belong to terrorism by the State. Baudrillard's essay has not been the target of counter-terrorism. What could a text of philosophy in-itself, a mere philosophical argument, do, in any actuality of action, anyway, *really*? The right of philosophy, or the right to philosophy, has not yet been questioned. The hypothetical scenario depicted hence—the confrontation of politics and philosophy—is a pre-emptive strike indeed. But what is pre-emptive is most often times instigated by an imminent circumstance (an understanding of the pre-emptive shared by political discourse as manifest in the Iraq war of 2003, but surely employed with different means and justifications). In other words, the questioning of the right of philosophy and the right to philosophy by politics remains nonetheless a possibility, an approaching eclipse, given the political climate of the present time. Furthermore, there is no longer any consolation or security in being a hypothesis today either. What is a hypothesis is now also a target. "9/11 showed that threats hitherto belittled as wild speculations or hypothetical dangers of the remotest possibility are

realistic, indeed actual."[10] Philosophy, in this wait for an imminent repression if not suppression,[11] would be experiencing something of a state of emergency—under siege in its own space, under curfew, movement (to the) outside prohibited. This surely would not be unlike the experience of some of us when compelled to make the decisive non-choice of "either you are with us [the State war machine of the US], or you are with the terrorists,"[12] when none can choose, *really* choose, to be in-between, not thinking in line with either. Would philosophy likewise be coerced to abdicate and make a decision from such a non-choice, in order to have a space in the real world for its present survivability and for its future?

The sense is that there is no security for philosophy, at the outside, that is. We cannot rely on an anachronistic Kantian belief in the political practitioner to think that "the theorist's abstract ideas […] cannot endanger the state," that it is "safe to let [the philosopher] fire off his whole broadside, and the *worldly-wise* statesman need not turn a hair."[13] We cannot have stubborn faith in the "saving clause," whereby the "practical politician" "must not claim […] to scent any danger to the state in the opinions which the theorist has randomly uttered in public."[14] No matter how philosophy is written in "correct and proper style," there is no fortress to safeguard "against all malicious interpretation."[15] There will always be the real threat of philosophy, especially the philosophy of counter-thought, being misread, e.g. misread as a threat, on paper. That is the risk of philosophy, the risk of the dissemination of philosophy. It is a risk that philosophy must take, though. A philosophy like Deleuze and Guattari's nomadological war-machine must continue to be written, even though it presents or it risks being mis-re-presented as a risk, a threat, to the security of global politics and its discourse. Only then will philosophy secure itself a future. Only by risking being a threat to a dominating and homogenizing political discourse, risking a war with the State, risking being a threat to itself henceforth, will philosophy think anew an armature of counter-thoughts to resist any monolithic dominant thought and its contemporary modifications that seek to veil its nonetheless fascistic determinations. That is what we will argue here, through a (re)reading Deleuze and Guattari's *Nomadology*[16] today: that philosophy, as a thought-projectile such as the nomadological war machine, remains necessary, remains necessary to be read, re-read, and written, despite its imminent risk and threat of demise, so as to secure for itself and the world a future free space of heterogeneous thoughts, so as to secure a space within which every singular thought can be free to think whatever it desires.

Threat/ Risk

Let us say it again: the risk of Deleuze and Guattari's *Nomadology* is that it makes itself very likely to be misread as a trajectory of terrorism because of its counter-State or anti-State posture, and hence a possible threat to its own survivability amidst today's global or international anti-terrorism campaign. Saying it again, that sounds too apologetic. We might not even be hearing philosophy properly. In our apologia of philosophy like that of Deleuze and Guattari's nomadological war machine, we will not hold back. We will not striate ourselves with an apology. That would still constitute much to be remaining in a state of emergency. With a projectile of absolute speed and decisive direction, and hearing nomadology fully in its articulated resonance, we will *just* say: the nomadological war machine is anti-State. Forget about the risk and threat of misreading to philosophy. An understanding of the life-death logic of dissemination, from Derrida, would have braced us for that risk, which is the letting fall

of the text to the outside, at the outside, letting it fall also to misappropriation, to misreading. That risk is but part of philosophy's "artifactuality," such that it paradoxically guarantees its future outside its own spatio-temporal context. We have been prepared for that. What is at stake now is another preparation, another re-reading of Deleuze and Guattari's nomadological war machine today, untimely as it seems to "social responsibility," in order to brace ourselves against another risk, another threat. So, we will *just* say it, for now: the nomadological war machine is a threat to the State.

The nomadological war machine is a threat to the State because it refuses to abdicate the freedom of thought to the State. It refuses to submit thinking to a function of the State. With regards to thought, the State limits it, appropriates it. It regulates thought to a dominant or dominating interpretation. From the point of view of the State, it is best that no thought deviates from the dominant one issuing from the State. From the point of view of the State, it is even better that the political, economic, and techno-scientific "progress" of the State be left unthought by the subjects of the State, left archived only by the State as its grand narrative.[17] "Thought as such is already in conformity with a model that it borrows from the State apparatus, and which defines for it goals and paths, conduits, channels, organs, an entire *organon*."[18] All thoughts would have to end with the State, or the ends of thoughts should find itself in service for the State. (We can read this in the case of the present Bush Administration's relation with the think-tank Project for the New American Century (PNAC) as revealed by the BRussells Tribunal.[19]) In other words, the State would have had captured thought, first creating for itself a captivating image that reaches out to the masses, which then arrests all autonomous and heterogeneous thinking in place for that singular image-thought of and by the State. And it would be within thought that the State creates for itself, and for the spectacle for (the fixation of) its subjects, an image which grounds itself as the necessary foundation of the territory's sovereignty—"operating by magical capture, seizure or binding, constituting the efficacity of a foundation"—and which binds peoples together—"a republic of free spirits proceeding by pact or contract, constituting a legislative and juridical organization, carrying the sanction of a ground."[20] It is as such that it seduces the masses into a captivating thought—an *easy thought*, a thought without labor, whereby the security of the sovereignty of the (thoughts of) peoples within the sovereignty of their spaces are given to the State. The economy of such capture of thought gives the State as if a universal right, as if its thought, discourse, and action are a categorical universal law, carved in stone on an imperial obelisk at the center of State's territory. "Indeed, by developing in thought in this way the State-form gains something essential: an entire consensus. Only thought is capable of inventing a fiction of a State that is universal by right, of elevating the State to the level of the universality of law."[21] With the capture of thought, the State gains "to be sanctioned by it as the unique, universal form."[22] And consequently, by an apparent appeal to the mass consensus, it is able to outlaw any form of counter-thought and fragment the community by separating those with deviant thought-trajectories: "the State becomes the sole principle separating rebel subjects […] from consenting subjects, who rally to its form of their own accord."[23] All these are still rigorously evident today, whereby the State war machine of the US takes itself to be the *de jure* international force of law against terrorism, as if given all rights to categorize other states as either supporters of the anti-terrorism campaign or sympathizers of terrorists, and as if given all rights too to conduct military violence in its own terms against those it deems hospitable to terrorism.

It is critical to note that what the State claims to be its "consenting subjects" are not exactly "free spirits" however, even though some of them claim to be thinkers or innovators within the State's territory. There is in fact no real freedom of thought for them:

"The State does not give power (*pouvoir*) to the intellectuals or conceptual innovators; on the contrary, it makes them a strictly dependent organ with an autonomy that is only imagined."[24] To not to resist the dominant thought of the State, or to believe in the false autonomy of thought, would be as close as stepping back into the shadows of Plato's cave. The thought that comes from these supposed "free spirits" only disseminates, only repeats, only reproduces the thought of the State. What has happened is in fact only that the State has "deprive[d] them of their [autonomous] model, submits them to its own model, and only allow[ed] them to exist in the capacity of 'technologies' or 'applied science'."[25] This variation on a State thematic only reaffirms the delimitation of the freedom of thought, only reaffirms the gravity of the monolithic thought by the State: "Reproducing implies the permanence of a fixed point of view."[26] It is the permanence of the State's fixed point of view, the permanence of the State even, that is reiterated, in total disregard of *other* heterogeneous thoughts, other points of views.

The nomadological war machine is that which necessarily resists, which escapes the capture of a fixed point of view. It "brings a *furor* to bear against sovereignty."[27] It is for the re-opening of thought to a space of freedom, for the opening of a freedom of thought, for the maintenance of a free space of freedom of thought, that the nomadological war machine exposes and expresses itself as a threat to the State. It becomes anti-State. It "impedes the formation of the State."[28] It carries out war against the State, only because the State has *first* incited it precisely by delimiting thought. It becomes combative against the State only because it wants to wrest the act, the activity, the activeness, of thought back from the stranglehold of the State. Physical combat has never been the primary imperative of the nomadological war machine. It "knows the uselessness of violence."[29] But it acknowledges that it is what thought sometimes inevitably calls for as a necessary praxis. "War is neither the condition nor the object of the war machine, but necessarily accompanies it or completes it."[30] It projects its full force of a war machine against the State only because the task of thinking has to be seriously brought back to a plurality and heterogeneity of thought, which is but the rights of a plural and heterogeneous people. "Because the less people take thought seriously, the more they think in conformity with what the State wants."[31] It is as such that the nomadological war machine conducts war and consequently risks its rhetoric taking on the pose of terrorist material. It does not help, of course, that its modes of movement make easy parallels with those of terrorism. At times, the nomadological war machine moves in stealth, taking on a "social clandestinity."[32] In war, it conducts unconventional warfare—"without battle lines," "making violence durable, even unlimited"—in order to displace the sovereignty of the space of the State—"deterritorialize the enemy by shattering his territory from within; deterritorialize oneself by renouncing, by going elsewhere."[33]

For the nomadological war machine, combat will be a question of the future of the freedom of movement of thought, of the space of heterogeneous thoughts, without needing the homogeneous totality of all thoughts, without needing the enclosed architecture of thoughts within an interior like the State-form. What it fights for is a "thought grappling with exterior forces instead of being gathered up in an interior form, operating by relays instead of forming an image; an event-thought, a haecceity, instead of a subject-thought, a problem-thought instead of an essence-thought or theorem."[34] The nomadological war machine very well knows that its combat with the State is a risk of its having annihilated by the State. An absolute victory against the State is not guaranteed. It risks itself being captured by the State. But for the nomadological war machine,

it is a necessary risk to take, so as to maintain the freedom of a space of thought, to insist on the right to the freedom of thought. The nomadological war machine takes this risk only "to raise or to sharpen the vigilance of the citizens of the world" as Derrida has only recently said, so as to secure the world against the State's delimitation of the free space of heterogeneous thoughts.[35]

Security, and a New International Community?

The free space of a freedom of thought, of heterogeneities, as to be cleared by the nomadological war machine, is not a simple thought however, hence the notion of "problem-thought" to express its force. The problem with the "problem-thought" of the nomadological war machine is that it appears to indeed pose as a threat to the security of existing societal peace. This "problem-thought," contra Habermas, seeks a space that is "anti-dialogue," "affirming [but] a noncommunicating force."[36] It seeks a space that interrupts or fragments speech communities, which commonly presuppose a peace predicated on an accommodation and/ or assimilation of speech acts. That is not to say that the nomadological war machine is anti-community though. Instead, it is always a clearing for an immanence of community whereby singularities come together through the sheer forces of desire, without the requisite of speech even, and hence without negotiating or compromising the full force of a singular thought or speech through accommodation or assimilation. And these singularities would have no dispute with neighboring singularities of differences. Difference, for the nomadological war machine, so long as it does not delimit the Other, never does constitute antagonism. Heterogeneous singularities would still share the same space, without needing any convenient resolving of differences. The maintenance of fragmentality by a "problem-thought" is the resonance of a dissonant community (or perhaps the non-antagonistic dissonance of a resonant community), of a space of "distribution of heterogeneities in a free space."[37] The force of "problem-thought" is but the rhythmics of immanent differences of thought. To wit, the "problem-thought" of the nomadological war machine is "not harmonic."[38] It is not harmonic in the homogenizing way as the State has educated us on the imperatives of communities, but another harmonics whereby rhythmic and dissonant differences remain without being reterritorialized into a totality. For the State, such "problem-thought" would be a block to its efforts of social engineering and peace constructions. But for the nomadological war machine, "the problem is not an 'obstacle,' it is the surpassing of the obstacle, a projection,"[39] a thought-projectile that smashes through any wall of any homogenizing totality. The fragmental "problematic" "involves all manner of deformations, transmutations, passages to the limit, operations in which each figure designates an 'event'" such that the risk of making all thought homogeneous is averted, such that there is always the opening to "a heterogeneous smooth space."[40]

With this "problem-thought" for "a heterogeneous smooth space," we can see that the nomadological war machine is in fact a question also of the security of a future community to come, a community of differences without horizons, a community of a freedom of thought and of a freedom of movement, a new international cosmopolitics, perhaps even what Derrida at several places calls a "democracy to come," a democracy without the requisite of citizenship. The question of a community-to-come lies at the horizon of the nomadological war machine. The nomadological war machine after all "is in its essence the constitutive element of smooth space, the occupation of this space, displacement within this space, *and the corresponding composition of people*: this is its sole and veritable positive object."[41] It works in "social clandestinity," and "attests

to an absolute solitude,"[42] but the smooth space of heterogeneous discontinuities[43] it combats for looks towards "an extremely populous solitude, […] a solitude already interlaced with a people to come, one that invokes and awaits that people, existing only through it, though it is not yet here."[44] It seeks to secure a future free space not only of thought but also the movement of people. "The nomadic trajectory […] *distributes people (or animals) in an open space*, one that is indefinite and noncommunicating. […] It is a very special kind of distribution, one without division into shares, in a space without borders or enclosure."[45]

It is a distribution that is contra globalization therefore, something that we cannot avoid mentioning in any discussion that engages with political, economic, ideological, and even philosophical dissemination on an international spatio-temporal dimension. Globalization, as the politico-economic order of the State—very much the imperial order of the US too—allows only the borderless flow of information, capital, and goods, but not of the movement of people. Rules and regulations of citizenship still bind peoples within territorial limits. At the same time it striates certain people within spaces while it telematically directs transnational economics, State globalization actually delocalizes these spaces, these peoples.[46] Localities have no longer any significance. All thoughts of differences of localities have to be submitted to the technics of a homogenizing real-time of tele-technology. Subsequently, all localities are deterritorialized onto a controlled non-space of hyperspace. Baudrillard calls this "dislocation," an annihilation of "all forms of differentiation and […] difference."[47] Again, the nomadological war machine presents itself as a threat to such simulacrum of globalization[48] by opening a space for the freedom of movement of peoples, securing a space that sustains its points of heterogeneity with other spaces. The nomadological war machine is "the tracing of a creative line of flight, the composition of smooth space and *of that movement of people in that space*."[49] It is always a question of a freedom of movement or "moving" for the nomadological war machine: "the movable […] in smooth space, as opposed to the geometry of the immovable […] in striated space."[50] This seems very much like the operation of globalization we are resisting here already. But (the affects of) the deterritorialization movement of the nomadological war machine moves in special, paradoxical ways. It moves by maintaining the space. It moves but at the same time it "holds space."[51] As such, the nomadological war machine is open to the senses of differences of the space. It movingly dwells, and grows, in the full intensity of locality. The nomadological war machine therefore "does not belong to the relative global, where one passes from one point to another, from one region to another. Rather, he is in a *local absolute* that is manifested locally, and engendered in a series of local operations of varying orientations."[52] With it, "locality is not delimited […] but becomes a nonlimited locality."[53]

It is not difficult to see, along with Baudrillard and Derrida, that delocalization by State globalization incites and gives place to terrorism as a violent response to the indifferent siege of globalization. With globalization, the State in fact makes itself a threat to itself. And when terrorism hits hard at the State, as in September 11, and when the State retaliates with an objective of total annihilation or total war against terrorism, the State fails yet again to take time to reconsider its politico-economic operations, to take time to give critical thought of the heterogeneous *Other* that it has left out at the margins through the speed of delocalization. It becomes a decisive imperative of the State to secure a peace at all cost without any more irruption to its status quo. For this peace, and through the contemporary rhetoric of a "homeland security," it requires all to give up any thought that deviates from that of the State. It is a peace where all

heterogeneity is homogenized into a totality of the thought of the State. "Either you are with us, or you are with the terrorist." Deleuze and Guattari call such peace "a peace still more terrifying than fascist death."[54] This is a peace that is a threat to a space of a freedom of thought, a freedom of movement, and a freedom of difference. It is a threat to the future of a task of thinking, a threat to the right to heterogeneous thoughts. It is for the security of such a space, a future, and a right, that the nomadological war machine risks itself being misread and hence maliciously misinterpreted, risks itself being captured and smoked out by the State, by presenting itself as a threat to the State, by conducting war against the State. That is, to reiterate, the nomadological war machine's risk of philosophy.

In the opening of Kant's essay on "perpetual peace," Kant speaks of a signboard with the words "perpetual peace" inscribed alongside an image of a graveyard. For Kant, it is ambiguous as to "whether it applies to men in general, or particularly to heads of state (who can never have enough of war), or only to the philosophers who blissfully dream of perpetual peace."[55] There is nothing blissful about the nomadological war machine, of course. But perhaps it necessarily has to risk a possible death by a misreading, a malicious interpretation, a State, so that a perpetual peace, whereby the right to a plural and heterogeneous public opinion or interpretation of the world is affirmed without reserve, can be secured. Only when there remains such a chance for a future free space of heterogeneous thoughts in the world then will philosophy be conducting its task as philosophy, the task that secures for philosophy and the world a horizonless possibility of thinking, and the possibility of thinking in difference, *in security*. For this perpetual peace, Kant insists that "the philosopher should be given a *hearing*."[56] Perhaps, in this "time of terror," Deleuze and Guattari's concept of the nomadological war machine, should be once again given an untimely hearing?

Notes

1. *Nomadology: The War Machine*. Trans. Brian Massumi. New York: Semiotext(e), 1986. pp. 119-120.

2. "Radio Address of the President to the Nation." 15 September 2001. www.whitehouse.gov/news/releases/2001/09/20010915.html

3. Jean Baudrillard. "This is the Fourth World War: The *Der Spiegel* Interview With Jean Baudrillard." Trans. Samir Gandesha. *International Journal of Baudrillard Studies*. Vol.1:1. January 2004. p. 5.

4. Deleuze and Guattari. *Nomadology: The War Machine*. p. 117.

5. Remarks by George W. Bush. "President Building Worldwide Campaign Against Terrorism." 19 September 2001. www.whitehouse.gov/news/releases/2001/09/20010919-1.html

6. Remarks by George W. Bush. "President Urges Readiness and Patience." 15 September 2001. www.whitehouse.gov/news/releases/2001/09/20010915-4.html

7. Cf. Giovanna Borradori. *Philosophy in a Time of Terror: Dialogues with Jürgen Habermas and Jacques Derrida*. Chicago and London: University of Chicago Press, 2003.

8. Cf. "The Violence of the Global" (*CTheory*. 20 May 2003. www.ctheory.net): "They do not abide by value judgments or political realities. […] They cannot be 'regularized' by means of a collective historical action. They defeat any uniquely dominant thought. Yet they do not present themselves as a unique counter-thought. Simply they create their own game and impose their own rules. Not all […] are violent. Some linguistic, artistic, corporeal, or cultural [ones] are quite subtle. But others, like terrorism, can be violent." Like Derrida and many other philosophers, even thinkers of counter-thought against the dominant discourse of the State surely, Baudrillard in no place in his essay whatsoever condone the violent acts of the perpetrators of the events of September 11. But he does acknowledge, as Alain Badiou does,

that there is no doubt the "support [terrorists] receive and the fascination they are able to exert."

9. We will not forget Derrida's call for a heterogeneity of interpretations otherwise of dominant ones coming out of political and media discourse in *The Other Heading: Reflections on Today's Europe* (Trans. Pascale-Anne Brault and Michael B. Naas. Intro. Michael B. Naas. Bloomington: Indiana University Press, 1992).

10. Douglas J. Feith. "U.S Strategy for the War on Terrorism." 14 April 2004. www.defenselink.mil/speeches/2004/sp20040414-0261.html

11. We say "repression" because there is indeed a claim for "social responsibility" in such times, a responsibility to be sensitive to the persons, things, and institutions that were destroyed on September 11. There is a call to restrict all discourses such that they will not in any way recall or be in any way reminiscent of the specter of September 11.

12. George W Bush. "Address to a Joint Session of Congress and the American People." 20 September 2001. www.whitehouse.gov/news/releases/2001/09/20010920-8.html

13. Immanuel Kant. "Perpetual Peace." *Political Writings*. Ed. H.S Reiss. Cambridge: Cambridge University Press, 1970. pp. 93.

14. Ibid.

15. Ibid.

16. We will recognize, of course, that the Semiotext(e) publication of *Nomadology* is abstracted from a chapter or "plateau" of Deleuze and Guattari's *A Thousand Plateaus*. We will restrict our discussion in this paper to that "plateau" because that would surely be the most controversial chapter in this context. And hence we will make full use of the Semiotext(e) publication rather than *A Thousand Plateaus*.

17. Cf. Walter Benjamin's "Theses on the Philosophy of History" (in *Illuminations: Essays and Reflections*. Ed. and intro. Hannah Arendt. Trans. Harry Zohn. New York: Schocken Books, 1969. pp. 253-264). Benjamin speaks of the conformist imperative of State-thought (which at the same is denigrative of the thought of the social body) that gives a "conception of the nature of labor [that] bypasses the question of how its products might benefit the workers while still not being at their disposal. It recognizes only the progress of the mastery of nature, not the retrogression of society" (259). In response to the State's grand narrative of "progress," Benjamin himself launches his war machine, calling for a "theoretical armature" (262) of a counter-state-of-emergency such that the homogenized time of that narrative will be "shot through" (263) with shards of heterogeneous, immanent, plural *Jetztzeit*.

18. *Nomadology*. p. 40.

19. See www.brusselstribunal.org 17 April 2004.

20. *Nomadology*. p. 41.

21. Ibid. pp. 41-42.

22. Ibid. p. 42.

23. Ibid.

24. Ibid. p. 30.

25. Ibid. p. 37.

26. Ibid. p. 36.

27. Ibid. p.2.

28. Ibid. p. 13.

29. Ibid. p. 89.

30. Ibid. p. 111.

31. Ibid. p. 44.

32. Ibid. p. 92.

33. Ibid. pp. 4/ 77/ 4.

34. Ibid. p. 47.

35. Jacques Derrida. "For a Justice to Come: An Interview with Jacques Derrida." Trans. Ortwin de Graef. 19 February 2004. www.brusselstribunal.org/pdf/Derrida_EN.rtf

36. *Nomadology*. pp. 46/ 57.

37. Ibid. p. 68.

38. Ibid. p. 67.

39. Ibid. p. 19.

40. Ibid. pp. 19/ 34.

41. Ibid. p. 111. My italics.

42. Ibid. p. 44.

43. Cf. Ibid. p. 95.

44. Ibid. pp. 44-45.

45. Ibid. p. 51.

46. "Delocalization," of course, is Virilio's term for the damaging effect of the technics of tele-technology. See especially *Open Sky* (Trans. Julie Rose. London: Verso, 1997).

47. "The Violence of the Global."

48. Cf. Derrida: "[Globalization] is not taking place. It is a simulacrum, a rhetorical artifice or weapon that dissimulates a growing imbalance, a new opacity, a garrulous and hypermediatized noncommunication, a tremendous accumulation of wealth, means of production, teletechnologies, and sophisticated military weapons, and the appropriation of all these powers by a small number of states or international corporations" (In Giovanna Borradori. *Philosophy in a Time of Terror: Dialogues with Jürgen Habermas and Jacques Derrida*. p. 123).

49. *Nomadology*. p. 120. My italics.

50. Ibid. p. 66.

51. Ibid. p. 62.

52. Ibid. p. 54.

53. Ibid. pp. 54-55.

54. Ibid. p. 119.

55. "Perpetual Peace." p. 93.

56. Ibid. p. 115.

NETWORKS, SWARMS AND MULTITUDES

Eugene Thacker

Mutations in the Body Politic

A question: are we connected because we are collective, or are we collective because we are connected? Another, related question: in the "network society," is it possible to reformat the body politic without resorting to the paradigm of modern sovereignty?

The overarching argument made in this essay is that networks, swarms, and multitudes are examples of mutations in the contemporary body politic. *These mutations are structurally innovative, but politically ambivalent.* In some contexts—such as that of the various anti-globalization movements—they contain the potential to become politically radical. In other contexts—such as that of the diversification of international economic organizations—they become conservative or reactionary.

The mutations of the body politic—networks, swarms, and multitudes—each emphasize certain facets of material politics today: the technological model of networks, the biological model of swarms, and the political model of multitudes. However, when viewed as expressions of a body politic, they also become more than just technological, biological, or political. Networks, swarms, and multitudes are instances in which the very notion of a political body is constantly renegotiated. But the character of this renegotiation harbors an ambivalence within itself. Often, the terms employed are different than, but not necessarily opposed to, those of the tradition of modern sovereignty.

That tradition has been extensively analyzed on a number of fronts. The language of the "social contract" and sovereignty is still with us today, but in a different form. The very notion of a body politic in Hobbes, for instance, posits a strict division between the chaotic, sub-human threat of the "state of nature," and the resulting political order (established by the transfer of rights to the sovereign and the creation of the Commonwealth). This image of the body politic—hierarchical, compartmentalized, and mechanistic—is a model significantly influenced by modern anatomical science (in this sense Vesalius' anatomy text *De Humani Corporis Fabrica* is the scientific corollary to Hobbes' *Leviathan*).[1] To this model we see variations, such as Grotius' juridical formulation of the covenant, Machiavelli's unruly "plebs," Spinoza's "democratic" multitude, and Rousseau's organicist description of the "general will."

In our current context of Empire, the "network society," the "society of control," and so forth, we know that techno-utopianism has its political limits. That the Internet displays a distributed or decentralized topology is not an indicator of the inherently democratic principles of information technology. In fact, in many cases it has had the reverse effect, by canalizing online activity, stifling innovation, "globalizing" access (e.g., WSIS), and generally preventing the concurrence of critical and technical thinking ("don't think, click"). Caught between the extremes of technical innovation and political conservatism, new technologies seem to promise social and political change at the same time that they categorically disable it.

Thus, the major problematic explored in this essay is whether or not the prevalence of networks, swarms, and multitudes signals a set of viable alternatives to the traditions of modern sovereignty, while still expressing a coherence which can critically and radically weave together technology, politics, and "life itself."

Questioning Connectivity, Querying Collectivity

To begin with, let us take two examples of group phenomena. One example is the various forms of collective dissent and protest which has recently been manifested in a wide range of contexts—what we can call "distributed dissent." The paradigmatic case study here would be the 1999 Battle for Seattle at the WTO summit, and, in particular, the coordination of protests by the Direct Action Network. The literature on this and other anti-globalization movements is paramount, and will not be summarized here.[2] As part of the anti-globalization movement, the events in Seattle were noteworthy for a number of reasons. One reason was that the form that the protests took was not exclusively based on a mass gathering of bodies at a centralized, highly visible location. Instead, so-called "affinity groups"—from pro-democracy supporters to anarchists—organized themselves on a local level, dispersing themselves in and around downtown Seattle, thereby frustrating the containment and control of riot police (and sometimes of the movement itself). Another, related reason the Seattle events are noteworthy was their use of mobile and wireless technologies. As is well documented, the use of mobile phones, pagers, and other technologies was a significant factor in enabling affinity groups to communicate and coordinate their movements within the city. While most interpretations of the Seattle protests strictly deny that anti-globalization movements are technologically determined, what is often noted is this link between distributed dissent and mobile/wireless technologies. Collectivities go by many names, including "smart mobs" and "netwars."[3] Most recently they have cropped up in ad-hoc, participatory performances of "flash mobs."[4] Case studies, such as the People Power II protests in the Philippines, the ongoing Zapatista resistance, and the international F15 demonstrations, all share this combination of collectivity and connectivity.[5]

A second example, of a very different sort of phenomenon is the rapid spread and equally rapid control of Severe Acute Respiratory Syndrome (SARS) that made international headlines in 2003.[6] According to WHO figures, in the span of three months the SARS virus spread from China to Hong Kong, Taiwan, Canada, Singapore, Vietnam, and the U.S., with over 8,500 confirmed cases worldwide.[7] While the SARS epidemic pales in comparison to the still-growing cases of AIDS worldwide, the condensed time-span of SARS was instructive for a number of reasons.[8] As the oft-repeated narrative of SARS makes clear, the success of the virus was significantly boosted by the transportation networks of air travel, resulting in travel restrictions and increased

medical surveillance at selected airports. In addition, the rapidity at which WHO and CDC officials were able to control the outbreak was largely the result of informational and communicational networks. The WHO's "Global Outbreak Alert and Response Network" utilized information networks, central servers, and medical informatics, to advise on travel restrictions, treatments, and quarantines. Put simply, the SARS epidemic reminded us, in a highly condensed manner, of the ways in which biology is a network phenomenon; but it also demonstrated the ways in which SARS was much more than a biological network, but was a technological, economic, and political one as well. More specifically, biology is globalization. What began as a basic threat to the biology and health of individuals, also became a biopolitical threat to populations and nations, affecting travel, commerce, and national security.

For a number of years, a growing number of researchers in biology, epidemiology, and molecular genetics have taken note of these network properties of biological life. [9] Currently, a loosely knit group of scientists is building upon this knowledge, exploring the ways that networks inform living, social, and technical systems, as well as the ways in which the life-like properties of emergence and self-organization inhere in networks. This "network science" research has sought to find the common network principles in phenomena as diverse as the Internet, AIDS, and terrorist organizations. What is particularly noteworthy about network science is that it has its roots in biology, since studies of complexity and self-organization often make some sort of tentative claim to "life."[10] For instance, at the species level, research in "swarm intelligence" has shown how ants, bees, wasps, and other "social insects" are able to carry out sophisticated tasks in a self-organized manner.[11] At the level of micro-organisms, researchers have shown how bacteria are able to sense their environment and each other using "quorum sensing."[12] At the molecular level, the study of post-genomic "systems biology" has shifted the gene-centric study of life to the systems-wide level of metabolic and genetic networks.[13] Each of these examples has in common a global pattern that emerges from a set of local interactions, and a whole that cannot be deduced from the analysis of individual parts.

Thus, we have two examples of group phenomena: one political and the other biological. On the surface, there is no relation between them, except at the most general, metaphorical level. Certainly, it would be ludicrous to compare the genetic networks in a cell to the ideological underpinnings of a hundred thousand protesters. Indeed the point here is *not* to carry out such literal comparisons, either to suggest that politics is self-organized life, or that life is political self-organization. What we can deduce is a better idea of two concepts that inhere in both of these examples: collectivity and connectivity.

We can begin by defining collectivity as an aggregation of individuated units in relation to each other, with the quality of the relations largely specified by the context. Collectivity presupposes spatial organization, though this spatial organization does not necessarily require spatial proximity.[14] The property of "aggregation" in a collectivity is not simply a centralized, spatial clustering; a collectivity can aggregate by dispersal as well. Yet, if a collectivity is not defined by a centralized clustering, then what holds it together?

This is where we see collectivity tied to connectivity. We can define connectivity as a way of relating individuated units within a wide array of possible topological configurations. Connectivity is more a status than a state or a thing. Connectivity is a "status" in both the technical and political sense of the term. Connectivity can be high or low, it can be wide or narrow, and it can be centralized or decentralized.

Connectivity is not synonymous with "relation," but presupposes it. Connectivity can happen for no reason at all, but it usually requires a context (or at least a pretext). The most basic connectivity—a link between two units—assumes a set of common terms under which relation is possible.

Note that while connectivity may be a prerequisite for collectivity, the reverse does not apply. Connectivity may happen at a widespread level, without any aggregation or group phenomenon manifesting itself. For instance, a large number of people may voice dissent over a political situation, but this does not form a collectivity until those bodies are organized in some manner toward some agreed-upon action. However, a collectivity does require a minimum threshold of connectivity. Indeed, a collectivity is constituted by connectivity. In some cases, a unique use of connectivity enables distributed forms of collectivity to take place.

The distinction between collectivity and connectivity is relevant because it points to a common misconception in many analyses of network phenomena: that connectivity immediately implies collectivity, and that the mere existence of this collectivity points to the emergence of a political form (often, a more direct or unmediated form of democracy). Such intimations are found not only in technophilic accounts of information technologies, but also, somewhat surprisingly, in network science research.[15] The danger of this view is that the conflation of connectivity with collectivity leads to a kind of politics in which simply getting online becomes synonymous with political activism.

I would propose that it is in this tension between collectivity and connectivity that aggregations or group phenomena *become* political. It is, also, in this tension that group phenomena become "living" as well, with all the social and ideological baggage associated with that term. The claim that is often made is that the examples of distributed dissent are unlike traditional models of protest and activism. Their horizontal, distributed properties make them significantly different from centralized forms of mass protest. Likewise, the biology of complexity, networks, and swarms is significantly different from the kind of biology traditionally taught in university classrooms and labs. The "central dogma" of DNA gives way to a gene expression network or epidemiological network that continually self-regulates at the "edge of chaos."

In this tension between collectivity and connectivity we also find a tension between politics and biology, between group phenomena considered as political phenomena, and as some manifestation of "life itself." How do the political examples of distributed dissent, smart mobs, and netwars challenge, resist, and transform conventional notions of biological "life"? How do the biological examples described by network science challenge, resist, and transform conventional notions of political power? Thus, between the question of life, and the question of power, lies this ambiguous relation between collectivity and connectivity. Can a unique way of rethinking resistance come out of this tension?

Networks Do Not Exist

It would not be difficult to show that the "network" has become the paradigmatic mode of representing global culture.[16] There is a sense in which networks are suddenly appearing everywhere—not only in new models of consumerism, entertainment, marketing, and communications, but also in more specific, diverse examples, such as terrorist networks, peer-to-peer networks, and the networks of emerging infectious diseases.

Recently, a loose group of researchers in various fields (physics, mathematics, biology, computer science) have been studying networks as a general property of particular phenomena—that is, as a kind of ontology. Often referred to as "network science," this

interdisciplinary research combines concepts from complexity (self-organization, emergence, stymergy) towards the quantitative analysis of a wide range of different networks. Albert-László Barabási's group at Notre Dame, for instance, has been studying the common network properties in linking structures on the Internet, the spread of the AIDS virus, and the communication paths in terrorist networks, while Duncan Watts' group at Columbia University has been exploring networks from a sociological and communicative perspective.[17] Network science not only provides conceptual tools unique to its field of study, but it also purports a practical use of these tools in the analysis, construction, and possible instrumentalization of networks.

What, then, is a network? Most fields which study networks—be they in computer science, biology, or sociology—make some reference to a branch of discrete mathematics known as graph theory. Graph theory is a strange kind of geometry, a mathematics of connect-the-dots. A standard graph theory problem is posed by the Prussian-born mathematician Leonhard Euler in the early 18th century. Known as the "Königsberg bridge problem," it runs thus: imagine a small isle bordered on each side by the mainland. There are five bridges that connect the isle to the mainland. Can a person cross each bridge exactly once, without backtracking? Euler began his thought experiment by representing each end of the bridges as a dot, and each bridge itself as a line. Though the problem was simple enough to figure out by trial-and-error, with larger data sets (e.g., trade routes, urban planning) the possible answers grew at an exponential rate. As a scientist of the Enlightenment, Euler must have understood the significance of this kind of mathematics for commerce and colonial expansion (as well as simply getting around town). Euler's first graph theory papers attempted to conceptualize networks by abstracting them into things (dots, or "nodes") and actions (lines, or "edges"), and developing formulae for quantitatively analyzing the ways in which nodes interacted with each other via edges.[18]

If we were to analyze the concept of a network in its mathematical foundations, we would find that it begins with a basic philosophical distinction: that networks are fundamentally spatial phenomena. This is evident in Euler's formulation, and it is echoed in subsequent graph theory research: in the work of Paul Erdós and Alfred Reyni on "random networks," Paul Baran's military research on distributed communications networks, and the sociological work of Stanley Milgram on the famous "six degrees of separation."[19] If one were to create a genealogy of network science and network theory, what we would find is this assumption of space as a starting point, evident in graph theory's geometrical bias itself.

The concept of networks is therefore Eulerian. It begins by understanding networks as a spatial distribution of nodes (things) and edges (actions). This in itself requires the separation between individual entities and the local actions caused by them: actor and act, node and edge. From this conceptual and ontological premise, graph theory concepts aim to describe general properties of different types of networks. For instance, Mark Granovetter's concept of network "clustering" in social networks suggested that the edges or links between people in a social network could be strong or weak. [20] While the strong ties (close friends) have the effect of local clustering in tightly-knit groups, it is the weak ties (acquaintances) that maintain the overall connectivity of the network between clusters. Similarly, Barabási's study of network topologies has suggested that most networks follow a "power law," in which many nodes have few links, and a few nodes have many links (resulting in a decentralized topology).[21]

From the network science perspective, the network is essentially spatial, and the universal properties it displays are not so much evident in the dynamic functioning of the network, as they are static patterns which exist above the temporality of the network. In fact, when we speak of a "topology," we are in effect speaking of networks as spatialized, mappable, discrete entities. The work by Barabási's group shares some general conceptual assumptions with other network science researchers concerning the nature of networks. The first general principle is connectedness: everything is connected, nothing happens in isolation. The second principle is ubiquity: connectedness happens everywhere, and it is a general property of the world. Finally the third principle is universality: networks are universal and their general, abstract properties can explain, describe, and analyze a wide range of phenomena.[22]

If networks are Eulerian in their foundations, what are their politics? This does not mean the ideological struggles of particular case studies (peer-to-peer, virtual sit-ins, the digital divide, etc.). Rather, it is more a question of political ontology—what is the difference between a "power law" and a power relation? One way of answering this is to return to Euler's historical context of the Enlightenment. Also living in Königsberg, and perhaps crossing the same bridges on daily walks, was Immanuel Kant. Though there exists records of sparse communication between Euler and Kant, it is known that Kant was aware of Euler's work in mathematics.[23] Kant never wrote extensively about networks, but he did write about geometry, particularly as it pertained to cognition and the faculty of reason.

Kant, like most political philosophers, viewed politics as the challenge of managing individuals and groups. But unlike Locke or Rousseau, Kant did not suggest that human beings naturally form groups (and are thus naturally sociable). In what he called the individual's "unsocial sociability," Kant described how social groups arise out of a tension between competition for self-gain, and solidarity for group advantage.[24] We like people, but not that much. We seem to be in constant oscillation between being compelled towards self-sufficiency and recognizing the need for others. Politically this tension is expressed as a tension between freedom and right. Kant's notion of political right is, like his notion of freedom, defined in negative terms: do what you want, unless it infringes upon the right of someone else to do what he or she wants.[25] For Kant, the very function of the state—or more specifically of "Law"—was to regulate this delicate balance. It results in a combination of right and external law—reciprocal freedom combined with external coercion, which led Kant to his vision of a "universal State."[26]

In a short essay called "What is Orientation in Thinking?" we see Kant define networks as both political and mathematical. In this essay Kant discusses the faculty of reason using the tropes of orientation and navigation (as one might navigate a ship exploring uncharted territories).[27] Kant imagines being in a completely dark room, in the condition of blindness in relation to one's surroundings. How do we navigate this space? We start by feeling our way around, receiving impressions from things touched. But this is only a start, for in feeling our way around, the sensibility delivers to the categories of our understanding a set of coordinates—we understand that there is a table to our left, a chair to our right, etc. We must therefore transform ourselves into a node, a point in space, moving through space along coordinate axes. In short, we orient and navigate by assembling coordinate data into a kind of 3-D, virtual model of a space.

For Kant, between any two nodes there is one "ordinate" or "right" edge.[28] Given Kant's definition of political right and freedom, politics becomes an affair of network management. It is not that the right relation between any two nodes is a straight line, but rather, between the ability of any one node to link to any other, there must also be an external Law that oversees and manages the links of the network. This tension between

the local flexibility of the nodes to create edges (relations, connections, links), and the global robustness of an external management system (Kantian "Law") is a tension that is as much political as it is mathematical or technical. In this sense the current WSIS meetings are attempts to establish a Eulerian-Kantian model of network governmentality. The Kantian natural law of "unsocial sociability" and the artificial, human-made law of "right" (negative freedom) constitute the universal laws or principles which govern networks as political ontologies. The topology of politics is, therefore, a legislative, juridical process between external law and emergent order.

Both Kant (in politics) and Euler (in mathematics) show how an adequate understanding of networks must not come from experience, but from an abstracting, spatializing procedure. Only in this manner is it possible to gain the bird's eye (or God's eye) view of the network, to see the network topology, and therefore understand the best way to manage a network.

But we also need to note a central problematic to this Eulerian-Kantian concept of a network: the problematic of time. While graph theory and topology "map" a network as a set of nodes and edges (individual entities and relations between them), this approach betrays a bias towards a spatialized view of networks. A topology or map of a network is not a real-time representation; it has flattened time into space, showing us all possible nodes and edges. However, even at the level of our everyday experience—in communication, transportation, and sociality—networks create affects that are indelibly time-based, dynamic, and temporal. *Networks are always living networks*: networks that are functioning, and networks that are in process. This means that networks are inherently dynamic, undergoing constant and variable changes, both within the composition of individual nodes, and in the relations between nodes.

If Eulerian graph theory is spatialized, the same also follows for Kant's political metaphysics. Though Kant grants both space and time an *a priori* status, the way in which they are conceptualized is invariably spatial. Kant spatializes time by configuring it as a container (much in the same way that Newton had).[29] In his analysis of time as part of the sensibility, Kant describes time as a space, as an environment in which things happen: "Time is a necessary representation that underlies all intuitions...The infinitude of time signifies nothing more than that every determinate magnitude of time is possible only through limitations of one single time that underlies it."[30] Temporality therefore presupposes spatiality: "Time has only one dimension."[31]

The problematic aspects of this view are seen in Kant's discussion of "motion and alteration." Kant's analysis of time does not accept motion and alteration as constituent elements of time. For Kant, to be able to conceive of motion or alteration is to presuppose an environment (time) in which and through which change and alteration can occur: "Motion presupposes the perception of something movable...Time itself does not alter, but only something which is in time."[32] Thus temporal, ephemeral processes such as motion and alteration are *a posteriori*, dependent upon our prior framework of space and time. Change can only be accounted for through a prior concept of time (but a spatialized, "container" time).

If we consider Eulerian and Kantian concepts of networks, it appears that dynamic change—the very thing that makes a network a network—is only a by-product.[33] This view of networks can only accommodate dynamic change to the extent that it can spatialize that dynamic change, or to the extent that it can spatialize time.

One of the most consistent critiques of this Kantian notion of time is the one carried out by Henri Bergson. For Bergson, exactly the opposite is true: the process of change is constitutive, and our concepts of space and time derivative, *a posteriori* tools which

we use out of convenience and practical necessity.[34] Bergson's concept of "duration" is meant to diversify our understanding of time, and by extension our understanding of the process of change. In Bergson's early work, the notion of duration conceives of time in two parts: as an external, quantitative, discrete time, and as an internal, qualitative, continuous time.[35] While this is often interpreted in psychological terms ("clock-time" vs. "inner time"), Bergson's later work goes on to complicate this notion. In his studies on memory, cognition, evolution, and relativity, Bergson repeatedly attempts to show how duration is not just an effect of subjectivity, but that duration is an ontological reality.[36] Bergson's notion of duration reconfigures time as persistent and resistant—qualitative (not quantitative), continuous (not discrete), and intensive (as opposed to extensive, or spatialized).

Bergson's sporadic comments on Kant can be summed up in a number of short comparisons, which provide us with an alternative to the Eulerian-Kantian view of networks.[37] Contra Kant, Bergson does not accept that sensibility (space and time) is an *a priori* faculty. Rather, Bergson sees time and space as a practical means of understanding the world in static, spatialized terms. "Time" in this sense is spatialized time, and qualitatively different from the notion of a flow of time, or more importantly, a time that is identical with change.[38] Bergson's concepts of "creative evolution" in biology, and the "open society" in sociology, are examples of this concept of time-as-duration carried out in practice. Biological morphogenesis and evolution, as well as societal transformation, can only be understood, says Bergson, in the context of time, and as time itself. Time, for Bergson, is not a Kantian-Newtonian container, but is constitutive; things do not happen in time, but are rather constituted as duration.[39]

We are thus left with a conundrum. On the one hand there is the concept of a network, which, as we've seen, has its technical roots in the field of Eulerian graph theory, and its political-philosophical roots in Kant's metaphysics. On the other hand, we acknowledge that any definition of a network must take into account the constitutive, dynamic aspects of networks as being rooted in temporality. Both views present us with a concept of networks that is spatialized, static, and universal, even when considering time and change. Bergson's critique of Kant, and his concept of duration, point to the ways in which we habitually understand time in terms of space. On one hand, a network is that which maps a static pattern above and beyond the particular, ephemeral state of the network; on the other hand, a network is that which is defined by dynamic change.

This tension boils down to the distinction between *network effect* and *network affect*. When we want to understand either the effect of a network or the modification of a network (be it the Internet, SARS, or terrorist groups), we require concepts which both totalize the network as a whole, and break down that whole into constituent parts (nodes), from which relations (edges) can then be derived. The pattern that results—the topology—is an index of the fundamental character of that network's measurable effects.

By contrast, understanding network affect—the ethics of sharing information, the globalized context of infectious disease, the political conditions of fundamentalism—requires more than quantitative analysis or the search for static patterns. This is because, in a network, affect is disengaged from emotion. This point cannot be overstated: *in networks, affect is not emotion.* Affects are "affections of the body by which the body's power of acting is increased or diminished, aided or restrained, and at the same time, the ideas of these affections."[40] Affect is networked, becomes distributed, and is detached from its anthropomorphic locus in the individual. In a dynamic network, the individual does not possess an emotion, but is rather constituted through the circulation of affects.

The affects may circulate at many levels (biological, social, economic) and via more than one type of network. But the network affect is the living, immanent topology of the network, not the abstracted, transcendent pattern above the network.

For the moment, we can say that, in a sense, networks do not exist. They do not exist precisely because their dynamic existence cannot be fully accounted for within the tradition of the Eulerian-Kantian network paradigm. From this perspective, networks can only be thought of within a framework that spatializes time, and yet this excludes precisely what is constitutive to most networks—their dynamic properties.[41]

Living Networks

Once we take into account the aspect of time-as-duration in networks, then the question is how networks themselves change. It would seem that in considering networks as existing in time—as living networks, as network affect—the separation between nodes and edges becomes more complicated. Could we say that, when we consider networks as living networks, we arrive at a situation in which nodes equal edges, in which nodes are edges (things are tasks, actors are acts)?

Before more fully exploring the implications of such a view, it would be worthwhile to reconsider our view of networks thus far. As we've seen, much thinking about networks is based on a mathematical (Eulerian) and political-philosophical (Kantian) paradigm, in which the inherently dynamic qualities of networks are spatialized, and abstracted into a static pattern called a topology. While this view of networks privileges the relations between things, rather than things-in-themselves (edges rather than nodes), it also cannot account for the dynamics within networks; dynamics that show us a more complicated view of the separation between nodes and edges.

While the Eulerian-Kantian paradigm of network thinking is very useful for certain problems (routing traffic on a computer network, for instance), we have also seen that there are a range of other contexts that are much more than the spatialized, static networks portrayed in graph theory and network thinking. The examples cited earlier—distributed dissent, the self-organization of insects, patterns of infectious disease—are certainly networks, in that we can readily identify a set of nodes, and a set of relations between nodes, or edges. But they are also much more than networks, for there are changes which take place within individual nodes (changes in political ideology, changes in environment, mutations in a virus), and between individual nodes, resulting in edges or relationships that create or change nodes (joining a cause, emergence of tasks, modes of transmission). Above all, nodes are never fixed; they are in constant movement—movement of people, movement of species, movement of molecules.

What would it mean, then, to think of networks *as living networks*, as networks ontologically driven by time and by duration? A number of modifications to the Eulerian-Kantian network paradigm would follow. For instance, networks are not flat or uni-dimensional, but can overlap and co-exist; that is, networks can be layered, giving us *topological layering*. A biological network, such as an infectious disease, is not just biological, but, in our contemporary, globalized context, it also participates in transportation networks (air travel) and communication networks (WHO website updates). Another modification that follows is that not all nodes are equal, just as not all edges are equal. Networks can also display a *topological diversification*. An infectious disease is not the same at every locale, but may display different rates of transmission and mutation in a food-processing factory, in an airplane, and in a densely packed urban

environment. This would therefore call for different modes of perturbing this network. Furthermore, networks need not have a single topology, a single identifying pattern—a network is really a set of *multigraphs* and *polygraphs* understood to exist in time. An infectious disease network may start out as a centralized pattern, radiating from a particular city or environment, but then, due to its layering and diversification, it may change into a more decentralized network. Finally, and most importantly, a network existing in time is not just extensive, or a map of fixed nodes (or things) and stable edges (or relations); a living network is also intensive. Networks can intensify or de-intensify, depending on the quality, force, resiliency, and flexibility of the relations. Topology is not an extensive mapping, but is instead a *topological intensification*, culminating in a network affect.

All of these modifications result from understanding networks as fundamentally time-based sets of relations. As mentioned previously, they complicate the easy division between nodes and edges, in some cases resulting in a view of a network as "edges-without-nodes," or a network in which nodes themselves are particular kinds of edges.

Thanks are due to Harry and Dot Bowers for providing an environment for reserach and writing. Thanks are also due to CTheory for their editorial assistance.

Notes

1. See Saunders, J.B., and Charles O'Malley, *The Illustrations from the Works of Andreas Vesalius,* New York: Dover, 1950.

2. See Paul de Armond, "Black Flag Over Seattle," *The Monitor,* 29 February 2000: http://www.monitor.net/monitor/seattlewto/index.html; John Arquilla and David Ronfeldt, eds., *Networks and Netwars: The Future of Terror, Crime, and Militancy,* Santa Monica: RAND, 2001; Alexander Cockburn et al, eds., *Five Days That Shook the World: The Battle for Seattle and Beyond,* London: Verso, 2001.

3. On "netwars" see John Arquilla and David Ronfeldt, "Networks, Netwars, and the Fight for the Future," *First Monday* 6, October 2001: http://firstmonday.org/issues/issue6_10/ronfeldt/index.html; on "smart mobs" see Howard Rheingold, *Smart Mobs: The Next Social Revolution,* New York: Perseus, 2002.

4. See the Flashmob website at http://www.flashmob.com

5. See Vincente Rafael, "The Cell Phone and the Crowd: Messianic Politics in Recent Philippine History," 13 June 2001: http://communication.ucsd.edu/people/f_rafael.cellphone.html; and Harry Cleaver, "The Zapatista Effect: The Internet and the Rise of an Alternative Political Fabric," *Journal of International Affairs* 51.2, 1998, pp. 621-40.

6. It may be argued that there has been too much attention paid to SARS, especially as other, arguably more serious, emerging infectious diseases like AIDS still raise a number of difficult issues (distribution of treatments, costs, the role of the pharmaceutical industry, AIDS in sub-saharan Africa). This is indeed a valid point. But the aim of raising the example of SARS is that it provides a condensed, encapsulated demonstration of the more-than-biological dimensions of emerging infectious disease, especially as it integrates information technologies and biotechnologies.

7. See the WHO website: http://www.who.int

8. On a political level, there is a sense in which epidemics such as SARS sketch in miniature the challenges posed by AIDS. On the one hand we see AIDS as a top concern in the U.S. government's "Project BioShield," as well as with the WHO, but on the other hand this "global threat" is configured in terms that are by now quite familiar—as a kind of total war. In addition, the RAND corporation, which publishes a number of studies directly pertaining to government policy, has recently published a study of AIDS in South Africa as part of a larger study of "global" emerging infectious diseases.

9. Studies coming out of the Santa Fe Institute have long since pointed to the uncanny patterns which underline disparate phenomena, such as the stock market, epidemics, and ecosystems, and during the 1990s the buzzword "complexity" seemed to have replaced "chaos," the buzzword of the 80s. For an example see Stuart Kauffman, *The Origins of Order: Self-Organization and Selection in Evolution,* New York: Oxford University Press, 1993.

10. This is an oft-repeated theme in complexity studies. The claim to "life" is more explicit in biologically-rooted studies, such as those by Stuart Kauffman: "I suspect that the fate of all complex adapting systems in the biosphere—from single cells to economies—is to evolve to a natural state between order and chaos, a grand compromise between structure and surprise" (*At Home in the Universe,* Oxford: Oxford University Press, 1995, p.15). It can also be witnessed in the more macro-scale studies of insect societies, bird flocks, and ecosystems.

11. See Eric Bonabeau, *Swarm Intelligence: From Natural to Artificial Systems,* Oxford: Oxford University Press, 1999; and James Kennedy et al., *Swarm Intelligence,* San Francisco: Morgan Kaufmann, 2001.

12. For a recent research paper see James Zhu et al., "Quorum-Sensing Regulators Control Virulence Gene Expression in *Vibrio cholerae*," *PNAS* 99.5, 5 March 2002: 3129-34. Also see the Quorum Sensing Site.

13. For a key research paper, see Troy Ideker et al., "Integrated Genomic and Proteomic Analyses of a Systematically Perturbed Metabolic Network," *Science* 292, 4 May 2001: 929-934. Also see the website for the Institute for Systems Biology: http://www.systemsbiology.org

14. Mobile and wireless technologies, pheromone trails, and cell surface binding properties are each examples of spatialized aggregations separated by distance. The role of "communication" would seem to be important here, as it facilitates action over a distance. But the communications model does not have the same meaning technologically as it does biologically. For instance, the use of mobile phones in the distributed dissent model is built upon a version of classical information theory: message, channel, sender-receiver, etc. However in molecular biology, there is no message separate from a channel, only physical and chemical interactions between molecules (e.g., enzymatic reactions).

15. Rheingold's *Smart Mobs* is noteworthy for its intentionally optimistic tone. While it does note a number of relevant examples of distributed dissent, it also side-steps the more ambivalent examples of terrorist networks. Similarly, popular books on network science, such as Mark Buchanan's *Nexus,* New York: Norton, 2002, and Albert-László Barabási's *Linked,* Cambridge: Perseus, 2002, seem to want to make political claims, but stop just short of doing so. As Barabási states, "No central node sits in the middle of the spider web, controlling and monitoring every link and node...A scale-free network is a web without a spider...They offer a vivid example of how the independent actions of millions of nodes and links lead to spectacular emergent behavior," p. 221.

16. See Manuel Castells, *The Rise of the Network Society* (London: Blackwell, 1996); Lawrence Lessig, *The Future of Ideas,* New York: Vintage, 2002; Saskia Sassien, ed., *Global Networks, Linked Cities,* New York: Routledge, 2002; Jan Van Dijk, *The Network Society,* London: Sage, 1999.

17. See Barabási, *Linked* and Duncan Watts, *Six Degrees: The Science of a Connected Age,* New York: Norton, 2003.

18. For summaries of Euler's graph theory work, see Norman Biggs et. al., *Graph Theory 1736-1936,* Oxford: Clarendon, 1976, and Gary Chartrand, *Introductory Graph Theory,* New York: Dover, 1977.

19. For summaries of the work of Erdos and Renyi, see Barabási, *Linked*, 9-25. On Baran's work on packet-switching in networks, see Janet Abbate, *Inventing the Internet,* Cambridge: MIT Press, 2000, pp. 8-21. On the original "six degrees" experiment, see Stanley Milgram, "The Small World Problem," *Physiology Today* 2, 1967: 60-67.

20. See Mark Granovetter, "The Strength of Weak Ties," *American Journal of Sociology* 78.6, May 1973: 1360-80.

21. See Barabási, *Linked*, 65-79 and Réka Albert, Hawoong Jeong, and Albert-László Batabási, "Diameter of the World Wide Web," *Nature* 401, 1999: 130-31.

22. Barabási sums up this world-view: "Computers linked by phone lines, molecules in our body linked by biochemical reactions, companies and consumers linked by trade, nerve cells connected by axons, islands connected by bridge...Whatever the identity and the nature of the nodes and links, for a mathematician they form the same animal: a graph or a network" (*Linked*, 16).

23. Cassirer's standard biography mentions letters and notes of Kant's showing his awareness of Euler's work in mathematics. See Ernst Cassirer, *Kant: His Life and Thought,* New Haven: Yale University Press, 1981.

24. See Kant's essay, "Idea for a Universal History with a Cosmopolitan Purpose," fourth proposition, in *Kant: Political Writings*, ed. H.S. Reiss, Cambridge: Cambridge University Press, 1991.

25. This is encapsulated in Kant's *Metaphysics of Morals*: "Every action which by itself or by its maxim enables the freedom of each individual's will to co-exist with the freedom of everyone else in accordance with a universal law is right" (*Kant: Political Writings*, 133).

26. See Kant, *Metaphysics of Morals*, Theory of Right, Part II: Public Right, Section I.

27. See Kant, "What is Orientation in Thinking?" in *Kant: Political Writings*. As Kant states, "To orient oneself, in the proper sense of the word, means to use a given direction—and we divide the horizon into four of these—in order to find others, and in particular that of sunrise...I can now extend this geographical concept of the process of orientation to signify any kind of orientation within a given space, i.e. orientation in a purely mathematical sense...Finally, I can extend this concept even further if I equate it with the ability to orientate oneself not just in space, i.e. mathematically, but also in thought, i.e. logically," pp. 238-39.

28. "In geometry, the term 'right' (rectum), in the sense of 'straight', can be used either as the opposite of 'curved' or of 'oblique'. In the first sense, it applies to a line whose intrinsic nature is such that there can be only one of its kind between two given points. But in the second sense, it applies to an angle between two intersecting or coincident lines whose nature is such that there can be only one of its kind (a right angle) between the given lines...By this analogy, the theory of right will also seek an assurance that each individual receives (with mathematical precision) what is his due" (Kant, *Metaphysics of Morals*, in *Kant: Political Writings*, 135).

29. This is found in Kant's *Critique of Pure Reason*, section on the "Transcendental Aesthetic," trans. Norman Kemp Smith, New York: St. Martin's Press, 1965.

30. Ibid., 74-75.

31. Ibid., 75.

32. Ibid., 82. Kant also states that "the concept of alteration, and with it the concept of motion, as alteration of place, is possible only through and in the representation of time," p. 76.

33. This is further explicated by Kant in the Transcendental Analytic, Chapter II, Part III, on the "Analogies of Experience."

34. See Bergson's lecture "The Perception of Change" in *The Creative Mind,* New York: Citadel, 1974. As Bergson notes, "[t]here are changes, but there are underneath the change no things which change: change has no need of a support. There are movements, but there is no inert or invariable object which moves: movement does not imply a mobile," p. 147.

35. See Bergson's *Time and Free Will,* New York: Dover, 2001, particularly the section "The Idea of Duration."

36. See *Creative Evolution,* New York: Dover, 1998, *Matter and Memory,* New York: Zone, 1991, and *The Two Sources of Morality and Religion,* Indiana: Notre Dame University Press, 2002. As Bergson states in *Creative Evolution*, "the universe endures. The more we study the nature of time, the more we shall comprehend that duration means invention, the creation of forms, the continual elaboration of the absolutely new," p.11.

37. Bergson comments on Kant's notion of time in several places. See *Creative Evolution*, 356-63; *The Creative Mind*, 195-99; *Time and Free Will*, 92-98.

38. "This explains the difficulties raised by the problem of movement from earliest antiquity. They are due to the fact that we claim to go from space to movement, from the trajectory to the flight, from immobile positions to mobility, and pass from one to the other by way of composition. But it is movement which precedes immobility, and between positions and a displacement there is not the relation of parts to a whole, but that of...the real indivisibility of the object" (*Creative Mind*, 183).

39. Bergsonian commentors such as Deleuze have emphasized this generative, proliferative aspect of Bergson's ontology. See Gilles Deleuze, *Bergsonism,* New York: Zone, 1991.

40. Spinoza, *The Ethics*, Part III, Definition 3, trans. Curley, Princeton: Princeton University Press, 1994.

41. In a sense, networks have become so ubiquitous that they have ceased to have any definite meaning. Networks have become at once totalizing (any and everything can be incorporated into the network paradigm), and at the same time highly fragmenting (a network implies selectivity, and thus is always only a part of the whole).

GENDER IN THE WIRES

CYBORG MOTHER

BAD GIRLS DO FRENCH THEORY

METAL GENDER

SCREAMING EAGLE

KATHY ACKER

GENDER IN THE WIRES

Arthur and Marilouise Kroker

Mothering the Cyborg

Mothering the cyborg, breached boundaries, AI gender, 'deconstruction sluts,' Kathy Acker in Life and Death, Screaming Eagle. What we have here are theory reports on the blurring of body boundaries and gender binaries in cyberculture.

For example, *Gender in the Wires* begins with Jamie Smith-Windsor's intense, poetic reflection on mothering a baby cyborg, her daughter Quinn, born three and a half months before her due date and kept alive by incubation, stabilization and life support machines. In her article, "The Cyborg Mother: A Breached Boundary, Smith-Windsor writes: "My daughter's birth was a post-human, cyborg moment. She became cyborg—part-human, part-machine," a baby born at the blurred bio-tech boundary where the meaning of life, consciousness and the distinction between the biological and technological is increasingly a fuzzy-set.

> Quinn has been fighting with her ventilator. She's tried to tug it out of her throat, but it's glued to her skin. To stop her from wrestling, the doctor drugged her with addictive sedatives and paralyzed her so she can't move, so the ventilator can fully take over her body. How can such violence give life? So, I read her a story by Dr. Seuss about really small people called Whos…At the sound of my voice, she opened her eyes for a minute. That's not supposed to happen. I was asked to leave. I was disrupting the machine.

Deeply influenced by Julia Kristeva's call to women everywhere to rebel against yourself, to write one's autobiography anew in a landscape in which identity has been shattered and fragmented by technology, Smith-Windsor begins to tell anew cyborg mythology. Except this time, with a major difference. Rather than allying the cyborg

with the defense of a gendered position, Smith-Windsor's cyborg mythology is deeply mediated by the certain knowledge that technology has passed effortlessly into human skin, into the skin of her baby, and what she is left with is a post-cyborg moment: a mythology of technology as diaspora, questions about whether "the machine (is) capable of simulating love?" cybernetics as mimesis, rituals of living within a "mediated body." As she states: "Becoming cyborg implicates the human condition with the eternal mediation of the human experience, the eternal return of the machine. The human condition becomes the media itself. The cyborg consciousness becomes, like the clear glass of the incubator, an invisible interface though which everything is mediated…The Mother becomes redundant. Technology becomes the eternal womb." Here, the story of the neonate baby begins by *unconcealing* the doubled relationship of facilitation and exclusion between technology and human biology, but it ends on a different note: the paradox, irony and ambivalence which issue from the realization that technology is the "invisible episteme" through which "rewire the way we know the family, the way we know humanity."

Clash of Perspectives: Deconstructing Gender vs. Cyborg Essentialism

> Cyborgic metal's entry into the human body marks a new social and cultural distinction, and a new hierarchical relationship. This hierarchical relationship no longer functions in terms of gendered power relations between men and women, but opens a fresh pecking order privileging the cyborg (whatever its original human gender) over the man or woman by virtue of its physical and mental superiority.
>
> Steve Dixon, "Metal Gender"

> In terms of theoretical performance and performativity, there's always been something sexually transgressive and feminie—sluttish, if you will, about deconstruction.
>
> Joan Hawkins, "When Bad Girls do French Theory"

What happens to the question of gender in the world disclosed by "The Cyborg Mother," a world where the stability of gender binaries, like human identity before it, is shattered and fragmented by the power of the technological remix. What is the impact upon Judith Butler's "gender trouble" and the cyborg feminism of Donna Haraway when these brilliant feminist assertions run up against the possibility that the cyborg may be neither male nor female but an alien, autonomous third sex which is not reducible for its understanding to the anthropology of (human) gender debates? What happens to deconstructive feminism today when confronted, on the one hand, with the backlash of gender anxiety and, on the other, with the assertion of its right to an autonomous third gender—male, female and cyborg—by Artificial Life-Forms(AI). Conversely, what happens to cyborg essentialism when AI itself, perhaps restless with its supposed autonomy or seduced by the language of difference, begins to contaminate itself with the signs of sexual difference. Is the cyborg really immune to the language of seduction and fascination? Is the cyborg a born deconstructionist or an AI neuter? How do feminism and AI gesture towards one another in the new universe of *Gender in the Wires*?

These are some of the issues at stake in the next two articles in *Gender in the Wires*: Joan Hawkins, "When Bad Girls Do French Theory" and Steve Dixon, "Metal Gender."

Theorized directly from gender debates in the seminar room, Joan Hawkins contribution explores what's at stake in gender and sexual performativities in technology, race and class. In a political culture that is increasingly sanitized of discussions of difference, Hawkins argues that deconstruction—a style of thought learned from French theory—is necessary today to understand situations from politics to popular culture. Reminiscent of Peter Lurie's thesis in "Why the Web Will Win the Culture Wars for the Left," Hawkins asks, in the face of objections to Avital Ronnel's critical rereading of prosecution (video) tactics in the Rodney King Trial in Simi, California: "(W)ho gets to do theory in a patriarchal society? What kind of women can perform theory in a libidinally charged academic space? And what kind of theory can they perform? What does it mean to be a "deconstruction slut?" For Hawkins, deconstruction works because it mirrors the culture that it explores. It may be dense because of its theoretical vocabulary, but deconstruction has held such sway over the minds of an emergent generation because it is also transparent. Its appeal to fluidity, indeterminacy, slippages, playfulness, illusions, multiplicities, and multilayered analysis actually reflects how we think in a mediated culture. In a society increasingly marked by lived autobiographies, written and unwritten, of 'mothering the cyborg,' deconstruction with its gestures towards the language of technological slippages, streaming, and illusions, may be the one style of thought imminent to its historical times. But, if this is so, then the closed narratives, the wired bubble of cybernetics, may be in deep trouble. Touch the illusions of cybertopia or the manipulated video frames of the Rodney King Trial, with deconstructionist thought and the world itself begins to spin out of (political) control. "When Bad Girls do French Theory," old male dreams of technotopia implode.

Or maybe not? Steve Dixon's provocative article, "Metal Gender," uses Judith Butler's statement ("gender is a fabrication and true gender is a fantasy instituted and inscribed on the surface of bodies") to articulate his vision of a 'third gender'—a new human-metal fusion. Here, for the first time an eloquently argued image of *cyborg essentialism* breaks the surface of gender debate, signaling perhaps the opening of a third dimension beyond male and females in the gendered future. Refusing to think *Gender in the Wires* in terms of traditional sexual distinctions, Dixon claims that the cyborg is a "new techno-bio-cultural creature"—a third gender—which is not understandable in terms of interpretations of the body, social distinctions, and sexual practices which contextualize contemporary gender discourse. For Dixon, metal gender is the future and the future is essentialist. Over and beyond the binaries of male and female, AI metal is a transgendered cyborg—neither male nor female, perhaps a third sex. As Dixon states:" "It is a technological life-form with a technological body and a technological gender." Consequently, his plea to not impose human qualities onto metal gender:

> Cultural theorists could do well to put themselves in the shoes of an artificial life-form, the thing grafted onto the human, rather than perennially imagining themselves in the shoes of the human-cyborg.

SynSkin

> **Then I hear the word**, *SynSkin*, the new artificial flesh grown in bio-gen labs from the foreskin of baby boys. And you know what the surgeon tells me: "A single male baby foreskin produces enough SynSkin to cover four football fields." **That's a lot** of skin, and not much foreskin.
>
> Arthur & Marilouise Kroker,
> "Screaming Eagle"

Gender in the Wires concludes where it began, this time with the co-penetration of machine and bodies. Written in advance of Steve Dixon's "Metal Gender," but very much attuned to the possibilities of cyborg essentialism, "Screaming Eagle" playfully deconstructs the approaching world of artificial skin. Here, reverting to the time-honored intellectual practice of writing as resistance, "Screaming Eagle" projects the image of the artificial face courtesy of SynSkin onto the increasingly right-hemisphere values of net culture. A story of the post-biologic face imprinted by the image of the Screaming Eagle for a digital future that oscillates between cyborg essentialism and gender slippage. All this by way of a tribute to the bravest, smartest, and certainly most creative and passionate writer of her generation: *Kathy Acker in Life and Death*.

THE CYBORG MOTHER
A BREACHED BOUNDARY

Jaimie Smith-Windsor

Why not tell a story in a new way? Why not think in unfinished ways? Without fixity? Without finality? Ask questions without answers. Without presuppositions and causes and effects and linear time. Why not. Why not "whisk yourself away from your comfortable position?"[1] When we live in a world of fractured identities and broken boundaries, why not rebel against yourself, or the technologies of "yourself" and discover new ways of being? Reconcile that everything is being shattered. Identity is being shattered and technology is picking up the pieces, and there stands before us an infinitude of recombinant possibility. Rewriting history becomes possible:

> *"The time of history passes through the stories of individuals: their birth, their experience..."*[2]

The birth of my daughter:

Aleah Quinn Smith-Windsor
born: January 31st, 2003

A few days after Quinn was born, this quote appeared, written beside her incubator:

> *"Every blade of grass has an angel that bends over it and whispers, grow, grow." Anon.*

It was a near-fatal birth. Quinn was born at twenty-four and a half weeks gestation, three and a half months before her due date. Her birth weight was 700 grams, about one pound and a half.

> February 1, 2003—*It is difficult to imagine such a tiny, perfect human being. Her feet are no larger than two fingernails. Her legs are about the same size as adult fingers, femurs measuring 4.5 centimeters. Her eyebrows curve like fallen eyelashes above her eyes, waiting to be wished upon.*

Morphology after the birth of my daughter

Immediately after Quinn's lungs were cleared she was incubated, stabilized and flown, with the Neonate Team, by way of helicopter ambulance, to the Special Care Nursery at the British Columbia Children's Hospital in Vancouver. We got to see her for a minute, tangled beneath the cords of her life support machines.

> February 2, 2003—*A pump pushes breast milk down her throat, through a tube that goes into her belly. Sixty-five breaths per minute are administered by a Drager 2000 Ventilator. She receives extra nutrition through an artificial umbilical line, blood-products and medications through an Intra Venous. Electrodes cover her body, measure her breaths and heart beats, her temperature, oxygen saturation and blood pressure.*

Motherhood—a Breached Boundary:
A Critical Questioning of Who is Mother in Cyborg Culture?

My daughter's birth was a post-human, cyborg moment. She became cyborg, "the illegitimate child of the twentieth-century technological dynamo—part human, part machine, never completely either."[3] Using this moment to grapple with the concept and implications of cyborg culture reveals some important questions about the amalgamation between the technological and the biological, and "not just in the banal meat-meets-metal sense."[4] Breaching the bio-techno boundary forces an engagement with "new and complex understandings of 'life', consciousness, and the distinction (or lack of distinction) between the biological and the technological."[5] Becoming cyborg is about the simultaneous externalization of the nervous system and internalization of the machine. Thus symbiosis of human and machine makes possible the genesis of the cyborg consciousness. Ultimately, the breached boundary of the human body is a diasporatic phenomenon: the dispersion of an originally homogeneous entity (the body), *"the diasporas of the human condition into several mutually incomprehensible languages."*[6]

Becoming cyborg is a consciousness that is embedded within the notion of diasporas. To confront the interface between human and machine is to confront cyborg consciousness. The interface is the matriarch of cyborg culture, assuming, "a unified role: a means of communication and reproduction; carrier and weaver; machine assemblage in the service of the species; a general purpose system of simulation."[7] Technology displaces motherhood, with "her inexhaustible aptitude for mimicry" which makes her "the living foundation for the whole staging of the world". Being cyborg means that infancy without motherhood is possible. Before the displacement of motherhood by technology can be imagined, however, it is first necessary to explore the relationship between mother and child. Within the dual relationship transference between mother and child, according to Julia Kristeva, it is possible "to posit as "object" of analysis, not "childhood language", but rather an infantile language."[8] Before literate language begins to encode the identity of the infant, and prior to the moment where the mirror introduces the paradoxical representation of reality, the infant and the mother exist within a symbiotic relationship defined by two basic principles: the need to nurture and the nurture of need. The mother-child symbiosis provides the necessary relationship for infantile language to be communicated. The infant is *in*capable of distinguishing between "sameness" and "otherness", between "subject" and "object", between itself and the mother.[9] The infantile language means that infants are not capable of imagining themselves autonomous

of the Mother. But what if this symbiotic relationship between mother and child were interrupted? What happens when technology begins to work itself into the infantile discourse, severing the symbiosis between mother and child? What happens when the infant, instead becomes incapable of distinguishing between itself and the machine? These are the questions posed by the biological mother of a cyborg. This is the genesis of a cyborg. It begins in pre-literacy, when the child engages in an infantile language with the machine, and not, the mother.

According to Julia Kristeva, "love replaces narcissism in a third person that is external to the act of discursive communication."[10] Love between humans, thus, becomes invested in a third party. What happens then, in cyborg culture, when that "third party" is not a person at all, but a machine—a ventilator, an incubator, a monitor. Technology separates the dialectic relationship between mother and child, mediating the relations between them. In the production of artificial means to life, is the machine capable of simulating love? Is the cyborg capable of love? Or is it merely consuming?

> March 30, 2003—*Quinn has been fighting with her ventilator. She's tries to tug it out of her throat, but it's glued to her skin. To stop her from wrestling, the doctor drugged her with addictive sedatives and paralyzed her so she can't move, so the ventilator can fully take over her body. How can such violence give life? So, I read her a story by Dr. Seuss about really small people called Whos... At the sound of my voice, she opened her eyes for a minute. That's not supposed to happen. I was asked to leave. I was disrupting the machine.*

Living within a mediated body means that rituals of being are also written by technology. Technology is mimesis, the capability of imitating the human condition with such exactitude that it has become synonymous with the skin, the flesh, the vital organs of human bodies. Artificial life becomes the performance of real life. Distinguishing between skin from machine, thus becomes difficult.

> February 8, 2003—*There is a scab on her chest where the nurse pulled the electrode off her skin, and with it, came most of the right nipple.*

What are the implications of this violent symbiosis? Becoming cyborg implicates the human condition with the eternal mediation of the human experience, the eternal return of the machine. The human condition becomes the media itself. The cyborg consciousness becomes, like the clear glass of the incubator, an invisible interface through which everything is mediated—the environment, the experience of living, the means to communicate, the way of "knowing." The relationship between mother and child itself is mediated by technology. Technology interrupts the relation, intercepts the exchange of nurturing and needing of the infantile language. The Mother becomes redundant: technology becomes the external womb.

Within the discourse of cyber-feminism, the externalized, technological womb begins to make sense: "in Latin, it is *matrix*, or matter, both the mother and the material."[11] Technology has become both the mother and the matter of the consciousness, the medium through which the need to nurture and the nurture of need are fulfilled. The cyborg is thus born through this virtual non-space, this womb of machinic consciousness. Within the technological womb, human bodies and human consciousness becomes "cy-dough-plasma"—malleable matter, without fixed form.[12]

> February 27, 2003—*...I'm a little confused about her ears. They're pliable. Lacking cartilage at this stage of development often finds them in crumples of folded-over flesh. They require frequent re-positioning and remolding so*

> *they don't get all folded up like fortune cookies. I try not to play with them too much...but, it's not like you can rationalize with her yet... "don't crumple up your ears dear...".*

Externalizing the womb subjects the unformed body to manipulation. The consciousness, like the fetal body, becomes the art of the machine. Bodies and consciousness are remixed. What we perceive to be the body often becomes distorted in the engineering of cyborg.

> February 3, 2003—*It was as if her delicate features had been rearranged to make room for equipment. Somehow, her perfect nose was in the way of the Ventilator, so they moved it off to the side. The machines rearrange the perfection of her body.*

Just as in Julia Kristeva's infantile language, there is no easy way to distinguish between the child and the simulated techno-Mother. The machine and the baby become symbiotic. "Sameness" governs the relationship between the baby and the machine. Their sameness means that they're mutually dependent on each other in order for life to continue.

Technology is capable of simulating vital signs, of supporting life, of becoming Mother. The child of the techno-Mother is essentially, a virtual body. A simulation of vital signs that becomes internalized. The ventilator simulates Quinn's breathing, supporting her life through mimicry. Through the perfect simulation of breathing, the ritual of life goes forward. In cyborg culture, the lines between simulation and reality are blurred into irrelevancy. The cyborg is the interface between simulation and reality, where the simulacra becomes capable of living. Her body, "redesigned by means of life-support machines and prosthetic organs."[13]

Thus, infancy has become disembodied from the biological Mother and goes forward unmanned, like the Predator Drone—moving forward into a machinic realm of infinite possibility.[14] What happens when the conditions of infinite possibility are governed by an inherent nihilism? The externalization of the nervous system makes possible the continuation of life, yet it is a life that is fundamentally nihilistic, eternally bound to a mediated consciousness. The ventilator simulates Quinn's breathing, supporting her life through mimicry. Through the perfect simulation of breathing, the ritual of life goes forward. In cyborg culture, the lines between simulation and reality are blurred into irrelevancy. The cyborg becomes the interface between simulation and reality, where the simulacra becomes capable of living. The body is "redesigned by means of life-support machines and prosthetic organs."[15] The body is breached, becomes cyborg, a recombinant fusion of technological and biological traffic. What is internal and external to the virtually dead body becomes confused.

> March 1, 2003—*I want to love and hate the machine that breathes for her. Ventilation is a Catch-22. Ventilation turns the fragile tissues and muscles that are used for breathing and exchanging oxygen into scars. "As long as her lungs develop faster than the ventilator damages them, we win," says Dr. T. She is getting chest X-rays almost daily now. In her X-rays, her lungs are clouded-over with white. Her little lungs fill with fluid that has to be suctioned out almost every two hours in order for her to get the proper amount of oxygen into her blood. We've had a serious heart to heart, recently. I used the "stern mother voice" for the first time to tell her that she is not allowed to take her ventilator to kindergarten with her.*

The relationship between machine and body cannot sustain life endlessly. One must eventually overtake the other in order for life to continue. Through the body, the machine performs the dichotomy of living and killing, life and death. It gives life only to overtake it. The technology that sustains life is ultimately nihilistic. What happens faster is vital—the ability to outgrow the machine, or the damage inflicted by the machine itself. This is a profound statement about the morphology of humans and machines. To become cyborg is to commit a slow-suicide. Ultimately, it is the nihilation of the human body, of autonomous human consciousness. This is the paradox of modernity, manifest in rituals of living.

Just as technology is capable of simulating rituals of living, becoming cyborg affects the rituals of dying. Technology has intervened and institutionalized the right/rite of death. Even after the body expires, the machines keep going. It is not until they are turned off that the body is pronounced "dead." Being cyborg means that death is experienced in a new way. Is it possible to be absent in death—a redundant body in the machinic performance of consciousness?

> February 14—*I hold my child for the first time. She is naked, against my chest. Her ventilator curls around my neck, taped to my shoulder, disappears inside her. There are other tubes, too, taped to my other limbs by peach colored surgical tape. Beside me, another mother's baby dies. Another baby dies. The respiratory technician yells : "NO CPR" from across the nursery. He crosses the room, switches off the machines—ventilator, incubator, monitor, eight intravenous pumps of miscellaneous medical poisons. The life inside the machine, refuses to go on without them. And I am taped to a rubberized rocking chair, taped to my baby, taped to the machine. I cannot leave when another baby's mother comes in.*

The nihilism of becoming cyborg is inescapable. We are taped down to our own inherent nihilism. In cyborg culture, nihilism becomes synonymous with death. When a cyborg dies, the announcement of death waits for the machine to be switched off. The simulation of life continues even in the absence of physical being. When a cyborg dies, it is only because the human body has failed the perfect simulation of life by the machine. Death is ambivalent to physical being, the body becomes almost irrelevant. The machinic simulation of "being human" can continue to exist in the absence of a body, but the body cannot continue in the absence of the machine. In death, the human body seemingly fails the machine. This is what Jacques Derrida calls, the logocentric moment where one technology of knowing is privileged over the other and infinite other historicities of being are forgotten. What happens if someone fails to turn off the machine? Is it possible that the cyborg can forget to die? Can machinic consciousness simply be switched off? It is the moment where we forget to be merely human, that the machine takes over the mother, the technology takes over the consciousness. Thus, becoming cyborg becomes a meta-narrative, totalizing and privileging only one point of view—the technological gaze. The internalization of the technological gaze it the most important political moment in becoming cyborg.

The internalization of the machine is the moment when the human condition becomes invisibly mediated by technology. It is the moment where technology and knowing become bound within perception. Thus, becoming cyborg is not merely a physical condition. It is a condition of being mediated by technology.

> February 26, 2003—... *I look to the machines and they tell me how my daughter is doing today. How easy it is to look at the monitor that tells me, "she has the hiccups, she's sleeping, she's not breathing- not yet". The machines talk to me and I understand what Quinn cannot yet tell me. The machines tell me what she cannot communicate. Quinn is having a "terrible, horrible, no good, very bad day"...* [16]

The incorporation of the machinic interface into the language of perception witnesses the internalization of what Michel Foucault calls, panopticism.[17] Panopticism goes beyond physical architecture. Being cyborg reifies the repressive technologies of the panoptical illusion. To reify the panopticon, thus, inherently denies the possibility that there are ways of being, beyond the cyborg experience. I saw the displacement of my own motherhood by the machine. I could understand my daughter in and through the machinic interface. In this moment, I too, was written into the meta-narrative of the cyborg consciousness, my perception of the human condition filtered through the technological gaze.

Exposing the womb, digesting machinic consciousness, monitoring the human body, locating motherhood outside of the mother/child symbiosis. These are technologies of becoming cyborg that go beyond the physical imagery. These are technologies of surveillance that are internalized, that operate in and through the cyborg. Ultimately means that when the machine is shut off, cyborg life continues to occupy the human condition through consciousness, subconsciousness, perception.

> April 10—*After 69 days on a ventilator, the tube was finally pulled. My little Quinnapottamus now breathes her own breaths. I guess our little talk about "no ventilators in kindergarten" made sense to her and she has decided to hold her own. It was amazing to watch her take her first breaths after they pulled the tube, to hear the resigned sigh of the ventilator when it was shut off. The lines on the monitor, flat-lining. The sound of her crying, her voice rising through bruised vocal chords for the first time, met my ears and was strangely comforting.*

The cyborg does not die because it is unplugged. The cyborg continues to exist beyond all locations of space and time, the consciousness irreversibly fused with technology. Becoming cyborg necessitates the sublimation of the mind. Becoming cyborg, internalizing the panopticon allows for cultivation of human life in and for state sovereignty. To become cyborg is to be harvested by the state and for the state. Like my daughter, paralyzed for wrestling with her machines, internalizing the panopticon is paralyzing. Internalizing the panopticon makes it impossible for the body to perform outside of technology. Ultimately, cyborg culture is written within the context of state sovereignty. The body performs sovereignty. The making of cyborg bodies is simply that—the epistemic branding of the state on the bodies and the minds of the subordinate citizenry. The making of cyborg bodies is simply panopticism, the ingestion of the statist technology. It is about exposure, about making visible each privacy of the human body for the purposes of controlling individual life. It is about technology becoming invisible, "seeing-without-being-seen."[18] The architecture of Foucault's panopticon, like the genesis of one cyborg, is both a physical and an epistemic incorporation of a centralizing, homogenizing structure of being that becomes the subject of scrutiny, both collectively and individually, by an observer in the "tower" who remains unseen. The panoptical

cyborg is both the subject and object of scrutiny, both the "tower" of observation and the observed subject. The internalization of the panopticon is self-scrutiny. Ultimately, the cyborg becomes the technological furniture upon which state sovereignty lounges.

Panoticism becomes manifest in the minds of the everyday cyborg-citizen. Suddenly, a story about a neonate baby is less about medicine and miracles and more about what remains hidden and unarticulated—the repressive technology of being bound to cyborg consciousness. Discovering the panopticon within exposes a thinly disguised operation of sovereigntist power. Cyborgs do not write themselves, technology does. The fusion of machine and body is the manifestation of the panopticon, the eternal reification of a bounded human identity.[19] The hospital serves as an architecture for enacting these power relations, creating enormous houses of confinement. This same technology operates in and through institutions of education, religion, politics. The ultimate confinement of the human condition is simply this: the internalization of the panoptical technology means that humanity can never imagine being autonomous. The cyborg becomes a venue for confinement. Thus, the panopticon of cyborg culture confines the human condition within a symbiosis of machine and body. Symbiosis with machine (whether machinic consciousness or machinic matter) becomes the precondition to living itself. To locate "being" outside of technology becomes an impossibility. Ultimately, it reduces the human body to a specific mechanics, a site of micro-physics, a docile and useful being. Becoming cyborg is ultimately about the sublimation of the human identity and the political imaginary.

This critical examination of cyborg culture is by no means aimed to discredit the technologies that taught my daughter the art of living. It does, however, highlight the implications of becoming cyborg. In a sense, all of humanity has become disembodied from the womb. The genesis of a cyborg goes well beyond the physical union of machine with body. The day I gave birth to a cyborg, I began to understand how every human has become a collaboration of machinic and biological matter. The human condition is mediated by technology. The meta-narrative of being cyborg ignores ethical questions. The machine can't ask: What would the world look like without mothers? Or, for that matter, fathers? Technology is, quire literally, beginning to rewire the way we do family, the way we know humanity. The ultimate violence of technology is its ability to generate its own invisibility, to circulate undetected in and through the physical body, to become manifest in the human consciousness as epistemic reality. Conditions of possibility other than becoming cyborg are thus, hidden from the human condition. Once technology has been internalized and operates upon us through invisible epistemes, it becomes the only way of being human. Engaging in a binary relationship with technology is merely one means of engaging with new conditions of possibility for the human condition. However, human/machine symbiosis simultaneously negates the possibility for narrative of "being in the world" and simultaneously forgets all of the moments of differentiation and deferral that work to inform the human essence.[20] Ways of being "other" than an agent of sovereignty become impossible when identity is bound to logocentric privileging of dominant discourse.[21]

Notes

1. Kristeva, Julia. *Desire in Language*. New York: Columbia University Press, 1980.

2. Kristeva: 160.

3. Kennedy, Barbara. "The 'Virtual Machine' and New Becomings in the Pre-Millenial Culture" in Bell, D. and Kennedy, B., eds. *The Cybercultures Reader*. London: Routledge, 2000.

4. Bell, David. "Cybercultures Reader: A User's Guide" in Bell, D. and Kennedy, B., eds. *The Cybercultures Reader*. London: Routledge, 2000.

5. Bell 7.

6. Anon.

7. Plant, Sadie. "On the Matrix: Cyberfeminist Simulations" in Bell, D. and Kennedy, B., eds. *The Cybercultures Reader*. London: Routledge, 2000.

8. Kristeva 278.

9. Kristeva 284.

10. Kristeva 279.

11. Plant 333.

12. Bell 8.

13. Bell 11.

14. Crandall, J. "Unmanned: Embedded Reporters, Predator Drones and Armed Perception," Available online at: http://www.ctheory.net/E124.

15. Bell 11.

16. Viorst, Judith. "Alexander and the Terrible, Horrible, No Good, Very Bad Day". New York: Aladdin Paperbacks, 1972.

17. Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. Trans. Alan Sheridan. New York: Vintage, 1977.

18. Foucault 24.

19. Magnusson, W., "The Reification of Political Community" in Walker R.B.J. and Mendlovitz. S.H., *Contending Sovereignties*. Boulder: Lynne Rienner Publishers, 1990.

20. Ashley, Richard K., "Living on Border Lines: Man, Poststructuralism, and War". London: Nichols Pub. Co., 1980.

21. Ashley 261.

WHEN BAD GIRLS DO FRENCH THEORY

DECONSTRUCTING NATIONAL TRAUMA

Joan Hawkins

Last fall semester, a graduate seminar I was teaching (Advanced Film and Literary Theory) came to an abrupt halt one afternoon, when one of the students called the author of an article we had read for the class a "deconstruction slut." When pressed to explain, the student complained that the author's prose was dense, that he didn't recognize many of her references (which nonetheless struck him as contradictory) and that the author herself dressed like Lydia Lunch.

The remark fore-grounded gender issues in ways I never could have orchestrated. Previously in the class, male authors who are as theoretically complex and playful as the author under consideration, and just as flamboyant in their dress and manner, had been critiqued on the basis of their work *alone*, not on the basis of their performativity, sexuality, or personal style. For that very reason, many of the students in the class felt the remark was sexist. In the ensuing discussion about the term "deconstruction slut," it became obvious that what was at stake for many students in the class was the larger question of who exactly gets to do theory in a patriarchal society? What kind of women can perform theory in a libidinally charged academic space? And what kind of theory can they perform? What exactly does it mean to be a "deconstruction slut?"

Interestingly, the essay which sparked the classroom debate I describe was Avital Ronell's "Video/Television/Rodney King: Twelve Steps Beyond the Pleasure Principle," an essay which uses Deconstruction techniques to discuss Rodney King and the Simi Valley trial. I say "interestingly" because the Rodney King "event," as it's euphemistically come to be called, also raises important theoretical, performative and pedagogical issues, a confluence of issues, if you will, which informs both "Video/Television/Rodney King" and most of Ronell's other work. That is, the essay itself foregrounds many of the issues of theoretical performance which emerged in my class discussion, with the notable exception that it links them to technology, race and class privilege, rather than to gender and sexual performance.

What the class discussion perhaps unwittingly revealed, then, was the stake that certain gender and sexual performativities have in technology, race and class. In raising the question of who gets to do what kind of theory and in what context, the class

discussion revealed the degree to which some white men in the class felt that race and class were masculine issues, issues which should not be addressed by a woman they regarded as theoretically promiscuous-a "deconstruction slut." But more importantly for our purposes, it also revealed the degree to which they wished to protect certain areas of cultural experience from what some students saw as the "feminizing" discourse of deconstruction; it enacted a retreat to a kind of male cultural privilege (and privileging) which they themselves would ordinarily regard as a highly suspect theoretical maneuver. The fact that this cultural privilege was invoked in the name of-or around the absent image of—a black man was ironically noted by the students themselves, who began to wonder how and why the Rodney King episode had come to speak so forcefully to *and for* them.[1]

This article analyzes and attempts to deconstruct some of the issues, which arose as a result of the outburst in my class. In a larger sense, though, it uses that outburst to investigate the sometimes contentious relationship between French Theory and Cultural Studies in American Universities—as mediated by the professorial body. For if it's true that in America we have " 'post-structuralism,' Derrida and Lyotard and Foucault schools," as a recent SubStance conference call for papers asserts, it's also true that in America we have a stunning theoretical backlash which comes into play whenever French Theory steps outside the rather narrow confines to which it has been consigned. And that backlash is the most pronounced whenever French Theory seems to be mediated through/ (re-) presented by a woman.

The Rodney King "event"—the beating shown on George Holliday's video, the Simi Valley Trial, the protests following the verdict given in that trial, and the subsequent re-trial of several Los Angeles Police Department (LAPD) officers in a civil case—encompasses an entire social narrative of revelation, appeasement, and atonement. But most interestingly for academics, it also encompasses the entire procedure through which we attempt to make sense of media images. And it does so in ways which Ronell—rightly, I think—links to pedagogical practice and style. Contrary to the implications of its name, the "event" remains an extended episode, an episode in which the body of a black man became a spectacle for thousands of television viewers, and in which processes of formal video interpretation and exegesis were carried out in ways that made many media scholars profoundly uncomfortable. As Ronell says, "the trial focused on questions of how to read or, at least, how to produce effects of learning,"[2] and in so doing it called attention to the way that the tools of academic analysis and discourse are complicit in, or at least can be made to serve, white privilege and sociopolitical hegemony.

The technique the defense attorney used in the Simi Valley trial was the same one we see used in the trial scene in Oliver Stone's *JFK* (1991).[3] The video footage of the beating was shown frame by frame to the jury—as a series of still photographs. By NOT showing the video as a continuously MOVING document and by stopping the video at certain key moments, the defense was able to give its own spin to the images on the monitor.[4] Thus, a scene where King's arm bounced up could be interpreted as a scene of potential violence TO the police officers surrounding the black man (rather than as an involuntary physical response to being pushed). As Ronell notes:

> The chilling effects of warping video into freeze-frame photography cannot be overlooked—even where overlooking can be said to characterize the predicament in which testimonial video places the law. For the duration of the trial, the temporization that reading video customarily entails was halted by spatial determinations that were bound to refigure the violence to which

> Mr. King was submitted. No one needs to read Jacques Derrida's work on framing in order to know that justice was not served in Simi Valley, California. But, possibly, if one had concerned oneself with the entire problem of the frame, its installation and effects of violence—indeed the excessive force that acts of framing always imply-then it would have been imperative to understand what it means to convert in a court of law a videotape into a photograph.[5]

For Ronell, this conversion of the media image from a temporized, moving sequence into a series of "spatial determinations," the conversion of a videotape into a series of still photographs, has profound political significance. While Holliday's original video (and the tele-visual broadcast which transmitted it) had temporarily unmasked the continued existence of institutionalized racism, the conversion of this tape into a series of still images becomes a necessary institutional precursor for reinstating the black Otherness on which such racism depends. More importantly, it does so, *irrespective of the content of the image*. Following Derrida, Ronell sees the act of conversion itself—the attempt to re-render moving images as still images— as always already suspect. Linked to the attempt to halt the free play of textual and linguistic signifiers and to "fix" a definitive meaning, such a conversion inevitably reintroduces the binary oppositions on which political (and philosophical) oppression depends.

It also allowed the Defense to re-introduce a kind of logo-centrism into a case that originally threatened to eclipse the logos altogether. Once the video was re-rendered as a series of still images, it was necessary to provide some kind of narration that would link them all together. This narration became the testimony of the "witnesses," who were continually asked not to tell the jury what they remembered, or what they saw the night of the beating, but to describe what they were seeing *now*, on the screen, in the courtroom. The only role which memory played in the construction of the event was in the construction of a frame story which might contextualize the beating in ways that made sense. And, as Ronell suggests, the frame story that was used was one which already had strong politico-cultural resonance, the story of a black man on drugs. The event was "articulated...as a metonymy of the war on drugs,"[6] that is, it was inscribed within a frame that was designed to legitimate the LAPD's excessive use of force.

In the Simi Valley trial, then, the act of analysis/interpretation became one both of framing and of performance. The defense attorney wished to persuade the jury that the police had sufficient reason to assume that King was a dangerous man on PCP—that is, a man stronger and more deadly than his size would indicate. In that sense, the attorney wished to seduce the jury with an intellectual reading of the tape that might differ markedly from the jury's own, and to provide a narrative in which police violence might make sense. To do so, he had to reframe the tape as a series of still photographs—to reconfigure the text to fit his meaning (this is precisely what many of our students accuse us of doing to the literary and film texts we analyze in class—putting our own interpretation and spin on things, reading too much into them); Counsel for the Defense had to convert the courtroom into a classroom. In so doing, he demonstrated the degree to which analysis is power; the degree to which the attorney/the teacher who controls the kinds of questions that can be asked about any given text, the one who controls the way such questions are framed, also controls the kinds of answers juries and students might be expected to deliver. The Simi Valley performance enacted by the attorney was simultaneously one of seduction, reframing and

violence; and it pointed up many of the power issues underlying academic scholarship and performance. In fact, it laid bare the degree to which Foucauldian notions of discipline and knowledge[7] commingle in both classrooms and courts of law. Which is why, I believe, scholars have been both fascinated by the Simi Valley trial and repulsed by it.

Ronell doesn't discuss the techno-violence perpetrated as part of the Defense's strategy in the trial. This is surprising since her meditations on the King event are part of a larger meditation on television and video, a meditation on media technology's "irreversible incursion into the domain of American 'politics'"[8] and on television's preoccupation with trauma.[9] If she had written on the re-technologizing of Holliday's video prior to its use in the courtroom, it might have added an extra dimension to her analysis of video/TV itself, which is apt to strike media theorists and cultural critics as a bit naive or uninformed.[10] But her analysis of the figure of Rodney King, and of the way he was "framed," provocatively points up the confluence of cultural meanings which circulated around and through the King event. Not only does the Rodney King event become here a "metonymy of the war on drugs,"[11] it is "equally that which opens the dossier of the effaced Gulf War;"[12] Rodney King himself, "the black body under attack in a massive show of force, showed what would not be shown in generalized form: the American police force attacking the helpless brown bodies in Iraq."[13] For Ronell, King is framed both as the representative (the metonym) of a larger racist "war" at home and a larger racist war abroad. And Holliday's tape, which had the effect of verifying what John Fiske calls "Blackstream Knowledge" (the institutionalized racism which the dominant media prefers to ignore), becomes the "screen memory" for all the race trauma which haunts the nation's collective unconscious.[14] It becomes the signifier of a crucial televisual transmission gap.

For the student who most vociferously attacked "Video/Television/Rodney King," the issue was not WHAT Ronell said, but rather the way she said it. Using deconstruction techniques—in which textual meaning is revealed or deconstructed through the continual free play (some would say "free fall") of language—Ronell writes a poetic prose which is, as the student maintained, "dense." Her analysis interpellates the reader as something of an intuiter, as nuances segue into other nuances, and meaning is revealed through an impressionistic series of definition clusters.

The article is divided into twelve "channels," given in descending numerical order. And the choice of "twelve" is not arbitrary. As the title of the essay makes clear, Ronell is explicitly alluding to twelve step programs, which—she has suggested elsewhere—"cure" addiction by substituting one form of dependency for another.[15] But she's also playing with the word "step."

The empirical gesture through which the violence erupted on March 3, 1991, was linked to Rodney King's legs. Did he take a step or was he charging the police? The footage seemed unclear. The defense team charged that King had in fact charged the police. "Gehen wir darum einen Schritt weiter," writes Freud in *Beyond the Pleasure Principle*—a text which brings together the topoi of charges, repetition, compulsion, violence, and phantasms. "Let us take another step further," and another, and as many as it takes, in order to read the charges that are electrifying our derelict community.[16]

The use of the word "step" here—as well as the playful riff on "charges"-links, in one paragraph, the Rodney King event to both the "twelve steps" named in the title and to a specific work by Sigmund Freud. It links the legal system to what Ronell calls "narcopolemics",[17] as well as to Freudian scenes of "repetition, compulsion, violence and phantasms." And it implicitly refers the reader back to several previous works—Freud's *Beyond the Pleasure Principle*, William S. Burroughs' *Naked Lunch*[18] and two of Ronell's

own previous books: *Crack Wars* and *Dictations: On Haunted Writing*. The fact that only one of these texts is explicitly named in the paragraph and that the connections between the Law, psychoanalysis, racism and drugs are never elucidated helps to explain my student's frustration with the text. In addition, the segueway between the "twelve steps" of the title to the "twelve channels" which comprise the article also implies a thematic relationship—a link between substance abuse, rehab, and television—which Ronell never clearly defines.

Furthermore, the text of the article is regularly interrupted by italicized blurbs of "Headline News." These Jenny Holzer-style interventions serve as both disruptions to an already-fragmented main text (in the way that commercials and "headline news" briefs disrupt or fragment television programs) and as links from it to other philosophical and psychoanalytic works (further "steps"). Like Holzer's aphorisms, they often take the form of conundrums. Separating "CHANNEL TWELVE" and "CHANNEL ELEVEN," for example, is the following: "*Headline News: Testimonial video functions as the* objet petit *for justice and the legal system, within which it marks a redundancy, and of which it is the remainder.*" [19] Between "CHANNEL ELEVEN" and "CHANNEL TEN" we find "*Headline News: Read the step digitally: crime serials/serial murders*." Allusive rather than—strictly speaking—expository, these "headline news" briefs open the text up so that it, like television, begins to speak with a multiplicity of (theoretical) voices. What they circumvent is any attempt (on the reader's part) to construct a formal linear analytic narrative. Like TV, this essay operates through what Ronell calls "interruption or hiatus," "fugitive intervals" which serve, she believes "to bind us ethically"[20] and which are always "haunted" by the ghost images of other events/other people she doesn't always name.[21]

Even footnotes here tend to be allusive and somewhat ghostly rather than straightforwardly informative. In one note, for example, Ronell writes, "I am assuming the reader's familiarity with the well-known essays by Mary Ann Doane, Meaghan Morris, John Hanhardt, Jonathan Crary, Patricia Mellencamp, Gilles Deleuze and others."[22] But what if one isn't "familiar" with these "well-known" essays? What if one doesn't recognize the tongue-in-cheek tone of this passage-or simply does not find it funny? What if one resents the fact that the author has sacrificed specific bibliographic information in the interest of getting an appreciative chuckle from the *cognoscenti*?

In my classroom what happened was the eruption of the same (and this is what surprised me) reductive narrativizing strategy which the students recognized and critiqued in the Simi Valley trial. Faced with a discursively unruly text, at least one of the students attempted to "frame" its author, to "fix" or situate her within a recognizable and manageable "stock" narrative structure—"deconstruction slut." The fact that this narrativizing strategy (calling a woman a "slut") is itself informed by the mechanisms of cultural and social power, that this narrativizing strategy has in fact served as one of the major historical means by which women have been socially scrutinized and controlled was precisely what offended many members of the class. Women were angered that a male student had "reduced a renowned female scholar to a sexual stereotype." Several felt he was attacking Ronell "at the level of the body," or perhaps, more pointedly, "reducing her to a body," rather than explicitly critiquing her ideas or her theoretical method. Male students, too, were uncomfortable with the form their colleague's objection had taken. While many of them didn't like the essay, and felt that there was something wrong or perhaps even immoral about discussing the Simi Valley trial in Ronell's allusive and elusive style, they also recognized that she was being dismissed in a way that authors of other provocative (and unpopular) essays

had not been dismissed. And they recognized that she was being dismissed in this way because her essay was, in some way, threatening to the speaker. One of the men who liked "Video/Television/Rodney King" voiced his concern in the form of a simple question. "What's wrong with being flashy?"

On the one hand, this classroom episode is a depressing reminder of the persistence of sexism and the emergence of what Susan Faludi calls "backlash" even within the privileged space of an academic classroom.[23] But in part it is about deconstruction itself. In terms of theoretical performance and performativity, there's always been something sexually transgressive[24] and feminine-sluttish, if you will—about deconstruction. Emphasizing the technologies of meaning—meaning as a process rather than as a fixed, immutable entity—deconstruction configures its analysis around the playful slippages between words, allusions, multiplicities and proliferations (or promiscuities) of nuance. It legitimates "loose connections." In that sense, it's linked to what Baudrillard terms "seduction",[25] and what Ronell, following Baudrillard, calls "deviant forms of knowledge" (...the Other to so-called 'science') that have been historically associated with women; it perpetrates "uncanny technologies... which break up classical taxonomies of knowledge and suspend what we think we know."[26]

It's easy to see, then, why deconstruction might be perceived as both the best and worst way to approach an issue like the Rodney King event. The Holliday tape was explosive because it already disrupted or caused many television viewers to suspend what they *thought* they knew about society (that the Civil Rights movement had extended equal opportunity to all American citizens and that 'cops would never do that'), and it can be argued that there simply is no linear way—using "classical taxonomies of knowledge"—to make all the cultural connections which such a disruption implies.[27] In fact, it could be argued—in fact, I expect that Ronell would argue—that *any* attempt to impose a linear structure on something as diffusely traumatic and traumatizing as the King event is to *necessarily* frame the episode, freeze it in time and space, and contextualize it away. That is, from a deconstructive point of view, any attempt to impose a strict linear rational order on the event is to risk the same kind of hegemonizing maneuver that the Defense performed in the Simi Valley trial. It risks re-instating the dominant ideology through a masking of the nation's real suppressed cultural and racial traumas.

On the other hand, to deny such a linear analysis is also to deny the possibility of any timely social change. Derrida himself has commented on the seeming irreconcilability of the terms "deconstruction" and "social justice."[28] And for many of my students Ronell's essay simply served to illustrate Derrida's point. The depressing thing about "Video/Television/Rodney King"—and all of Ronell's social critiques—is that it paints an image of a society whose sickness has so many snakey tendrils—reaching so far back in time—that nothing except years and years of intense cultural psychotherapy could possibly make a difference. Even then, it might be too late. "It is possible," Ronell writes in another context, "that *we have gone too far*."[29] And it is the intimation of that possibility of finitude in "Video/Television/Rodney King"—the impossibility of immediate rational socio-political intervention—which many of my students found intolerable.

The "Video/Television/Rodney King" assignment was "haunted," as Ronell would say, by the phantasm of another piece which several of the students had read, the "Avital Ronell" interview in Andrea Juno and V. Vale's *Angry Women*. Here Ronell appears as an "ivory tower terrorist," the author of "the first political deconstruction of technology, state terrorism, and schizophrenia," and as a kind of performance artist.[30] The point of *Angry Women* is to enact the very kind of dislocation and slippage which Ronell would recognize as de-constructive or Derridean. Linking such unconventional scholars as

Ronell and bell hooks to Diamanda Galas, Annie Sprinkle, Lydia Lunch, Karen Finley, Kathy Acker and Susie Bright, the volume emphasizes the performative and sexual aspects of scholarship (it constructs teaching as performance art) and simultaneously locates both unconventional art and unconventional teaching in an eroticized, bad-girl zone. It was in part because of this interview that my student made the connection between Ronell and Lydia Lunch. More importantly, in his mind, the fact that Ronell had allowed herself to be interviewed for such a volume, the fact that she had herself fostered a kind of connection with Lydia Lunch, somehow removed her from a professional arena in which she should be accorded respect.

Interestingly, he did not feel that way about bell hooks, who also "appears" in the volume. The difference, he said, lay in the photographs accompanying the interviews. While hooks' interview includes only one photograph, a shot of the casually-dressed (but still appropriately clothed) author leaning against a wall, Ronell's interview includes something of a photographic spread. Three photos represent her as the bad girl of high theory. Dressed in black, wearing heavy eyeliner and a chic metal collar necklace, she does bear some resemblance in these photos to both Lydia Lunch and to Andrea Juno (with whom she poses in one shot).[31] The three other photos show her covered in leafy vines, an invocation of naturalist kitsch. It's these last three which, for my student, posed the biggest problem. In constructing herself, or allowing herself to be constructed, via photographs, as an *objet d'art*—a kind of set piece—Ronell, the student felt, forfeited her claim to be taken seriously as a scholar.

The issue here is what Joanna Frueh has labeled "critical erotics"; the incursion of the seductive "feminine" into an academic space.[32] And seduction is indeed the intellectual model which Ronell privileges in the *Angry Women* interview. Speaking about the emphasis on the "natural" in certain constituencies of the feminist movement—particularly Andrea Dworkin's—Ronell identifies a "*Puritan* core...a *politics of self-preservation* which is still ruled by a metaphysics of self-presentation that doesn't consider current thinking about artifice..." and doesn't consider theory. "The lines between pragmatic American feminism... and French theoretical feminism were drawn along *eyeliner* marks," she says, "*artifice, seduction* (that a lot of French feminists still believe in; seduction as the power to create distance, to *un-identify* with one's self, to mask and play around, and to perform different versions of oneself."[33]

Such a vision of seduction—both theoretical and personal—is closely related to Ronell's ideas about teaching and is the antithesis of the Simi Valley courtroom scenario (which I earlier compared to a certain mode of classroom demonstration). Here, seduction and dis-identification destabilize meanings by putting them in motion rather than by trying to freeze them in a single frame. In this way, they are closely linked both to deconstruction and to a certain deconstructive style of teaching. As Joanna Frueh puts it in *Fuck Theory*, "the teacher"—in this case Ronell—"liked to fuck around."[34] She played with bodies of ideas, which she called philosophies of seduction, and with the palpitations of language."[35] In Frueh's semi-autobiographical piece, one of the "teacher's" students tells her that she teaches *erotically*. "The teacher, in the flesh," Frueh writes, "embodies knowledge."[3]6

This libidinally charged teaching/writing mode, a mode Frueh calls "critical erotics," unites two kinds of female behavior traditionally demonized (or trivialized through comedy) by the patriarchy: female sexuality and female intellect. And it does so in a way that's highly reminiscent of classic French feminist thought.[37] The danger, however, of such a playful, eroticized form of teaching—as I tried to show at the beginning of this article—is that it can do its job too well. Some students are made

uncomfortable. And in the face of that discomfort, the classroom itself can become a kind of courtroom; the miming, seductive woman—the sexual embodiment of libidinal knowledge—can herself be put on trial, can herself be "framed."

In part, then, the outburst in my class was based on the belief that theory (the serious business of Academia) and seduction (artifice, playfulness, sexualized "femininity") are mutually exclusive. In part it was due to a battle over theoretical turf, not just male and female turf (who gets to do theory, when, and where), but philosophical turf (what kind of theory can be used to discuss what kinds of problems). I don't believe the class discussion would have been so heated if the article in question hadn't suggested a real-life confluence of politics, race, trauma and gender. That is, if the article had used the same analytic techniques and distancing strategies, but had been about a novel, I don't believe the student would have felt the need to "frame" the author in quite the same way.

But the essay was about history and racial politics, things which matter in the real world, things which have material physical consequences for people (often, as the Rodney King event attests, horrific consequences). And, rightly or wrongly, the student felt it was an injustice to speak about such things the way that Ronell was speaking about them. To an extent, then, the issue was one of theoretical orthodoxy and representational control. What is the proper way to represent a grim real-life event, and what is the proper analytic language—the proper discursive mode—to use in analyzing it? Who has discursive control of the things that count ?

This is never a disinterested question, but it becomes even less disinterested-and perhaps even more compelling—when the event in question engages issues of race. As Herman Gray notes:

> there is always the danger that in the postmodern condition...representations will and often do displace and subsequently stand in for the very material and social conditions in which they are situated. Accordingly *representations themselves can and often do become 'the' crisis.* Absent any social and cultural context, the crisis of representation...on the issue of race and blackness can become hyperreal.[38]

Gray is speaking here about the media, but I believe his comments can be extended to what happens in the classroom, as well. Many students come from privileged backgrounds and have no experience with racial violence, except through representation—what they see in the media, what they see and read for class. In this sense, classroom discussions can and do become hyperreal. Not only do they seem to "take the place of" the real events they describe, but the racial/political dynamics they unleash are frequently the only radical racialized encounters that students are likely to have. That is, the classroom is frequently the only place where white students are asked to confront the issue of white privilege, and this confrontation often makes them uncomfortable.

One positive way students negotiate this discomfort is through what Cornel West calls "the new cultural politics of difference."[39] That is, they "align themselves with demoralized, demobilized, depoliticized, and disorganized people in order to empower and enable social action and, if possible, to enlist collective insurgency for the expansion of freedom, democracy, and individuality."[40] But while students and scholars, who practice this "new cultural politics of difference," (what we might otherwise call a form of Cultural Studies) tend to align ourselves— across a triple axis of race, class, and gender—with marginalized groups, we do not always identify equally with each marginalized position. More to the point, we can sometimes play marginalized discourses

against one another. That was certainly the case during the outburst in my class, when the perceived imperatives of racial analysis seemed to unleash real gender hostility and sexual/theoretical panic.

As the above discussion indicates, I don't think there is one tidy explanation for the classroom outburst I've described. Culturally and socially, the Rodney King event "reaches deep into the white psyche and history, it revives guilt and fear, it recalls lynchings and castrations."[41] And it's to this last term—"lynchings and castrations"—that I would like to give attention now. If the "Video/Television/Rodney King" assignment was "haunted" by Ronell's sexualized theoretical performance in another piece, it was also "haunted" by the spectre of black emasculation.

As Robyn Wiegman has pointed out, the black male body is perpetually gendered—differently from white male bodies—*in locus extremis*. On the one hand, the historical legacy of lynching and the repeated occurrence of police violence have fostered the image of a black man who exists *outside* the realm of masculine rights and privilege, within a realm one might characterize as "feminized." On the other hand, since the 1960s, Black Liberation struggles have "turned repeatedly to the historical legacy of race and gender in order to define and articulate a strident Black masculinity."[42] That is, the struggle for Black power has been historically grounded in what Michele Wallace has dubbed "Black macho",[43] a cultural position which seeks to rebuild the African American community by restoring the position of the black male and "the priority of the black phallus."[44] As a pointed example of cultural schizophrenia, then, the black male body has come to symbolize *both* emasculation and machismo. This is not an either/or proposition. As Wiegman shows, "Black macho" grows directly out of the experience of emasculation (lynching, castration), as a means of restoring African American pride. But manifestations of black male power are profoundly threatening within a racist society, and must be suppressed. As a result, further acts of emasculating violence are committed. I don't mean to suggest here that African-American men bring racist violence on themselves. But rather that the dominant white cultural image of the black male always involves *both* hyper-masculation (too sexual, too violent) *and* emasculation; both male privilege and abjection, castration, punishment.

For many, the beating of Rodney King is just one more example of white patriarchy's drive to contain/control/emasculate an always potentially threatening black man. In fact, as John Fiske points out, one of the subsidiary framing tales which surrounded the case had explicitly sexual connotations. In the manuscript of his book on the King event, Officer Stacy Koons constructs a frame tale which emphasizes the sexual threat the black man supposedly posed to Officer Melanie Singer. King, Koons writes, "grabbed his butt in both hands and began to shake and gyrate his fanny in a sexually suggestive fashion. As King gyrated, a mixture of fear and offense overcame Melanie. The fear was of a Mandingo sexual encounter."[45] Koons later admitted that he chose his words to purposefully "draw out the antebellum image of a large black man and a defenseless white woman. 'In society,' he said, 'there's this sexual prowess on the old plantations in the South and intercourse between blacks and whites on the plantation. And that's where the fear comes in, because he's black.'"[46] As Fiske notes, one of the things this quote lays bare is the sexual dimension of racism.[47] Here King's beating becomes metonymic not only for the war on drugs and the Gulf War, but also for an entire white history of beating, lynching, and castrating black males. It becomes metonymic for a larger emasculating project.

Given this backdrop, the sexual intensity of my student's response to Ronell's article makes a little more sense. As I've already indicated, the student's hostility to Ronell was due in part to the violence, which, he believed, her article had done to him. Derrida

writes that there is something of a "strike and the right to strike in every interpretation, there is also war."[48] And certainly in adopting an interpretive strategy, which excludes and alienates certain academic readers, and sometimes denies needed information (the incomplete bibliographic citations, for example) Ronell, my student felt, had effectively thrown down the gauntlet. She had made him feel stupid and patronized. The fact that his (counter-) attack was immediately framed in sexual terms indicates perhaps the degree to which he subliminally equated such feelings with a form of intellectual emasculation. Certainly, they indicate the degree to which he saw Ronell's theoretical performance as a sexual/gender threat.

The fact that such a threat should be enacted around an episode which itself raises troubling issues of masculinity, emasculation, and the ultimate (de-)gendering of the Black male body—the students had seen the Holliday tape and had read several background articles on the King event—goes a long way, I feel, toward explaining the intensity of the response. But even in the light of what Freud might consider extreme psychological provocation, the student's response troubles me. I'm bothered by the rapidity with which he retreated not only to a primal psychological zone, where oedipal anxieties seem to outweigh everything else we think we know about the world, but to a patriarchal academic zone as well, where women are suffered to speak only if they speak clearly about things which do not immediately threaten or engage men.

In the months since I first began writing this piece a new national trauma has emerged, one which makes it, I believe, even more imperative that we seriously examine the status of continental theory in the U.S. classroom. That event is, of course, the Sept.11, 2001 attack on the World Trade Center and The Pentagon (and the downed plane in Pennsylvania). Like most of the nation, I watched in horror as the spectacle of two airplanes jamming into the WTC was repeated again and again on CNN. Like many others, I was glued to the television for days, so hungry for information that I welcomed Rudi Giuliani's announcements about subway lines ("the Lexington line is running") as though they were prophetic pronouncements. And like so many others I was completely captivated by a spectacle of mourning that allowed me to lose myself in something other than the inevitable wait for the phone to ring ("Have you heard from Tom? Is he safe?" "The circuits are busy; I can't get through").

There is a tremendous amount that can and needs to be said about the Sept.11 attack and about the U.S. national response to it. The national media has moved from an uncharacteristic initial aphasia (off-screen newscasters muttering "there are no words" as the footage of the assault on the twin towers endlessly replayed) to the highly verbal need to construct a rationalist linear narrative to "explain" the event. In the process, absolute binaries have been re-inscribed and codified (Bush's pronouncement, for example, that the nations of the world have to be put on notice; you're either with the U.S. or against it—no fudging allowed). Language has become totally slippery, de-centered and contaminated—although more in the viral tradition of newspeak than of Deconstruction. In a country in which civil liberties now seem to be under reconsideration, "mourning" has been confused with "nationalism," "nationalism" with "militarism," and "patriotism" with absolute conformity to the will of the Chief and Commander of the U.S. Armed Forces. There has been very little public space in which those of us who are critical of U.S. Foreign Policy and wary of war can come together to simply mourn our dead. And there has been something profoundly unsettling to me in the political "analyses" which I've been reading. Both conservative and progressive pundits seem to me to be missing key issues, and rather pointedly NOT asking many of the troubling questions that need to be asked. Of course, theory has been largely absent from the public response—even

the public *academic* response—to the event. With the exception of *CTHEORY* and a few renegade philosophy list-servers, intellectuals seem to feel it would be in bad taste to be *too* intellectual, *too* abstract at this moment. Those who are speaking out are doing so in largely material terms—this is the U.S history of foreign policy, this is what we've done in the Middle East, this is why a counter-attack is not such a hot idea. Of course, there is a certain urgency to all this; news channels have now packaged their continuing coverage of the event's aftermath as "America Strikes Back,"—an attack on Afghanistan has been haunting many of us. But I am saddened by a rhetorical move, which seems to reduce theory to some kind of academic parlor game—something we do when there's nothing really at stake. And I'm more convinced than ever that theory (of the kind that Ronell invokes in her Rodney King piece) is the best tool for understanding the full complexity of the situation—both the reasons behind the initial attack and the U.S. racist violence that has been proliferating in its aftermath. Indeed, to paraphrase something I wrote earlier in this piece, any attempt to deny theory—to impose a linear structure on something as diffusely traumatic and traumatizing as the Sept. 11, 2001 attack—is to necessarily frame the episode, freeze it in time and space, and contextualize it away. From a deconstructive point of view, any attempt to impose a strict linear rational order on the event is to risk the same kind of hegemonizing maneuver that the Defense performed in the Simi Valley trial. It risks re-instating the dominant ideology through a *masking* of the nation's real suppressed cultural and racial traumas.

It is in that spirit that I return to the student outburst in my class. The student's response to Ronell's article is emblematic, I think, of a certain set of assumptions—and forms of intolerance—which (especially beginning) students may and sometimes do bring to class, assumptions which have to be challenged if we're ever going to get anywhere in Cultural Studies (and anywhere in the "real" world). To what extent do students believe, even subliminally, that there are privileged speakers and privileged positions from which to speak? To what extent are the concerns of class, race, gender, sexuality—the issues which seem to form the crux of Cultural Studies engagement—*really* given equal weight? To what extent are certain categories/traumas given more social legitimacy—at least by some of our students—than others? And what do we tell students who retreat under pressure into familiar patterns, and use one form of marginalized discourse to marginalize another group? Or, to put it more bluntly, invoke race in order to degrade gender, sexual preference or class? How do we deal with lingering issues of race and gender privilege in the classroom?

These aren't easy questions to answer, and framing them may indeed invoke the "excessive force" which, Ronell says, "acts of framing always imply." But however one frames the episode I've described, I believe it is "imperative to understand" what it means to convert in a university classroom a woman scholar into a "deconstruction slut." It is imperative to understand gender politics if we're ever going to have a meaningful conversation about race or class in the Academy. And I believe it is imperative that we keep theory—high theory, difficult theory, continental theory—in the mix if we're ever going to understand what's happening to us as a people. In the meantime, I'm hoping that Avital Ronell (or some other high theory bad girl) will write an insightful and maddening theoretical analysis of the trauma we've just suffered. I promise I'll teach it, and weather whatever new outbursts such a piece might occasion in my advanced theory classes.

A special thanks to Bob Rehak. Our conversation about theory and the Sept. 11 attack helped me to clarify and refine many of the ideas expressed at the end of this essay.

Notes

1. Jack Kerouac, *On the Road*. New York and London: Penguin 1957. Norman Mailer, *The White Negro*. San Francisco: City Lights, 1957. Young white male investment in and appropriation of black male identity is not new.

2. Avital Ronell, "Video/Television/Rodney King: Twelve Steps Beyond the Pleasure Principle." *Culture on the Brink: Ideologies of Technology*, Gretchen Bender and Timothy Druckrey, eds., Seattle: Bay Press, 1994, p. 294.

3. Bill Nichols. *Blurred Boundaries: Questions of Meaning in Contemporary Culture*. Bloomington and Indianapolis :Indiana University Press, 1994. For a good analysis of the video-interpretive technique used in the trial, see Bill Nichols, 1994.

4. John Fiske. "Los Angeles: A Tale of Three Videos." Fiske, *Media Matters:Everyday Culture and Political Change*. Revised edition. Minneapolis and London: University of Minnesota Press, 1996. 126-149.

5. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technlogy, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p.278.

6. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps beyond the pleasure principle." Culture on the Brink; Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds., Seattle: Bay Press, 1994, p. 279.

7. Michel Foucault. The Archaeology of Knowledge. Trans. M. Sheridan Smith. New York: Pantheon, 1972. and Discipline and Punish. Trans. Alan Sheridan. New York: Pantheon, 1977.

8. Avital Ronell. "Video/Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 281.

9. Avital Ronell. "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p.287.

10. John Fiske's discussion of the re-technologizing of the video and the effect which such re-mastering had on the outcome of the Simi Valley trial is excellent. See Fiske, 1996.

11. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle."Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 279.

12. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 279.

13. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 289.

14. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p287. Ronell says that trauma exists in two ways "both of which block normal channels of transmission: as a memory one cannot integrate into one's experience, and as a catastrophic knowledge that one cannot communicate."

15. Avital Ronell. *Crack Wars: Literature, Addiction, Mania*. Lincoln and London: University of Nebraska Press, 1992, p25. "If Freud was right about the apparent libidinal autonomy of the drug addict," Ronell writes, "then drugs are libidinally invested . To get off drugs, or alcohol (major narcissistic crisis) the addict has to shift dependency to a person, an ideal, or to the procedure itself of the cure."

16. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle." Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 280.

17. Avital Ronell. Crack Wars: Literature, Addiction, Mania. Lincoln and London: University of

Nebraska Press, 1992.

18. Avital Ronell. Crack Wars: Literature, Addiction, Mania. Lincoln and London: University of Nebraska Press, 1992. Ronell explicitly acknowledges Burroughs' "algebra of need" in *Crack Wars*. And her question—"what if 'drugs' named a special mode of addiction, however, or the structure that is philosophically and metaphysically at the basis of our culture"—is basically a paraphrase of Burroughs' own use of the junk pyramid as a metaphor for the social construction of power. See Ronell 1992; 15,13; and see Burroughs, 1959.

19. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle."Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 277.

20. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle."Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 282; 283.

21. Avital Ronell. "Video/Television/Rodney King: Twelve Steps Beyond the Pleasure Principle." *Culture on the Brink: Ideologies of Technoloby*. Eds. Gretchen Bender and Timothy Druckrey, Seattle: Bay Press, 1994, p286. TV scholars refer to this more positively as "flow," claiming that the total TV text is one which comprises the program's context and entire broadcast. So, commercials and public service interruptions become part of the "flow," as well as the program lineup in which the show appears.

22. Avital Ronell, "Video/ Television/ Rodney King: Twelve Steps Beyond the Pleasure Principle."Culture on the Brink: Ideologies of Technology, Gretchen Bender and Timothy Druckrey, eds. Seattle: Bay Press, 1994, p. 343.

23. Susan Faludi. Backlash: The Undeclared War Against American Women. New York: Crown Press, 1991.

24. Even the terminology is sexualized — or libidinized — to reflect the libidinal play and economy which, for Derrida, lays at the heart of language. "Dissemination," a word which he says sounds as though it contains both "seme" (meaning) and semen; "insemination," "hymen" (the space betwen viriginity and consummation); "phallus;" "*difference*" / "*differance*."

25. Baudrillard, 1990.

26. Juno, Andrea and V.Vale. *Angry Women*. San Francisco: ReSearch Publications, 1991 p153. At the end of the passage, she points out that "basically all these dislocations are in the realm of the feminine."

27. Avital Ronell. *Crack Wars: Literature, Addiction, Mania*. Lincoln and London: University of Nebraska Press, 1992. I was a graduate student teaching assistant at the University of California at Berkeley at the time the Holliday tape was shown on television, and I saw a marked shift in the attitude of my white first year comp students—AWAY from the notion that African-Americans enjoy the same privileges and opportunities that whites enjoy in this society TOWARD an uncomfortable recognition that African-Americans grow up in an unequal and unjust world. Every white kid in my class knew instinctively that he would not be treated the way Rodney King had been treated, no matter how recklessly he'd been driving, no matter how many drugs he'd taken. In the face of that recognition, student attitudes temporarily shifted away from the hegemonic naiveté of the Reagan/Bush years to something we might recognize as more realistic, certainly more nuanced.

28. Jaques Derrida. "Force of Law: the 'Mystical Foundation of Authority.'" Trans. Mary Quittance. Deconstruction and the Possibility of Justice. Eds. DrucillaCornel, Michel Rosenfeld, and David Gray Carson. New York and London: Routledge, 1992, pp.3-67.

29. Avital Ronell. "Preface." Finitude's Score: Essays for the End of the Millenium. Lincoln and London: University of Nebraska Press, 1994, xiii.

30. Andrea Juno and V. Vale. Angry Women. San Francisco: ReSearch Publications, 1991, p127.

31. Andrea Juno and V. Vale. Angry Women. San Francisco: ReSearch Publications, 1991, p147.

32. Joanna Frueh. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996, p 2.

33. Andrea Juno and V. Vale. Angry Women. San Francisco: ReSearch Publications, 1991, p128.

34. Joanna Frueh. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996.

35. Joanna Frueh. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996, 43.

36. Joanna Frueh. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996, 43.

37. Luce Irigaray, *This Sex Which is Not One*. Trans. Catherine Porter and Carolyn Burke. Ithaca: Cornel University, 1985. Frueh, Joanna. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996, p44. Gallop, Jane. *Feminist Accused of Sexual Harassment*. Durham and London: Duke University Press, 1997, p14. Both Frueh and Jane Gallop have written impressively about the positive impact a woman professor's seductiveness can have on students, about the powerful impact a woman professor's seductiveness had on *them*, when they were students.

38. Herman Gray. Watching Race: Television and the Struggle for "Blackness. " Minneapolis and London: University of Minnesota Press, 1988, p 44.

39. West, Cornel. "The New Cultural Politics of Difference." *Cultural Studies Reader*, Ed. Simon During. London and New York: Routledge, 1993, p204. A slightly different version of West's essay also appears in Russell Ferguson, Martha Gever, Trinh T. Minh-Ha, Cornel West eds, 1990.

40. Cornel West. "The New Cultural Politics of Difference." *Cultural Studies Reader*, Ed. Simon During. London and New York: Routledge, 1993, 204.

41. John Fiske. "Los Angeles: A Tale of Three Videos." Fiske, *Media Matters:Everyday Culture and Political Change*. Revised edition. Minneapolis and London: University of Minnesota Press, 1996. 1996, p142.

42. Robyn Wiegman. *American Anatomies: Theorizing Race and Gender*. Durham and London: Duke University Press, 1995 p85.

43. Michele Wallace. *Black Macho and the Myth of the Superwoman*. London and New York: Verso, 1990. A reprint of the 1979 edition.

44. Robyn Wiegman. *American Anatomies: Theorizing Race and Gender*. Durham and London: Duke University Press, 1995 p85.

45. *Los Angeles Times*; May 16, 1992, B2.

46. *Los Angeles Times*; May 16, 1992, B2

47. John Fiske. "Los Angeles: A Tale of Three Videos." Fiske, *Media Matters:Everyday Culture and Political Change*. Revised edition. Minneapolis and London: University of Minnesota Press, 1996. 1996, p146.

48. Jaques Derrida. "Force of Law: the 'Mystical Foundation of Authority.'" Trans. Mary Quittance. Deconstruction and the Possibility of Justice. Eds. DrucillaCornel, Michel Rosenfeld, and David Gray Carson. New York and London: Routledge, 1992, p39.

Works Cited

49. Burroughs, William S. *Naked Lunch*. New York: Grove Press, 1959.

50. Derrida, Jacques. "Force of Law: The 'Mystical Foundation of Authority.'" Trans. Mary Quittance. *Deconstruction and the Possibility of Justice*. Eds. Drucilla Cornel, Michel Rosenfeld, and David Gray Carson. New York and London: Routledge, 1992, pp. 3-67.

51. Faludi, Susan. *Backlash: The Undeclared War Against American Women*. New York: Crown Press, 1991.

52. Fiske, John. "Los Angeles: A Tale of Three Videos." Fiske, *Media Matters:Everyday Culture and Political Change*. Revised edition. Minneapolis and London: University of Minnesota Press, 1996. 126-149.

53. Foucault, Michel. *The Archaeology of Knowledge*. Trans. M. Sheridan Smith. New York: Pantheon, 1972.

54. *Discipline and Punish*. Trans Alan Sheridan. New York: Pantheon, 1977.

55. Frueh, Joanna. *Erotic Faculties*. Berkeley and Los Angeles: University of California Press, 1996.

56. Gallop, Jane. *Feminist Accused of Sexual Harassment*. Durham and London: Duke University Press, 1997.

57. Gray, Herman. *Watching Race: Television and the Struggle For "Blackness."* Minneapolis and London: University of Minnesota Press, 1988.

58. Irigaray, Luce. *This Sex Which is Not One*. Trans. Catherine Porter and Carolyn Burke. Ithaca: Cornel University, 1985.

59. Juno, Andrea and V.Vale. *Angry Women*. San Francisco: ReSearch Publications, 1991.

60. Kerouac, Jack. *On the Road*. New York and London: Penguin 1957.

61. Mailer, Norman. *The White Negro*. San Francisco: City Lights, 1957.

62. Nichols, Bill. *Blurred Boundaries: Questions of Meaning in Contemporary Culture*. Bloomington and Indianapolis :Indiana University Press, 1994.

63. Ronell, Avital. *Crack Wars: Literature, Addiction, Mania*. Lincoln and London: University of Nebraska Press, 1992.

64. *Dictations: On Haunted Writing*. Bloomington: Indiana University Press, 1986.

65. "Preface." *Finitude's Score: Essays for the End of the Milennium*. Lincoln and London: University of Nebraska Press, 1994.

66. "Video/Television/Rodney King: Twelve Steps Beyond the Pleasure Principle." *Culture on the Brink: Ideologies of Technoloby*. Eds. Gretchen Bender and Timothy Druckrey, Seattle: Bay Press, 1994, pp 277-303.

67. Wallace, Michele. *Black Macho and the Myth of the Superwoman*. London and New York: Verso, 1990. A reprint of the 1979 edition.

68. West, Cornel. "The New Cultural Politics of Difference." *Cultural Studies Reader*, Ed. Simon During. London and New York: Routledge, 1993. A slightly different version of this essay also appears in *Out There: Marginalization and Contemporary Cultures*. Eds.Russell Ferguson,

69. Martha Gever, Trinh T. Minh-Ha, and Cornel West. New York: The New Museum of Contemporary Art and Cambridge: MIT Press, 1990.

70. Wiegman, Robyn. *American Anatomies: Theorizing Race and Gender*. Durham and London: Duke University Press, 1995.

METAL GENDER

Steve Dixon

Provocation

AI metal has its own gender. That is to say, developing and envisaged AI cyborgic prostheses (what I will refer to as 'AI metal' or 'intelligent metal') may be considered a new form of gender within cultural and sociological theory. Although AI metal is non-animal and logic might assume that it cannot be gendered, it operates (or will operate) in the same way as human gender by virtue of the significant symbolic inscriptions, language systems and 'desires' that AI metals imbricate within the cyborg body. According to Simone de Beauvoir and Judith Butler, "gender is a fabrication and true gender is a fantasy instituted and inscribed on the surface of bodies."[1] If this is the case, then the direct, physical inscription of the 'fantasy' of metal on the human body can be conceived to operate as another gendering inscription, quite separate from the masculine or the feminine.

Esther Newton's famous theory of drag proposes 'a double inversion' whereby although ostensibly signaling that the outer appearance is feminine but the inner essence is masculine, it simultaneously symbolises the opposite: that the outside appearance belies masculinity whilst the inner essence is feminine.[2] Cyborg ontology similarly symbolises a trajectory towards a significant inner gendering as metal and machine, whilst retaining or extending exteriorities of the masculine and/or the feminine. The cyborg is tri-gendered and tri-sexed - as man, woman *and* machine.

It is tempting to conceptualise the cyborg only in terms of its physical ontology; to describe it, for example, as a new genus or species: a human-machine cross-breed like the part-human, part-animal *theranthropes* of folktales and Greek mythology. But it is more illuminating to explore the impact 'of human-metal fusion within possible new discourses of gender. Gender theory is fundamentally linked to notions of the body,[3] social action[4] and sexual practices.[5] The cyborg challenges or reconfigures central assumptions within each of these areas of gender theory, seismically reorienting the body, social action and sexual practices. Within feminist analyses of the sex/gender distinction,

gender is first and foremost understood as a social and cultural distinction.[6] Gender is an analytical tool "which focuses on the division between men and women and the hierarchical relationship between them."[7]

Cyborgic metal's entry into the human body marks a distinctly new social and cultural distinction, and a new hierarchical relationship. This hierarchy no longer solely functions in terms of gendered power relations between men and women, but opens a fresh pecking order privileging the cyborg (whatever its original human gender) over the man or woman by virtue of its physical and mental superiority. The current socio-cultural-biological consideration of gender cannot take account of a new techno-bio-cultural creature. The distinctions and hierarchies that gender theory understands and analyses in relation to ideas such as self-presentation, communication and control are deeply problematised, and need to be fundamentally reconfigured when comparing the male or female cyborg with the technologically unmodified male or female subject. Cyborgic embodiments, reaching beyond anything within the current socio-biological sliding scale marking male/female distinctions, represent a challenge to the orthodoxies of sociological analytical models of gender. The separate gendering of intelligent metal enables new models of thought about machine and cyborg gender, extending the male/female binary into a trinity of male/female/metal.

Exploding Gender Binaries

The male/female binary currently defines the boundaries of gender theory. Bourdieu maintains that our cognitive operations which interpret social practice and attempt to give order to the world rely upon "reference to practical functions, [and] systems of classification (taxonomies) which organise perception and structure practice."[8] Bourdieu later develops this idea in *The Logic of Practice* to argue that "a vision of the world is a division of the world, based on a fundamental principle of division which distributes all the things of the world into two complementary classes."[9] He uses Leibniz's ideas on 'arbitrary institutions' to demonstrate how 'difference' is institutionally imposed to introduce breaks and separations counter to, but irreparably affecting, the collective beliefs of societies. These taxonomic frontiers, or *nomos*, institute ideas of what unites and separates people despite "the network of biological kinship or the natural world." It is clear that the cyborg imposes serious strains upon the binary classification system Bourdieu defines ("a fundamental principle of ... two complementary classes"), as well as on ideas of separations which operate within and against "the network of biological kinship."[10]

Beate Krais describes gender as "one of the most powerful and ubiquitous systems of classification in social practice,"[11] which together with class, constitute sociology's two "fundamental dimensions of social differentiation that entails domination."[12] As cyborgic prostheses proliferate within society, AI metal will begin to impose an equally powerful socio-cultural classification system, which operates beyond the male/female taxonomy. This too will profoundly mark 'social differentiation' and will 'entail domination', without adhering to current sociological classifications of class, race or gender.

But this issue is largely avoided in discussions of gender by cultural and media critics, who emphasise instead the extension or accentuation of binary gender systems. Through analysis of dominant masculine images within science fiction and popular culture, cyborgic embodiments have been conceptualised instead (and understandably) as prosthetic and ideological extensions of a negative masculinity, as in the quintessential cinema image of the metal man as militaristic killing machine. Within

phallocentric science fiction and cyberpunk the metal-man has become synonymous not only with nightmares of technological apocalypse but also with male fantasies of metallic parthenogenesis. This monstrous masculine reaches a sexualised apotheosis with the male protagonist in the Japanese science fiction horror film *Tetsuo* (1989) who grows an enormous, rotating metal phallus.

Similarly, female depictions of the robot and cyborg have often extended feminine gender signifiers, for example by attenuating the curves and sexual desirability of the metal-female. The robot Maria in Fritz Lang and Thea Von Harbou's *Metropolis* (1927) marks a quintessential vision of the sexualised female robot, which Andreas Huyssen discusses as a 'vampmachine,'[13] and the *Tomb Raider* game character Lara Croft provides another example within contemporary popular culture.

Within literary, film and media studies, the metallic embodiments of robots and cyborgs have thus been commonly discussed as re-inscribing and extending gender difference. Within dominant cybertheories, a different position has been taken, but the problem of gender in metallic metamorphoses has nonetheless largely been elided through a belief in the androgynous ontology of the robot and/or the post-gendered ontology of the cyborg as discussed by Donna Haraway.

A Manifesto for Gender-Blindness

Haraway's utopic *A Manifesto for Cyborgs* is an influential and canonical work, though consciously ambiguous and iconoclastic: written, as she puts it as "an ironic political myth."[14] But the ironic stance and delight in polemic and paradox should not blind us, nor excuse the fact that despite some brilliant incendiary discourse on the cyborg, the treatment of gender is self-contradictory and unconvincing. On the same page, Haraway suggests that we are *already* "hybrids of machine and organism; in short, we are cyborgs," before declaring that "the cyborg is a creature in a post-gender world ... [and] has no origin in the Western sense."[15] This formulation suggests that *we*, the already-cyborgs, are right now living in a post-gendered world, with no sense of our origins. Few would seriously subscribe to the thesis, least of all feminists. But the lack of a gendered origin is qualified on the following page when she admits that cyborgs are the "illegitimate offspring of militarism and patriarchal capitalism."[16] This statement is then re-qualified to suit the argument, but not any type of logic, by the assertion that their very illegitimacy renders cyborgs unfaithful to their patriarchal origins. Cyborg gender is thereby addressed in confused ahistorical double-speak, which ignores both the gendered human genesis of the subject and the bio-cultural foundations of gender theory itself.

Haraway suggests that "gender might not be global identity after all", and reifies the cyborg as the site of escape from the traps and stereotyping of female gender, from "dailiness ... mothering and its metaphorical extensions."[17] It is startling that after attacking Catherine MacKinnon's 'authoritarian' feminist writing for constructing "a non-subject, a non-being" and for promoting "intentional erasure of all difference through the device of the 'essential' non-existence of women,"[18] that Haraway herself should proceed to do essentially the same. Her "hope for a monstrous world without gender," where cyborgs "are suspicious of the reproductive matrix" and instead re-grow their limbs and bodily structures like salamanders,[19] signals a Deleuzo-Guattarian 'becoming-animal,' but with that transformation a subsequent disappearance of the feminine within the female-cyborg subject.

Haraway has exerted a major influence across a large body of theory around the cyborg and posthumanism, where many of the most important writers are cyber-feminists such as Katherine Hayles,[20] Sadie Plant[21] and Sandy Stone.[22] These writers firmly locate technology and the conjunction of flesh and metal within a feminist discourse, whilst simultaneously negotiating critiques of an inclusive postgendered world. In doing so, their otherwise radical work aiming to reclaim technology from dominant masculine hegemonies also embraces an implicit and, I believe, fallacious separation from the feminine through a new gender construction of the cyborg which fundamentally reorients and ultimately denies the feminine. Haraway's famous declaration that she would rather be a cyborg than a Goddess[23] is an important metaphor within the discourse, however ironically iterated or interpreted. Woman's evolutionary course is no longer viewed as moving towards traditional metaphysical notions of the earth-mother or the spiritual-transcendent implied in the Goddess figure, but in a technologized embodiment which has lost its ties to gender, or put another way, has erased both masculine and feminine.

In *Posthumanism and the Monstrous Body*, Margrit Shildrick questions a number of Haraway's ideas, and goes some way towards addressing the question of a new gender by emphasising the necessity to understand the cyborg beyond traditional binary systems:

> I am on the side of the monsters [cyborgs] as signifiers of the radical destabilization of the binary processes of identity and difference. Monsters clearly cannot exist apart from 'normal' bodies, but at the same time they are excessive to the binary, uncontained by any fixed category of exclusion. ... In the same way that the feminine has been deployed—particularly in Derridean discourse—as the undecidable signifier of excess, so too the catachrestic term 'monster' both escapes binary closure and displaces simple difference.[24]

Shildrick warns feminism to be wary of abandoning the concept of the feminine and embracing "the final loss of sexual difference"[25] implied by Haraway's formulation, which she says "speaks unambiguously for feminism and yet seems to have no place for sexual difference."[26] She ponders whether cyborgism may prove as damaging as patriarchal humanism and stresses that the cyborg presents a collapse of the binary whereby the feminine "is not that of conventional gender, but rather a thing to be achieved."[27] Shildrick notes that in later writings, Haraway revises her position to open the possibility of "a quite different grammar of gender"[28] and makes reference in two works to the idea of the cyborg "queering what counts as nature,"[29] and "queering specific normalised categories."[30]

AI and Desire

Alison Adam provides a comprehensive and authoritative study of the contrasting positions on gender in relation to AI systems, concluding that the 'knowing of women' is largely left out of 'thinking machines.'[31] Adam argues that to date readings of gender within AI are inextricably linked to notions of masculinity, and that the development of two flagship AI systems, *Cyc* and *Soar,* reinscribes patriarchal thought and language models (they are designed predominantly by teams of men). But the ultimate goal of AI is an Artificial Lifeform, which thinks for itself, learns and adapts. Today, the AI project has plateaued amidst numerous problems, and as such we can only

guess how Artificial Lifeforms will develop in the future. That is to say, they may continue to evolve by entrenching and expanding ingrained patriarchal political structures, but equally through learning, they may develop important feminine intuitions and "the plurality of views which is such an essential part of the feminist project."[32]

But whether an Artificial Lifeform exists alone, or is grafted onto the cyborgic human body, it is not ontologically sexed or gendered in relation to male and female dichotomies. Nor do I believe that the Artificial Lifeform, as an advanced, intelligent and desiring lifeform 'born' of humans, can be simply dismissed as androgynous and gender-neutral. It is a *technological lifeform* with a *technological body* and a *technological gender*. Rather than arguing masculine or feminine interpretations and positions on the thinking machine, we should acknowledge that whilst programmed to carry the symbolic, linguistic and political aspects of human gender that Adam outlines, AI metal also carries its own unique forms of symbolism, linguistics and politics. The grafting of AI agents onto the human body maps a new technological language/gender system, which constructs a hybrid technological-human language/gender system, which fundamentally alters our conception of the cyborg subject as a gendered form.

Language has been central to theories on male/female gender since the 1970s when, for example, studies correlated the rational and patriarchal structures of language systems to a consequent linguistic silencing or marginalisation of women.[33] Language has also held a central position within contemporary discussions of the body, which Foucault and others have conceptualised as a primarily linguistic discourse system. Barbara Fried argues that "language does not just form part of a link between sex and gender identity, it *is* the link."[34] If *language* is key to gender, particularly social expression and regulation of normative gender as Lacan, Bourdieu and Derrida maintain, then the argument for a consideration of intelligent metal as a gender is furthered when a new and distinct machinic language (binary code) is directly inscribed upon the human subject.

How Metal Gender Works

How then, does intelligent metal actually operate as a gendering construction separate from the male, the female or the sexless androgyne? Whilst AI systems initially only have agendas and goals in relation to those programmed in to them by humans,[35] they are ultimately designed to develop independence of thought and action. Even though the AI project today remains embryonic in terms of this organic independence as 'Artificial Life,'[36] programmers and users nonetheless input motivations and desires within cyborgic and robotic bodies. I do not believe that these merely extend the body's masculinity and/or femininity, but introduce a fundamental new element, which operates directly according to the sociological definitions and understandings of gender I have outlined, existing outside of the male/female binary. This element, or gender, inscribes not only the overt or covert motivations and desires of anonymous AI programmers, but also the functional aims and 'desires' of AI machines themselves. These may range from basic regulatory motivations to ensure operational efficiency, to decision-making judgements the cyborg will make which may run counter to his or her 'natural' human instincts or intentions, to the possibility of the type of desire for longevity, independence or immortality commonly depicted in dystopic science-fiction.

The cyborg body is described by Jennifer Gonzalez as "a site of condensation and displacement."[37] AI metal may distil aspects of male/female gender, but it equally performs a 'displacement' of gender that takes the figure of the cyborg beyond postmodern theories of fragmentation into a metallically embodied social and cultural ontology. Adapting Butler's Derridean formulation of gender as 'a complexity whose totality is

permanently deferred,' a new gender comes into play when AI prosthetics are inserted into and onto the human subject—a gender marked by 'deferred' intelligence forged into metal. This deferred intelligence originates from the gendered human designers and programmers who, according to Madeleine Akrich, define a framework of action and "inscribe a vision or prediction of the world."[38] But this vision and prediction, together with consequent judgements and actions, are modified and evolved by the artificial entity itself.

In its modification of human behaviour and bodily ontology, metal inscribes upon the human subject a technological socio-cultural and linguistic system incorporating and instituting the progressivist ideologies of cybernetic networks and artificial intelligence. Katherine Hayles has observed that the body is 'encultured' by both inscribing and incorporating practices, and that "the body produces culture at the same time that culture produces the body."[39] AI metal inscribes a culture fusing the machine with the genders of masculine and feminine (present in every human to varying degrees, whatever their biological sex) to produce a tri-gendered corporeality of man, woman and machine. Machines, like genders, are not neutral. The imbrication of flesh with intelligent metals transforms the genders of bodies, and their motivations and desires. As David Rothenberg points out: "technology never simply does what we tell it to, but modifies our notions of what is ... desirable."[40]

Conclusion

I am conscious that this hypothesis adopts a distinctly essentialist position, which is currently unfashionable in the face of continental poststructuralist thought. Deconstruction seeks its 'truth' through reading the gaps, the disjunctions and the hairline fractures, sifting a rich web of meanings like flour through a sieve. But by stark contrast, and inconveniently for many cultural theorists, the cybernetic impulse is to make the sieve impermeable. Intelligent metal is programmed for essentialism and positivism, and we may therefore require equivalent theoretical strategies to unlock its ontology and understand its deep implications on the human body. Meanwhile, discussion of the cyborg has been sucked into an increasingly meaningless vortex of capricious and romantic ideas and paradoxes. Jennifer González opens her well-known article on cyborgs with a dramatic flourish typical of writers in the field:

> The cyborg body is the body of an imagined cyberspatial existence. It is the site of possible being. In this sense it exists in excess of the real. But it is also embedded within the real.[41]

The use of paradox here (the cyborg body being in excess of the real, yet also within it), as so often, at first appears philosophical and profound, but on closer examination says nothing. Putting to one side the minefield of what is meant by 'the real,' one might reasonably ask: 'which is it then: *in* the real or *in excess* of it?' If the answer is 'both,' one might then ponder: 'so what?' Thought, imagination, indeed consciousness itself, exists within the real and in excess of it, and so does a cartoon, a movie, or any piece of fiction. The use of such paradoxes rarely advances understanding, although they remain a staple diet of cybertheory, as well as performance theory, as David Saltz has noted:

> Paradox, in particular, is a positive virtue in much performance theory ... not rejected as incoherent but celebrated as profound. X both is and is not Y is a deeply satisfying formulation ... [whereas] analytic philosophers seek out paradox in order to reveal a logical flaw in an argument.[42]

Cultural theorists could do well to put themselves in the shoes of an artificial life-form, the thing grafted onto the human, rather than perennially imagining themselves in the shoes of the human-cyborg. It would soon be recognised that in the algorithmic language of intelligent metal there is no room for clever intellectual paradoxes of either-or, for lofty romantic notions of yes *and* no; it is one or the other, one or zero. Our current taxonomies of gender may fit well with the former, as a sliding scale of signs, beliefs and behaviours which can ebb and flow, either-or, between fluid understandings of masculine and feminine. But intelligent metal takes its own direct course, has its own signs, beliefs and behaviours that sit outside and beyond masculine and feminine, and has its own strategies for survival. It is a new life form, bred for analysis and logical pragmatism. It deserves a certain respect, and the recognition that it has its own gender.

Notes

1. Judith Butler, "From Interiority to Gender Performatives." *Camp: Queer Aesthetics and the Performing Subject: A Reader*, ed. Fabio Cleto, pp. 136-142, Edinburgh: Edinburgh University Press, 1999, p. 363.

2. as quoted in Butler, *Ibid*., p. 363.

3. for example, Judith Butler, *Bodies That Matter*, New York: Routledge, 1993; Mike Featherstone and Roger Burrows (eds.), *Cyberspace/Cyberbodies/Cyberpunk: Cultures of Technological Embodiment*. London: Sage Publications, 1995.

4. for example, Emily Martin, *The Woman in the Body*, Milton Keynes: Open University Press, 1989; Pierre Bourdieu, *The Logic of Practice*, trans. R. Nice, Cambridge: Polity Press, 1990 [first published 1980].

5. for example, Michel Foucault, *The History of Sexuality, Volume 1: An Introduction,* Hamondsworth: Penguin, 1981.

6. Suzanne J. Kessler and Wendy McKenna, *Gender: An Ethnomethodological Approach,* Chicago: University of Chicago Press, 1978; Gesa Lindemann, "The Body of Gender Difference," *Embodied Practices. Feminist Perspectives on the Body*, ed. Kathy Davis, London: Sage, 1997; Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity,* New York: Routledge, 1990.

7. Stevi Jackson and Sue Scott, "Putting The Body's Feet on the Ground: Towards a Sociological Reconceptualization of Gendered and Sexual Embodiment," *Constructing Gendered Bodies*, ed. Katherine Backett-Milburn and Linda McKie, pp. 9 - 24, Basingstoke: Palgrave, 2001, p. 14.

8. Pierre Bourdieu, *Outline of a Theory of Practice*, trans. R. Nice, Cambridge: Cambridge University Press, 1977 [first published 1972], p. 97.

9. Pierre Bourdieu, *The Logic of Practice,* trans. R. Nice, Cambridge: Polity Press, 1990 [first published 1980], p. 210.

10. *Ibid*., p. 210.

11. Beate Krais, "Gender and Symbolic Violence," *Bourdieu: Critical Perspectives*, eds. Craig Calhoun, Edward LiPuma and Moishe Postone, Cambridge: Polity Press, 1993, p. [159]

12. *Ibid*., p. 156.

13. Andreas Huyssen, "The vamp and the machine: Fritz Lang's *Metropolis*," *After the Great Divide: Modernism, Mass Culture, Postmodernism,* pp. 70—81, Bloomington, IN: Indiana University Press, 1986.

14. Donna Haraway, "A Cyborg Manifesto: Science, Technology and Socialist-feminism in the late Twentieth Century," *Simians, Cyborgs and Women: The Reinvention of Nature*, pp. 149—181, London: Free Association Books, 1991 [originally published in *Socialist Review* 80, pp. 65—107, 1985], p. 149.

15. *Ibid*., p. 150.

16. *Ibid*., p. 151.

17. *Ibid*., p. 180.

18. *Ibid*., p. 159.

19. *Ibid*., p. 181.

20. Katherine N. Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics*, Chicago: University of Chicago Press, 1999.

21. Sadie Plant, *Zeros and Ones: Digital Women + The New Technoculture*, London: Fourth Estate, 1998.

22. Allucquere Rosanne [Sandy] Stone, *The War of Desire and Technology at the Close of the Mechanical Age*, Cambridge: MIT Press, 1996; "Will the Real Body Please Stand Up?: Boundary Stories About Virtual Cultures," *Cyberspace: First Steps*, ed. Michael Benedikt, pp. 82-85, Cambridge: MIT Press, 1992.

23. Haraway, "A Manifesto for Cyborgs," p. 181.

24. Margrit Shildrick, "Posthumanism and the Monstrous Body," *Body and Society,* 2:1, pp. 1-15, March 1996, p. 8.

25. *Ibid.,* p. 9.

26. *Ibid.,* p. 10.

27. *Ibid.,* p. 9.

28. Donna Haraway, "The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others," *Cultural Studies*, eds. Lawrence Grossberg, Cary Nelson and Paula Treichler, London: Routledge, 1992, p. 301.

29. *Ibid.,* p. 300.

30. Donna Haraway, "A Game of Cat's Cradle: Science Studies, Feminist Theory, Cultural Studies," *Configurations*, 1, pp. 59 - 71, 1994, p. 60.

31. Alison Adam, *Artificial Knowing: Gender and the Thinking Machine,* London: Routledge, 1998.

32. *Ibid.,* p. 3.

33. for example, Robin Lakoff, *Language and Woman's Place*, New York: Harper & Row, 1975; Dale Spender, *Man Made Language*, London: Routledge and Kegan Paul, 1980.

34. quoted in Adam, *Artificial Knowing*, p. 106, from Barbara Fried, "Boys will be Boys will be Boys: the Language of Sex and Gender," *Biological Woman: The Convenient Myth*, eds. Ruth Hubbard, M.S. Henfin and Barbara Fried, pp. 47 - 69, Cambridge, MA: Schenkman, 1982.

35. see Stan Franklin, *Artificial Minds*, Cambridge: MIT Press, 1995.

36. see Hubert Dreyfus, *On the Internet,* London: Routledge, 2001.

37. Jennifer Gonzalez, "Envisioning Cyborg Bodies: Notes from Current Research," *The Cyborg Handbook*, ed. Chris Hables Gray, London: Routledge, 1995, p. [540]

38. quoted in Adam, *Artificial Knowing*, p. 1, from Madeleine Akrich, "The De-scription of Technical Objects," *Shaping Technology/Building Society: Studies in Sociotechnical Change,* eds. Weibe E. Bijker and John Law, Cambridge: MIT Press, [1992]

39. Hayles, *How We Became Posthuman*, p. 200.

40. David Rothenberg, *Hand's End: Technology and the Limits of Nature*, Berkley and Los Angeles: University of California Press, 1995, p. xiv.

41. Gonzalez, "Envisioning Cyborg Bodies," p. 540.

42. David Saltz, "Why Performance Theory Needs Philosophy," *Journal of Dramatic Theory and Criticism*, 16: 1, pp. 149-154, Fall 2001, p. 153.

SCREAMING EAGLE

FOR KATHY ACKER

Arthur and Marilouise Kroker

It's a sweet moving, easy livin' summer evening, the twilight in the city air lingering on an endless repeat cycle, and I'm stompin' St. Catherines on my Harley-Davidson Screaming Eagle.

Born in 63, the year Kennedy was assassinated, I've always been hooked on those too late at night b&w rebel with or without a cause biker movies, 'specially Marlon Brando in his beautiful bod, Greek god-look, eyes to dream about days. Friends tell me that a woman, 62 inches vertical, has no business straddling a max cc, turbo-charged, neon red, chrome-plated, road hugging Daddy like a Screaming Eagle, but I just put on that moody Brando pout with my DOT helmet and black leather jacket and laced up the side pants and silver-tipped blast throttle boots, set the jet carb on full gas intake and ignite. Sort of a retro 50s take on the e-wire 00's, or maybe a girl flesh fresh from life in the wires out for a spin with all the boys.

But before I get ahead of myself, let me tell you how I got the name Cloner. It was about five years ago and I was on another bike, a K-line BMW, cruisin' a desert highway mid-winter. Never even saw that transport creaming my way. All I remember is the silver grill, high-top sun-tinted windows, snarling cougar roof design, gonna kill you, gonna maul you good, eat you right up, you're in my lane, and my lane is the whole fuckin' road kind of speed noise. I can still smell to this day burning tires, melted chrome, and the fear of me splashed on the highway.

Woke up in Phoenix with half my face ripped off, and all I could think of was "Shit I don't have any insurance."

No big deal, I'm told.

The surgeon tells me it's my lucky day. Turns out I'm one of those bike wrecks I've always read about. Something about donor tissue.

I think to myself organ donors? Aren't I still alive?

Then I hear the word, SynSkin, the new artificial flesh grown in bio-gen labs from the foreskin of baby boys. And you know what the surgeon tells me: "A single male baby foreskin produces enough SynSkin to cover four football fields."

That's a lot of skin, and not much foreskin.

I'm lying there broken-bodied, torn face, feeling real bad, no Marlon Brando pout, but still something clicks in my DOT crushed head, and I can't help but admire the ingenuity and audacity of Big Science marching ahead, or in this case marching right over my face. Because as it turns out, the surgeon's got an Alien 4 suggestion. "How would you like to grow a new face, or at least half-a-face? No charge."

"Sure, I think to myself, 'cause it's probably experimental."

And it was. And it was great. Took about four weeks for the foreskin, or I should say SynSkin, to clone the remains of my face.

That's about the time I started calling myself Cloner.

My Face

Artificial face for a time in which machines have migrated into the flesh.

Before the accident, I was thinking hard about consciousness, about the bicephalic brain split into right- and left hemispheres, about McLuhan's theory that ever since the Gutenberg Galaxy we've lived in a right-hemisphere world where all the values associated with uniform visual culture—specialization, privatization, the individuated ego, the eye not the ear—have been stamped on our memories, speech patterns, gestures, bodies, and, most of all, on our faces. Eye faces without ears or tears or memory smears.

Maybe that was why in the hospital in Phoenix, drugged down tight and mind drifting free, I had this strange recurring dream. I was always double-headed, double-faced—a high-distortion camera red eye and a blue-screen liquid ear—zooming outwards from an earth-bound tissue patch, coiling together, leering, touching, embracing, and then always splitting apart. And the difference that split wide open the face ear and the face eye was a real screaming eagle with its no-blink stare and its shriek-shriek hunting scream and its razor-tooth talons doing max damage to the twirling double-headed flesh spiral.

Didn't much like that swirly dream, but I trapped its message good in my dream-catcher, and so when the surgeon asked me if I had any "special preferences" for my SynSkin face, I just told him that I wanted an ear for an eye and an eye for an ear and a Screaming Eagle for a mouth in between. Maybe not really, but it sure would be nice.

Probably having read his McLuhan and knowing that revolting against the press-ganged, screwed down and screwed up, uniform visual culture Gutenberg face has to begin somewhere, sometime, he just said that he'd "see what he could do." Maybe he even understood that what I really wanted was a wetware face as a kind of flesh bridge between software flesh and the hardware road.

A Post-Biologics Face.

Which is exactly what I got. My left profile was the same as always, sort of a memory box stuffed with flesh reminders of who I used to be, an eye and an ear and a tongue and some bad-assed scrapes and too-bruised bluish skin. Sort of a camera eye in permanent position fixed-focused on facial features that moved to the more ancient rhythms of time's decay. The right-side face, my SynSkin face, was magnificent. It was as if the surgeon had Francis Bacon'd my skin, laying over the stripped down bones

a liquid skin hologram, like a mutating slide dipping and weaving and flesh-blending. Put my face in front of the liquid array of a computer screen or under the black light of a dance club, and what you get is me hologrammed into the image of an eye for an ear, an ear for an eye, with this trip hop angry Screaming Eagle taking up the remainder.

I looked in the mirror, and thought to myself. Great!

Because who wants a perfect face anyway? The face has outlived its usefulness. We've been morphed and graphed and pixelated and mutated and serialized and downloaded and zip-drived and pinholed and infrareded and surveillanced and ABM recorded. What's left is just some empty orifices, a hole for air, a canal for sound, sockets for light, a tongue for taste, and a mouth to spit away the difference.

KATHY ACKER IN LIFE AND DEATH

Arthur and Marilouise Kroker

Spectres and Slim's and Jade-Blue Eclipse

San Francisco, January 22, 1998

Slim's is a cavernous two-story, hard drinking, no smoking San Francisco-style club that is usually home to alternative and roots music. Tonight it is filled with friends and fans of Kathy Acker. All the counter-culture tribes are there for the memorial: dykes and poets and writers and musicians and strippers and s/m filmmakers and lovers and mourners, all the gay and the straight, the buzzed and the suicided, pumped-up women and flabbed-down guys, the happy and the despaired.

A beautiful voodoo altar framed by a large serene portrait of Kathy marks the entrance, complete with burning votive candles and a collage of her favorite boots and biker gear and crystalline magic talismans and pens and paper and keyboards and *Blood and Guts in High School* and a bottle of rum and a brass container holding slips of paper where we all have written last messages to be burned ritualistically later in the evening. Incense burns and candles flicker and Kathy's strong presence is deeply felt.

Time is pushing up against the blank face of the millennium of the absurd but the spirits of the poetic night have been summoned, and you can just feel as you stand there Rimbaud and Artaud and Bataille and Ginsberg and Burroughs slip out of the spectral air of the imaginary and take material form. It's a wake of dead spectres and living bodies, a kind of swirling commingling of poetic being. The mood of love and remembrance and invocation and sorrow and joy and just plain down and out gold nugget San Francisco craziness takes possession of the crowd and the performers.

Everyone has a story to tell.

R.U. Sirius, host with Machiko Saito, transforms himself into a data drag queen as the night progresses—fake fur leopard and fox, velvet and satin and lycra pants and skirt, full make-up and pins in his hair. It's magic.

The music of *Trance Mission* shockwaves against a punk dyke band that advertises itself as the "most likely to blow up the White House."

A first generation American beat poet tells the story of Kathy's political involvement in Food Not Bombs.

A Mayan priestess with a heavy Russian accent invokes 4,000 year-old Siberian chants of the woman-spirit to take Kathy from birth (black candle) to becoming (red candle) to death (white candle).

Jade-Blue Eclipse—performance artist extraordinaire strips the surface and surfs the seams of life, death and eternity. Her naked body illuminated by phosphorescent paint rhythmically moves to the sounds—stretching, spreading, splitting, opening, cutting, bathing in the red liquid of dreams.

Aline Mare, a friend, laments Kathy's death in beautiful and evocative and personal verses punctuated with "Kathy Girl."

Matias speaks about Kathy dying in Tijuana, of her fear and denial and courage and her last large reading list of the Tibetan book of the dead cut with a lot of poetry and detective novels.

The direct descendents of those good old American boys drinking Red Tail Ale and Calistoga water—jetstream, vapor-trails talking Mondoites and novelists and junk dream poets—gather backstage at the exit door, and in the usual way of writers talk through the pain of Kathy's death by telling trade tales desultory of dead editors and disappearing publishing houses and new projects and up-and-coming literary outlaw takeover coups of early-90s California techno-lifestyle magazines aimed, as R.U. says, at "young urban psychopaths."

Everybody was there. Tribe8, Dirtbox, Cypher in the Snow, Amber Asylum, Stellamara, Susie Bright, Sharon Grace, Michelle Handelman, Richard Kadrey, Amy Scholder, Frank Molinaro, Alice Joanou, Dodie Bellamy, Steven Shapiro, Anna Joy Springer, Mark Faigenbaum, Minnette Lehman, Rex Ray and many, many more.

Of course, Kathy was too, in a brilliant and evocative and sad, because we would never see her in person again, filmic performance of *In Memoriam to Identity*.

This was Kathy.

This was Kathy's San Francisco.

CITIES IN THE WIRES

CAPE TOWN NOW

CITY OF BANARAS

SOLIPSISTIC CITY

CITIES IN THE WIRES

Arthur and Marilouise Kroker

WEAR THE SKIN OF THE NEW CITY

WEAR THE SKIN OF SPADINA
WEAR THE SKIN OF THE NEW CITY
WEAR THE SKIN OF THE NEW CENTURY
SPADINA AVENUE
IS TORONTO OF THE 21ST CENTURY
A WIDE OPEN, FAST VECTOR, STREET SMART
RENDERING PROGRAM
SPADINA IS TORONTO RECOMBINANT
WHERE ALL THE STREAMS OF THE CITY
GO TO GET MIXED, EDITED, SPLICED AND MUTATED

STREAMS OF BUSINESS
STREAMS OF MUSIC
STREAMS OF LIVING
STREAMS OF DATA
STREAMS OF CLASS
STREAMS OF GAMBLING
STREAMS OF STREET FASHION

BBQ DUCKS AND NOODLE SHOPS
FIREWIRE STORES AND SILVER DOLLAR BLUES
PUNCHED DOWN FACES IN FRONT OF THE LCBO

IT'S WHERE ANCIENT WORLD MEETS CYBERWORLD
LIKE THE HIGH-TECH VIDEO SCREEN

WHERE DUNDAS STREET MEETS SPADINA
LIGHT-TIME ON A DARK NIGHT
LIGHT-SPACE ON A FLOATING STREET
VENDORS BELOW SELLING HERBS AND GARLIC
LEMON AND LIME,
GROCERY CARTS FILLED WITH STAND UP ON THEIR OWN BRAS
AND PILLOW COVERED VANS
RAG TRADE REMNANTS AND LOFTY DESIGN
SHANGHAI SHOPS AND HONG KONG MALLS
SLICK BLACK HAIR STREAKED WITH BLONDE

FOLLOW THE DATA STREAM TO THE CYBERSHOPS
AND JOB YOUR OWN CYBERTOWER
FOLLOW THE CLASS SCENE TO THE HOMELESS
AT SCOTT MISSION,
TO THE SURPLUS CLASS ON THE STREETS
TO THE SOFTWARE CLASS IN THE NEW ECONOMY

TURN THE CORNER INTO KENSINGTON MARKET
AND FIND BLOODY APRON WEARING BUTCHERS
SMOKING CIGARETTES AND TALKING POLITICS,
FILM-MAKERS AND MUSICIANS AND STUDENTS AND ANARCHISTS
AND COFFEE DRINKING MOONBEAN ACTORS
AND STREET POETS AND STREET PEOPLE AND
STREET FOOD AND DRUGS AND FEUDS

OR FLATLINE YOUR CYBEREARS AT EL MOCAMBO
CANADA'S SELF-STYLED ROCK N'ROLL LANDMARK
THE DEGENERATES WITH RETINA BURN
TOKYO'S ELECTRIC EEL SHOP

WEAR THE SKIN OF SPADINA
WEAR THE SKIN OF THE NEW CITY

WEAR THE SKIN OF THE NEW CENTURY

Cities in the Wires is about wearing the skin of the new city. It's about putting on skin of the electronic city, living in the new urban metropolis where all the energies and despair and hope and sometimes broken dreams of the 21st century congregate. *Cities in the Wires* is a new story but also something very ancient. If, by virtue of being born in electronic culture, we are data bodies, organic yet wired, then the same goes for the cities which we inhabit. Occupying physical territory, linked together by streams of traffic and the flows of mass transportation, instantly identifiable by their different architectural styles, cities have always the embodiment of real material history. *Cities in the Wires* are where we live and work and walk and drive and relate and communicate and struggle. But *Cities in the Wires* are also something else: densely networked capillaries of information flows—telephones, IP, satellite uplinks, media feeds, financial data archives. *Cities in the Wires* have a double identity: spatial and temporal. Local (in time and place) and global (in information flows), the new *Cities in*

the Wires represent a complex mixture of local street life and heavy traffic flows cut with the silent dissemination of densely layered city information through all the networks of the world. Can we say really with confidence any longer: Where does Tokyo—a city once described by Roland Barthes as the "empire of the sign"—begin and end? Geographically, Tokyo may be at the very centre of Japan's psycho-geography, but the codes of Tokyo, particularly its cultural importance for the vision machine, electronic products and brilliantly engineered cars, have been installed in many societies around the world. What are the global boundaries of the electronic blast coming out of New York's media and Wall Street? What is the real architecture of London: its historic physical architecture or London's virtual (financial) architecture in terms of its critical importance in the political economy of globalization? Is Toronto simply a major Canadian city or has it already become what someone once termed a "substitute" city: disguised as Chicago or New York in movie shoots; increasingly imprinted by the fast-moving street economy of Shanghai in its markets; populated by immigrants from over two hundred countries, ninety ethnic groups; regularly speaking more than one hundred languages—each living in the borderland between memories of the past and aspirations for the future.

The contributors to *Cities in the Wires* have stories to tell about the reality of cities in the 21st century. Breaking with the utopian belief that globalization automatically equals the "global village", these authors tell a much more complex story of city life, stories about cities as an archipelago of cultural difference, floating cities which specialize in liberation struggles, commemorations of death, and cinematic imagination.

For example, Trebor Scholz's *CTheory* interview "Chimurenga: Cape Town Now," tells the story of Cape Town, South Africa in the context of the liberation struggle against Apartheid. Here, Trebor Sholz, an "East-Berlin born, Brooklyn based interdisciplinary artist," talks with Ntone Edjabe, a "Cameroonian-born journalist and DJ," radio personality, cultural activist and founding editor of *Chimurenga*, a critically important South African publication that eschews stereotypes and cuts to the bone of truth-saying in the form of political analysis that takes no prisoners. What emerges is an evocative mirror beamed back to conventional post-colonial discourse by the actual subjects of the bitter history of colonialism:

> The term "postcolonial" itself sounds pretty unrealistic when dealing with Africa. In most of the so-called third world the traditional colonial "mother" countries have simply been replaced by multinational corporations. The only fundamental change in our reality has been our reluctance to criticize the authorities since now our own brothers and sisters are the ones in charge.

In this interview, the previously silenced subjects of post-colonial discourse begin to speak, breaking the silence of colonial domination and post-colonial discourse, and do so in a way that privileges the brilliant African imaginary: Music as Weapon, "our texts like 'guava juice,' the brew of petrol and other explosive ingredients that the South African peoples, mostly students, used to blow up hippos (police tanks) in the townships.

Or consider, Mahesh Senagala's "Circuits, Death and Sacred Fiction: The City of Banaras." Meditating upon the meaning of the Indian city of Banaras, a city where people go to die, Sengala knows that he is traveling outside the normal circuit of globalization. There are cities where we work, cities for play, for romance, for tourism, but no cities in our social imaginary where you go "for the express purpose of spending the last days of your life." As Senagala states: "Think of it as an existential airport to death after life: a passage, a transition, a gateway." In technoculture, we have suppressed the question of death, privatizing it in intensive care units, virtualizing death as a unfortunate problem

not yet (technically) solvable. Not so Banaras: here death is open, privileged, mystical, perhaps even resplendent. "For the people of Banaras, the whole universe is replete with life; there is nothing inanimate or lifeless in the universe." Viewed through the prism of death, the world comes alive: the earth suffers and loves, the sky is a theater where, "perhaps in the shadow of a mountain, a demon drinks Sura, the eternal drink." More than an essay on the fate of the city, Sengala's reflections on Banaras assume the form of a healing language, opening a site in the human imagination long concealed: the possibility, that is, that "place making is myth-making: the place creates the myth, and the myth in turn creates the place." Is Banaras, this city of "existential dilemmas," the true cultural frontier of globalization? Is Banaras, this city of death, this city of myths, precisely what is missing in the increasingly arid vision machine of technoculture?

We ask this because Samuel Nunn's contribution "Designing the Solipsistic City," represents a close encounter with the city as simulacrum. Here, there are no liberation struggles in the streets, no mysticism of death, only reality of urban life as designed and programmed according to a cinematic model. Refusing to leave cinema in the theatres, Nunn does something more daring. Taking three "cinematic cities" as his model—*The Matrix*, *Dark City* and *The Truman Show*—Nunn proceeds to demonstrate that the increasingly artificial cities of globalized culture have been scripted by a cinematic model.

These three cinematic cities share a common theme: complete and unquestioned control over their urban inhabitants, a control invisible and all-pervasive, as difficult to see as it is to shed…when the intrepid citizens, dwellers in an urban simulacrum, become conscious of this control, the troubles start and the sparks fly…The solipsistic city awakens, and liberation follows." Or does it. Isn't the real object of fascination of *The Matrix* and its sequels an abiding obsession with special-effects cut with the romanticism of gnosticism? And what the Visitors of *Dark City* --"gothic, dark-suited elites"? Nunn inquires: Don't the Visitors share a striking resemblance to the ruling elites of representative democracy? And *The Truman Show*: fact or fiction? Or a fiction that can be so seductive because it is a mirror of urban reality in the age of mass media? What's at stake in Nunn's analysis of the cinematic cities of *Dark City*, *The Truman Show* and *The Matrix* is the political hypothesis that in these cinematic cities we can easily discover the animating vision, techniques of policing, strategies of media propaganda, and cultural inertia that makes possible *Cities in the Wires* as sites of an immense networks of control, surveillance, and manipulation. Are *Cities in the Wires* increasingly like cinematic scripts? If so, what will take us to other cities, to other dreams, to Banaras, to the imagination of Chimurenga. Now, more than ever, the contributors to *Cities in the Wires* remind us how desperately we need to listen intently to those who have succeeded in breaking the silence of colonial domination, who mirror back to us, the authors of post-colonial discourse, stories of other cities which are in the wires, but not of it.

CHIMURENGA: CAPE TOWN NOW!

POLITICS, MUSIC, CULTURE: AN INTERVIEW WITH NTONE EDJABE

Trebor Scholz

The first issue of Chimurenga was launched in Cape Town, South Africa recently. The magazine's refusal to compartmentalize the political and the cultural is rare and refreshing. It is a multilingual project that avoids stereotypes. It brings non-European perspectives speaking to an Africa from an Africa. But Chimurenga already attracts a European and North American readership. On behalf of CTHEORY, I interviewed Ntone Edjabe who is editor-in-chief of Chimurenga.

NTONE EDJABE: The mix of culture and politics that our magazine stands for is reflected in its name. In the Zimbabwean language Shona the name *Chimurenga* stands for struggle for liberation. The term *Chimurenga* is also used to describe the music that fuelled the struggle against British colonialism and the white supremacist regime that replaced it during the 1970s in Zimbabwe. *Chimurenga* was created as a platform to end the "noise control" by media monopolies in South Africa. In this country the media is owned by a grand total of three companies: literally everything we hear, read, and watch is provided by them. These companies own a few satellites and just flood all of Africa with their material. The kid in Cameroon initially had a choice between TV channels and had the option to filter out what works for her environment. Now she cannot but absorb the nonsense from Channel O, the local version of MTV. This is me, she sees, because the person on the screen is indeed her: a South African, Nigerian, Kenyan. So, *Chimurenga* was initially founded to provide an "alternative" to the stuff we get fed. Now, I do not particularly like the term "alternative" as it implies that we are dealing with a sub-version of what the "real" shit is. No. We choose to discuss pop culture. And here pop means popular as in Brenda Fassie, South Africa's leading pop artist whose albums typically sell a half-million copies during the first week of their release. Now, these are serious numbers in a country as segregated as today's South Africa. These record sales are achieved with little or no mainstream marketing at all, mostly just word

of mouth. Marketing is almost handled as a private matter. And that is exactly what *Chimurenga* does—we turn the private into a public matter. We published an article by Njabulo Ndebele in which he argues that only when the private is made public will a new public domain become possible. Therefore it is really important not to locate *Chimurenga* in the "high art" totem. This rejection does not mean that we do not exhibit in galleries. But we refuse to link the idea of high art with that of "exotic" cultural production for the colonial gaze. We attempt to visit all galleries that exhibit our work, including those in the townships (segregated impoverished areas for occupation by "Africans only"—as it says in the old apartheid definition). The urban context of the South African struggle against apartheid has provided us with expertise in the war that takes place in between columns. The cover of our first issue features a photograph of Tosh during a concert in Swaziland in 1981 metaphorically pointing his "weapon" towards South Africa shouting "Babylon will fall." Long after the concert, copies of that image were still circulating in the townships. We used this kind of iconography for many years. Our name, *Chimurenga*, may sound a bit like postcolonial romanticism. The term "postcolonial" itself sounds pretty unrealistic when dealing with Africa. In most of the so- called third world the traditional colonial "mother" countries have simply been replaced by multinational corporations. The only fundamental change in our reality has been our reluctance to criticize the authorities since now our own brothers and sisters are the ones in charge. This is particularly important in South Africa where the people automatically align themselves with political power, the only power they have gained. We are clearly experiencing "the pitfalls of national consciousness" about which Frantz Fanon warned us in his book *The Wretched of the Earth*. The local middle class has stepped into colonial shoes while the "wretched" remain barefoot. We need to begin to look at our own societies critically and articulate that critique. So, in our first edition, *Music as Weapon*, we chose to discuss artists that have demonstrated militancy in response to neo-colonial powers, fighting their "own" governments—rather than fictitious oppressors. I use the word "fictitious" because politicians learned very quickly to point to the IMF when conditions worsen, such as in Zimbabwe. *Music as Weapon* centers around MC Solaar, the Paris based, Senegal-born rapper; the legendary Fela Anikulapo-Kuti, Nigeria-born creator of his own unique style of music: AFRO-BEAT. It also pays homage to Tosh, a.k.a. "stepping razor" who provided a key line that echoed in the mouths of Los Angeles rioters: "I don't want no peace, I want equal rights and justice!" With *Chimurenga* we try to achieve what people like Fela Kuti and Tosh attempted with their music. We have talked about content but the way we write is equally important to us. We want our texts to be like "guava juice," the brew of petrol and other explosive ingredients that the South African peoples, mostly students, used to blow up hippos (police tanks) in the townships. "Guava juice" is also the title of a collection of poems by Sandile Dikeni, a well-known South African poet and one of the founders of *Chimurenga*. This linguistic approach is used by Cameroonian poet Henri Kala-Lobe in his commentary on manipulations of Africa's musical output by France. The article "La Franc-Maconnerie," published in *Chimurenga* in "Franglais" a mix of French and English, is not what Le Pen and his supporters understand to be French but many French-speaking Africans will relate to it.

CTHEORY: I am quite interested in the possibilities of new media tools, the ways in which digital resistance such as the blocking of commercial or government websites can begin to factor in bringing about concrete change. From Mexico to the United

States and Europe there are countless web-based art activist initiatives that tackle hegemonic power. I assume that people in the townships have no access to the needed tools for acts of resistance. But, are there such initiatives in South Africa at all?

Ntone Edjabe: As with many, my problem with the Web has always been that of access. Exchanging revolutionary thought in a tiny circle of net junkies is not my idea of communication. So, a lot of online discourse on democratic globalization, for instance, deals with issues that concern those very people who have access to the Web. Needless to say that the family that lives in Gugulethu (a township near Cape Town) has no such access. The Gugulethu family's income is very affected by each G7 or G8 meeting but they are totally excluded from this online debate about "alternative globalization." I do not think that "global" should only refer to a group of anarchists in Bilbao or Turin. There is no revolution without the people. There will be no revolutionary change in Gugulethu unless we can speak to and with the peoples of Gugulethu.

CTHEORY: Exactly, access is sparse and the net in South Africa is a tool for educated, white, thirty-something boys who speak English. I am just not sure that the answer should be to abandon the Web. Rather let us try to make it available—inexpensive and useable to that very family in the townships. There are, of course, people who try precisely that: bringing low cost communication technologies to Africa. What do you think?

Ntone Edjabe: Many have suggested "bringing" the new tech communication—Web and all—to the people like they "brought civilization" to some of us a few centuries ago. But there is a cultural obstacle to this: as in the case of *Chimurenga* music in Zimbabwe—we still use the spoken word, not writing, to articulate our struggles. Even today the average black middle class family in South Africa does not own a computer—let alone the rest of Africa. But they own two cars so they can spread gossip between cities, villages and townships. Nevertheless, they do have access to the World Wide Web at work or at school. In South Africa, the internet is still mostly used to communicate with the "Other." The same could be said about the use of European languages in South Africa.

CTHEORY: How do you see *Chimurenga* functioning for readers in North America or Europe?

Ntone Edjabe: September 11 revealed how *Chimurenga* could function for a US audience. Fewer Americans would have been shocked by the terrorist attacks if they had known what the world thinks about the "American way of life." It would not have surprised them that some individuals were willing to give up their lives to destroy the lives of many innocent people. I mean, "we" are the world and not a bunch of skin-bleached Hollywood praise-singers. Remember Michael Jackson's "*We Are the World*," 1984. *Chimurenga* wants to articulate the experiences of African peoples wherever they may be located and I wish very much for readers in North America—and beyond—to get involved, to contribute. We interviewed the African-American poet and actor Saul Williams about hip-hop, which is, of course, very big in Africa. It has almost become a matrix for young people who wish to demarcate themselves and present a rebellious gesture. Many of these kids get introduced to hip-hop through MTV. So we need to talk with them about MTV in different ways than Vibe magazine. We need to provide a platform for them to talk critically about it in Wolof, a Senegalese language. We do not focus on "artists"—we discuss people and issues that affect our lives. Some of them may use an "art form" as tool for expression but many others might just be ordinary people like me talking. In this way one could think of *Chimurenga* as an outlet of resistance

against the possibility that our country, South Africa, could potentially become a new colony of Wall Street. Nevertheless, this is not a magazine "for" the American audience, one that would present Africa on a blackboard for the US to study and dissect. This is honest talk about our lives, talking first to ourselves: the African peoples. We demonstrate a deeper interest than that of *The New York Times*. This is an important point because most of our papers rely on the NYT for news. You could call them local versions of the paper.

CTHEORY: How do you finance *Chimurenga*?

Ntone Edjabe: I am really proud of the fact that none of our funding for writing, editing or distribution comes from well-meaning NGOs or corporate advertising. Many publications started off this way and were hijacked by academia or business. At *Chimurenga* everyone contributes a bit of skill, time, and the cover charge. We rely entirely on our readers. If they do not support it then it has no reason to exist. That is my philosophy.

CTHEORY: Thank you for the interview

To subscribe to *Chimurenga*: ntone@panafrican.com

CIRCUITS, DEATH AND SACRED FICTION

THE CITY OF BANARAS

Mahesh Senagala

Sing a song
or
Laugh
or
Cry
or
Go away.

– "Please" by Nanao Sasaki [1]

Let us go on a pilgrimage to a city that is all about *existence and sustenance*. If we turned our clocks back about 5,000 years, we would see, on the west bank of the river Ganges in North India, three hillocks that are the seed of a very special human phenomenon, the city of Banaras. Not only has the city survived over the last 5,000 years, but it has thrived and is still very much alive. During those five millennia, the city has sustained its essence, character, mythological power and existential agenda.

People go to Banaras to die—die happily, I might add. The concept may seem startling at first. Many go to Las Vegas to escape the boring and banal reality of their cities and immerse themselves in a hedonistic hyper-reality; others go to Paris, perhaps to immortalize their moments of love. However, there is no city on earth where you go with an express purpose of spending the last days of your life. Think of it as an *existential airport* to life after death. In Banaras, death is not a dead-end; it is a passage, a transition and a gateway. That is the *raison d'être* of Banaras, a unique and original phenomenon that has no precedent or antecedent. Why would anybody think up such a city? What means and modalities allow Banaras to attain such heights of existential resolution?

Banaras is at a rare confluence of unique geography, mythology, urban form and cultural institutions. The city is located about 500 miles south of New Delhi, India. Here, the river Ganges changes her usual direction from south-east to flow back in a

northerly direction pointing at her origins in the Himalayas, the sacred mountains for the Hindus. The river also takes a crescent profile, thus reconfirming the mythology according to which *Lord Shiva*, the presiding deity of the city, wears the moon on his head. The landscape on the west bank rises into three hillocks symbolizing the trident of Lord Shiva. The "other bank" of the river is, in contrast, flat and plain.

In plan, the city is conceived as a half circle. While the west bank of the Ganges has been inhabited for thousands of years and grown into a complex and congested city, the east bank of the river has been untouched and left totally undeveloped. The reasons have nothing to do with the city code. For the people of Banaras, the other bank of the semi-circular city resides in the "other world" or heaven where people go after they die. They metaphorically cross the existential river of life to reach the eternal city of the other Banaras.

The City Of Circuits

Banaras is a city of circuits. Devoted pilgrims carrying food, faith, and age-old stories circle the city following the sixteen codified sacred paths. The city is shaped like an onion: circuits within circuits leading to the center where the great temple of Lord Shiva resides. The form of the city is created, recreated and reasserted as people trace the circuits in the footsteps of their elders.

The city is defined by neither the fort walls nor the boundaries, but by the *circuits of sacred circumambulation*. Instead of a map, these circuits around the city and its countless temples form a mandala in the minds of the devoted pilgrims, as they follow the routes chanting and reciting the myths and stories of the places that they come across. In this way, the pilgrims meditate the city and establish a correspondence between the city of the mind and the city of the material world. Ultimately, what people carry with them is the city of the mind, not the material city.

There is a distinction between the "map reading" and the "myth reading" images of the city. *The mandala of Banaras is a kinesthetic and mytho-poetic image that one forms by experiencing the city and traversing it ritually in space*. You may find your way by means of a map, but with a *mandala*, you *become* the mandala. Unlike a map, a mandala is a constellation of myths, legends, imagery and sensory experiences. Through chants and processions, the city is constantly conserved, imagined, created and revised. In the process of traversing the city, one existentially transforms one's own self into the city which is thus projected as an image of one's self.

The Labyrinth

The city meets its river through a series of vivacious interfaces called ghats.[2] At the ghats, the momentum and the energy of the city is thwarted, such that the city's edge is forced into a rugged, fat, haphazard, incoherent, circumstantial mass of walls, facades, spires, towers, palaces and platforms. The intersection of the city of steps and the labyrinthine Banaras is intense indeed.

If you are a pilgrim, you may take a walk from *Asi Ghat* in the south along the uneven terrain of the river's edge. What you come across may be the most profound and surreal, yet meaningful experience of the city and its life. All along the ghats unfolds the breadth of Banarasi life: a wreck can be seen capsized in the clay silt of the muddy bank; a half-naked mendicant standing waist-deep in the water, in the company of a herd of imperturbable cows, water buffaloes, dilapidated umbrellas, peepal

leaves, marigolds, roses and lotuses that bloom around the ghats; well-versed Brahmins conducting funeral oblations for bereft families; a forest of lamp-holding bamboo sticks, a leaning temple capsized in the soft clay, a man in bangles, a rusty balustrade, a worn off rope that once held the mightiest of the boats and an abandoned tower house compete for the same place on the river's edge and in the viewer's mind.

If you are patiently and curiously walking along the ghats, you may also meet the vandalized stone plinths of the lofty palaces, a scale measuring the height of the Ganges when she floods in ecstasy, a blood-stained *Hanuman*,[3] a rusted bicycle, a group of mischievous kids flying kites, stray dogs, and *Gandharvas*.[4] Burning corpses with swirling smoke blacken the empty edifices. Still hot ashes of a funeral pyre and a meditating yogi with a trident and saffron flag, chatting fishermen with tangled nets, graceful young girls and the floating body of a dead infant coexist simultaneously on the craggy steps of the ghats. You wonder what brings all these disparate things and phenomena together. As a stranger you may be baffled by the onslaught of images, things and events, but the people of Banaras seem to be completely at home with the city. You wonder what gives them the power to reconcile their existential dilemmas with this labyrinthine city. You soon realize that, as in Italo Calvino's *Invisible Cities*, there is more to Banaras than meets the eye.

There the people, in an effort to experience the fullness and completeness of the world, have created certain beautiful fictions portrayed in an all enthralling mythology called *Kashi Purana*.[5] Such delightful myths as Parvathi's earrings,[6] Divodasa's ten-horse sacrifice,[7] a broken bow and a bride won, Indra with a diamond-edged lethal weapon[8] etc., situate the physical city amid a narrative and fictional city. The invisible and mythical population of Banaras by far surpasses the visible population and dominates the visible world.

In Banaras, everything has a story, a legend, or a myth. Like the morning mist, powerful mythologies shroud the city. *Story telling is one recurrent way of structuring and sustaining Banaras. The sacred fiction sustains the city and its pursuits. Mythology is the form giver of the city*. Here, form undoubtedly follows immaculate fiction. There is the larger context of Gods, heavens, nether worlds, demons, Gandharvas, sages, ascetics and epics of mythical India; and there is the fiction of the city of Banaras that fits into the larger work of sacred literature. The secret of Banaras' integrity is neither in its magnificent spires nor in its vivacious ghats; the secret of Kashi is neither in its topography nor in its traditional structures alone. The real secret of Banaras is wide open: it is the way everything is interwoven into a huge system of sacred fiction.

People come here to die. And behold, they are only too happy to die! It is said that even a dog can be blessed with liberation if it dies within the bounds of *Panch Kroshi*—the largest circumambulatory circuit that defines the city limits. Even if one has led a miserable life, death in Banaras is said to liberate one of all the agony. The invisible signs on thousands of temples, ghats and houses in Banaras tacitly declare this eternal bargain through an ingenious epistemology of space. At *Manikarnika* Ghat you could see scores of people of both sexes and all castes and ages unfettered by death! At Banaras, death, the biggest human fear and enigma, has been tamed and domesticated by the city and its mythologies. With death, all of your sins are forgiven by virtue of your being in the city of Banaras. Existence is eternal and immortal, and therefore sustainable in Banaras.

People in Banaras learn story-telling right from the time when, under the moonlit sky, their mothers sang lullabies on *Lord Rama*; the time they played in the streets, shrines and steps of the ghats, and contemplated the mysterious emptiness of the other bank. When they grow up, they see the whole world as a beautiful work of fiction: a work

where everything is well composed and under the control of the author. The author is at the center, and there are a million authors inhabiting Banaras, visiting and imagining it. It is all imagination, powerful and enthralling. For the people of Banaras, the whole universe is replete with life; there is nothing inanimate or lifeless in the universe. The post-structuralist observation on the *death of the author* serves as an excellent comparison between the cities of infrastructure and the city of Banaras. Albeit with a different inclination and intent, Camus made a brilliant observation that reinforces the notion of humanizing the universe: "If man realized that the universe, like him, can love and suffer, he would be reconciled."[9]

In the rugged undulation of the masculine landforms, people of Banaras see the trident of Lord Shiva or *Mount Meru*. In the feminine curves of the sweeping crescent of the Ganges, they see a caring mother. The sky crowded with lazy clouds is a theater where, perhaps, in the shadow of a mountain, a demon drinks *Sura*, the eternal drink. The emptiness of the east bank is an unfolded blankness set against the crammed tightness of the stony complexity of the west bank. *Place making is myth making: the place creates the myth, and the myth in turn creates the place. What distinguishes Banaras from other cities is that it duly recognizes and addresses existential dilemmas.*

Thus, in Banaras, a grand and unique urban paradigm reconciles our existential dilemmas through a marriage of architecture, urbanism and narrative means of dwelling. Banaras teaches us that fiction is a powerful mode of imagining, building and living in our cities; that mythologies and other fictions are essential to enliven the inanimate world of things and prosaic infrastructure. The existential absurdity of life and death are reconciled through the architecture of the city. When such a reconciliation takes place spatially, cities and architecture become sustainable.

Notes

1. Nanao Sasaki, *Break the Mirror,* San Francisco: North Point Press, 1987, p. 47.

2. A ghat is a stepped interface between a river and land.

3. Hanuman is a Hindu mythological God with the characteristics of a monkey.

4. Gandharvas are the heavenly musicians in Hindu mythology.

5. Kashi Purana means the sacred history of the city of Banaras told through various myths and legends.

6. Parvathi is the wife of Lord Shiva.

7. Divodasa was one of the first kings of Banaras.

8. Indra, originally a primary God during Indus Valley Civilization, is the ruler of all Gods.

9. Albert Camus, *The Myth of Sisyphus*, New York: Vintage Books, 1955, p. 13.

DESIGNING THE SOLIPSISTIC CITY

THEMES OF URBAN PLANNING AND CONTROL IN *THE MATRIX*, *DARK CITY*, AND *THE TRUMAN SHOW*

Samuel Nunn

> **Solipsism**, the theory that only one mind exists and that what appears to be external reality is only a dream taking place in that mind.[1]

"We build the city based on peoples' memories of different cities in different times," says one of the alien protagonists in *Dark City*, a sci-fi treatment of film (very) noir. The cinematic result: a classical palimpsest of the US city, circa 'take your pick' 1940s through the 1970s, missing only daylight. Ironically, it appears to be much like the cities that real urban renewal programs of the 1950s and 1960s delivered to us. The real "city" in *The Matrix*, a film about a world in thrall to an artificial intelligence, is a literal nightmare of high rise, high tech pods, each one housing one of us, but perhaps more nightmarish is the observation that urban planner extraordinaire Le Corbusier (aka Charles Jenneret) designed and promoted the same kind of city, filled with six-meter square "machines for living," more than adequate to support the day-to-day life of Corbu's urban dwellers. And in *The Truman Show*, the "on-camera 24-hours a day" hero's fictional city was in reality Seaside, Florida, an antiseptic, over-designed, ultra-high income suburban pastiche of yesteryears' fictional neighborhoods that never were (except in the minds of the husband and wife architects/designers, Andres Duany and Elizabeth Plater-Zyberk), with a lengthy layer of all too real restrictive covenants designed to control where residents gathered, what they did, and how their houses must look when they did it. What is the city, then, if not what we make it in our minds?

These three cinematic cities share a common theme: complete and unquestioned control over their urban inhabitants, a control invisible and all-pervasive, as difficult to see as it is to shed. It is a control centralized and concise, embodied in a few powerful entities (a council, a machine, a director), content in their ability to direct citizens as desired. When the intrepid citizens, dwellers in an urban simulacrum, become conscious of this

control, the troubles start and the sparks fly. It is as if these fictional cities, running smoothly and happily as long as the dreamers sleep, are faced with their own versions of the LA riots: the abrupt and stark recognition that those invisible, embedded mechanisms of control built into the physical and social fabric of the city can break down, leaving pandemonium and disorder in their stead. The solipsistic city awakens, and liberation follows.

Whether planners admit it or not, the idea of control is never far from the surface in planning thought and practice. Plans are made to control, or at least direct actions toward an instrumental end.[2] The history of planning is rooted in systematic efforts to control sanitary conditions, human behavior, physical appearance, and economic development.[3] This is not a dark secret of planning theory. It is not hidden in the recesses of esoteric planning events. The quest for control over various elements of urban life, its chaos and disorder, is imprinted upon the major tentacles of urban planning, from garden cities to the city beautiful to the city efficient to the modernist city to the postmodernist new urbanism. The garden city was an attempt to physically eradicate slum areas, relocate the impoverished to a pristine exurban landscape, and control regional land use and economic development.[4] The city beautiful and the city efficient were both designed to control the physical appearance of cities and in so doing introduce an element of control over the behavior of the unruly urban masses.[5] The modernist city of Le Corbusier was an effort to strictly partition land use and to create highly efficient spatial arrangements of residential and non-residential structures and, not incidentally, to overlay a rationalized system for living on urban citizens.[6] The new urbanism of **Seaside** and **Celebration** also has a major control orientation—stringently dictate the look, layout, and distribution of buildings, and use it to shape human activities.

In all these planning sagas, the goal is the same: as planners think things should be, so they should be. A useful metaphor here is solipsism, the notion that the only thing that's really real is the self, and that only what the self experiences can be considered real. Whatever the solipsist thinks, so it becomes. But there's a twist here:

> solipsism must also postulate the existence of an additional class of processes—invisible, inexplicable processes which give the mind the illusion of being in an external reality. Thus the solipsist's explanation of the world is in terms of interacting thoughts rather than interacting objects.[7]

So, the paradox of the solipsist is that **something else** controls the reality being experienced. Planners constantly seek to identify and understand that "something else," and piddle with ways to control and influence it, whether "it" be land developers, land reformers, the poor, the rich, retailers, builders, politicians, legislators, business owners, bureaucrats, criminals, or cops.

It is not surprising, then, that themes of control from planning experience have crept into popular culture. Recently, three films, ostensibly dealing with the proverbial tropes of human reality, free will, and choice, have also provided food for thought about issues of control in the 21st century city. As the original first film of the trilogy, *The Matrix* proposes a future in which an artificial intelligence (AI) dominates the world, subjecting humans to an everyday virtual reality of 1996 that in actuality confines them, **in stasis**, to coffin-like pods in 2197 that extract energy from them to run the AI's computers. *Dark City* depicts a planet consisting of a single huge metropolis run by aliens capable of changing thought and the physical landscape as a means of isolating

and understanding human emotion. And *The Truman Show* offers the ultimate **cinema verite** depicting the entire life of a single person in a clean postmodernist suburb, televised live to the rest of the world—without that person being aware of it. If examined in some detail, these films each provide provocative insights into the planning and control of cities, as embodied, almost unconsciously, in popular culture. Among other ideas are those linked to electronic surveillance, the evolving power of information technologies, the changing nature of virtuality in real life, the identity and motivations of "planners" in charge of cities, and the mostly unpredictable power of human thought and emotion to create the future rather than to be victimized by it.

Men in black

The hegemony of traditional political and scientific authority runs rampant in all three films, establishing an undercurrent of conservative control and anti-subversion. For example, in *Dark City*, the use of the large group of gothic, dark suited elites, known as The Visitors, seems to be a direct allusion to the use in representative democracy of senators and representatives, typically dressed alike, convened into large assemblages in which they discuss policy and public initiatives. A perhaps unintended comment on the US version of democratic governance is that The Visitors are actually slimy, translucent little octopi-like creatures that inhabit the dead bodies of humans ("our vessels," states one of the aliens). The dark suited AIs in *The Matrix* also play the role of ultimate arbiters of "society's" wishes and are, in effect, the legislative body that passes judgment on any proposed or potential changes desired by the subversive elements living aboard the hovercraft, Nebuchadnezzar. The video production technicians and their imperious leader, Cristof, are literally on top—within the faux moon that hovers constantly, day and night, over Seahaven—in *The Truman Show*. Similarly, the role of technical expertise and scientific credibility is occupied by the usual technocratic types who use their esoteric knowledge to leverage power. The use of the doctor in *Dark City* as the prime conduit for "new" thoughts and ideas appears to be another direct parallel to the use of scientists and engineers to fuel policy debates, by providing information and technical knowledge about particular issues. Further, the doctor is used to inject new memories into the city's denizens, thus embodying the scientific fix associated with traditional rationalistic planning; further, the Visitors are essentially helpless to understand the behavior of their 'citizens' without the technician/doctor's medicinal memory injections. In another twist quite like the debates about the social construction of science, The Visitors (i.e., legislators) do not completely trust the doctor (i.e., the technical expert), continually threatening him (and having severely wounded him in the past), believing that somehow he isn't sincere about his willingness to "help" them. This is much like the frequent mistrust in technical assistance and science in public policy debates, particularly when the focus is on emotionally compelling personal anecdotes (much like the personal memories that the doctor is able to inject into the citizens of *Dark City*). And when *The Truman Show* begins to literally come apart, the real authority behind the show, capitalist sponsors, exert their ultimate power to stop the program.

IT is us

The literally transformative power of information technology (IT) is another undercurrent in these films. If the use of IT is a continuing theme in urban planning and urban policy to improve life and the efficiency of all of life's subsystems like home/work/school and so on, then the use of IT in *The Matrix* is the ultimate resolution of

this theme: it demonstrates an evolutionary version of IT that has the capacity to absolutely do everything in much the same way that we currently conceptualize IT in the office, the home, the school, the store, and everywhere else.[8] A literal form of virtual grocery shopping is embodied in the machine's capacity to control all human life, deliver everything it needs, but at the same time fool humans into believing that they are actually experiencing life. This is the ultimate irony of the potential of IT: it makes the practice of everyday life more efficient while drawing one further and further away from everyday life. *The Matrix* exhibits this dystopian potential of IT perfectly. The use of IT in *The Truman Show* is more subtle, yet is still there. The advanced video production equipment and monitoring technology used to keep Truman Burbank under the perpetual gaze is made possible by IT, as is the constant communication between the video programmers and all the actors on the set. In *The Truman Show*, the only person on the outside of the IT loop is Truman. Only in *Dark City* does there appear to be an absence of pervasive IT. Instead, the aliens of *Dark City* seek a form of information through relatively primitive means—participation and observation—that even the most advanced IT cannot possess: human emotion. And in this regard, all three films suggest that IT cannot really help its users to truly understand what motivates citizens in their quest to shuck the shackles of control. Using their methods, The Visitors were no more effective in fully comprehending the impact of emotions than the AI in *The Matrix* and Cristof in *The Truman Show* were in understanding the emotion-driven behavior of their respective subjects. All the films imply that the power of IT cannot overcome that of human will and emotion.

You are under my control

Yet, despite this nod to the seeming power of human initiative, the element of control is the dominant motif throughout all three films. The idea is that some dominant group (planners?) can introduce control of a wide variety—an almost infinite variety, in fact, because it basically encompasses all members of the rest of each world—of individual humans by means of, in one film, a drug injected into their brains and, in another, by means of electronic connections into an individual body. Thus, underlying each is the idea of ultimate control, the same kind of control that classical rationalistic, instrumental planning envisions. In two of the films, though, the idea is unattainable. Only temporarily are the planners/controllers able to exert perfect control over the citizens of *The Matrix* and *Dark City*. However, some members of both societies are in fact permanently 'living' and therefore one reading could be that the controllers are at least in part successful. After all, this isn't surprising, because the controlling planners have ideal tools with which to satisfy almost everyone's wants and needs. Their 'policy instruments' consist of either fully electronic programming of the virtual life or pharmaceutical tools that control the mental and social circumstances of each citizen. The latter is kind of a **Brave New World** of pharmacology while the former is the exemplar of computer mediated virtual reality. Control in *The Truman Show* is of a completely different kind, non-pharmaceutical and non-computerized. It is the control of the "spectacle" of life, one that revolves around the one person in a city that doesn't know it's a spectacle, Truman Burbank. It unfolds within an arena of constant, all-encompassing surveillance. Like the denizens of *Dark City* and *The Matrix*, he only gradually awakens to the fact that he is under complete and utter control on a 24/7 basis. One could characterize Truman and Neo as doppelgangers of one another, both slowly coming to the realization that their entire life has been a charade, for one digital

and for the other, analog. Neo was controlled by the virtual, Truman by the real (well, not real exactly, but virtually real).

The control theme is also embedded in past and contemporary urban planning approaches, such as the use of video surveillance cameras throughout UK and US cities[9] or the use of gated environments to control access and egress in urban and suburban developments.[10] The effort to have a central authority **aware** of everything that is going on, able to control who comes and who goes and who is identified as the perpetrator of social disorder is the **raison-de-etre** of systematic surveillance schemes, and one that developers and the media frequently exploit with the use of routine crime statistics. This motif of camera-on-the-spot is, of course, entwined in *The Truman Show*, with its 5,000 cameras located in buttons, pens, doors, car radios, boats, cranes, mirrors, curbs, bridges, and every other conceivable place. Truman Burbank epitomizes the surveilled subject, object of the gaze. The irony in Truman's case is that the cameras are not "protecting" anyone one in the classic sense of video surveillance, but instead keeping the "authorities" apprised of where Truman is at all times in order to recompose the sequential composition of (sub)urban life that surrounds him. Whereas the system of control in *The Truman Show* is unleashed on **one** citizen, the systems of control in *The Matrix* and *Dark City* focus on **all** citizens. Control per capita is simply higher in Seahaven, Florida.

But a continuing irony of planning is that the more authorities attempt to control, the more disorder is likely to emerge, whether the resulting disorder is due to the actions of one citizen only or many who group together to rebel against the idea of complete control.[11] In the first place, simply overlaying control mechanisms on urban space implies the **need** for those mechanisms, signaling residents and visitors that the area is dangerous—why else would the cameras be there? Secondly, using such mechanisms on one space often simply shifts the elements of disorder to other areas free of such controls. In *The Truman Show*, rebel elements **outside** the show often tried to inform Truman of what was truly going on. Similarly, the presence of active police agencies in the other two films suggests that, despite the obvious orientation toward controlling the minds, bodies, and actions of citizens, there is nevertheless an element of disorder that must be controlled by means of the virtual police. In *The Matrix*, the police appear primarily as SWAT teams interested in eradicating the rebellious virtual visitors from the wasted underworld of reality. In *Dark City*, the police are needed to solve crimes of violence and to locate the subversive elements within the city that are not totally convinced of the "reality" of their existence. In fact, *Dark City*'s crimes of violence were perpetrated via The Visitor's own experiments, in their own way similar to the escalating US murder rates during prohibition and more recently during urban drug wars (both of which were driven by US policy).[12] Thus, the films all imply a never ending substructure of disorder that, even with the magic of cranial injections, omniscient video surveillance, and the invincible computing power of sentient super computers, cannot be controlled completely. Further, as with the role of police in urban areas at the turn of the 20th century, the allegiance of police actors clearly is linked to the powers of capital or the purveyors of AI. The police cannot be expected to support the rebels in *The Matrix* nor are they, with limited exceptions, likely to assist the few citizens of *Dark City* that question what is happening. While the police in *The Matrix* are evidently immune from any subversive thought, or from any 'reform' programming, some of the police detectives in *Dark City* slowly discover the truth, or rather the absence of truth, behind the reality they experience. For at least one detective in *Dark City*, the revelation is too much to bear, leading to a suicidal leap in front of a subway train. For one of the AIs responsible for battling the subversives in *The Matrix*, a subway train has no effect, suggesting that, in both films,

the real enforcers of order are the AIs and the aliens who have established the shifting ground rules of societal control, and the means to change them, in the first place. As in *The Matrix*, the cops in *The Truman Show* are simply lackeys of the program's controllers.

It all seems so familiar

All three films contain ingredients traceable to the classical applications of planning to urban development. For instance, the archetypal urban renewal schemes, in which new commercial and retail developments with spanking new high rises and antiseptic parking garages took the place of grungy deteriorated disorderly neighborhoods, were like the attempts in *Dark City* to create whole new buildings or move existing buildings from one spot to another as well as to inject (literally) new forms of behaviors and memories into individuals. The *Dark City* is urban renewal on speed. The constant tinkering of the physical structure of the city by The Visitors, called "kuning" (sounds like tuning), is like that of planners who believe they can "tune" cities to a perfect pitch. Urban dwellings in *The Matrix*—the **real** urban dwellings located in the wasted underground complex—are the ultimate realization of Le Corbusier's "machines for living," sterile high rise units, mile high buildings, that literally house every human being in the world in their small tidy life support units. As described by Neo, the city of *The Matrix* may have been a Le Corbusier commission:

> To either side he sees other tube-shaped pods filled with red gelatin; beneath the wax-like surface, pale and motionless, he sees other human beings. Fanning out in a circle, there are more. All connected to a center core, each capsule like a red, dimly glowing petal attached to a black metal stem. Above him, level after, level, the stem rises seemingly forever. He moves to the foot of the capsule and looks out. The image assaults his mind. Towers of glowing petals spiral up to incomprehensible heights, disappearing down into a dim murk like an underwater abyss.[13]

In particular, as depicted in *Dark City*, the replacement of old memories with new ones is directly parallel with the destruction of the cities of memory that has been decried by Boyer, Sandercock, and Hayden.[14] Basically, the past is constantly recreated and redefined as the built environment metamorphoses into the latest visions of property development interests:

> In North America each new layer of civilization and development erases rather than builds upon the previous ones, so that while the history of [a city] can be told, it cannot be seen. The cities of the future will not be distinctive as cities have always been. Instead of reflecting a unique culture, each future city seems likely to consist of the same borrowed fragments. [15]

By destroying the layered physical identity that is embedded in the present array of urban structures, urban renewal projects in the past and routine redevelopment projects currently play a role in recreating or simply eradicating the past in exactly the same way that reprogramming recreated the past and reformulated the present for those in *The Matrix* or new injections created new memories, replacing those of the past, in *Dark City*. The present is continually reinvented, especially in *Dark City* so that no past even exists for most of the city's denizens. Part of the urban renewal irony of *The Truman Show* is that its location was the real postmodernist town, Seaside, Florida,

with very real restrictive covenants and architectural design constraints that had explicit behavioral control objectives.[16] Seahaven, Florida, was a city without memory, like Seaside, but even more like its leading citizen, Truman Burbank, whose memories were real enough but reflected a false, unreal cast of family and friends who were actually neither.

Postmodernist warnings about the loss of originality and the triumph of the copy, the reproduction, and the simulation are just beneath the surface of these films. The idea of a simulated urban environment encapsulating all of everyday life (literally in the case of *Dark City* and *The Truman Show*), essentially within a physical dome that demarcates the boundaries of daily existence, has roots in both utopian thought and more traditional planning practices, or as Zizek notes: "what lurks in the background is, of course, the pre-modern notion of 'arriving at the end of the universe."[17] The cities are real enough, physically speaking, but their "time" is out of place, especially in *Dark City*, which reflects a layering of different, earlier, eras such as the 1930s and 1940s. The city of night depicted in *The Matrix* is another amalgamation of middle 20th century urban architecture and transportation, although in "reality" it is the Chicago of 1996 juxtaposed over the wasted Chicago of 2192. The original script by the Wachowski brothers describes it more eloquently:

> This is the Chicago you know. Chicago as it was at the end of the twentieth century. This Chicago exists only as part of a neural-interactive simulation that we call the Matrix... You have been living inside Baudrillard's vision, inside the map, not the territory. This is Chicago as it exists today: The sky is an endless sea of black and green bile. The earth, scorched and split like burnt flesh, "the desert of the real," the ruins of a future Chicago protruding from the wasteland like the blackened ribs of a long-dead corpse.[18]

What people have known in the past must somehow be more comforting, more acceptable, than a future that "no one" knows. As for the "future," Seahaven represents the evolving postmodernist suburb without a city, the Disneyfied theme park of absolute and constant cleanliness and urban managerial efficiency. Like a gated community, it's insulated from the outside "real" world, which makes it unreal: how can it be actual urban life if it is not engaged in the diversity and unpredictable drama of unregulated daily commerce and chaos? Seahaven is programmed for Truman's sake and for that matter for the entire viewing audience, no less so than the analog programming of *Dark City* by the Visitors for their "lab rats" and the digital programming of urban life in *The Matrix* by the AIs for their power source. All are very effective simulations, real enough to fool most of the denizens and citizens. Nothing, however, is original, all are copies of bits and pieces from other times and other places. This is the same concern that many urban analysts have expressed about the direction contemporary urban planning has taken.[19]

We can make you perfect, quickly

Another motif barely under the surface of these films is the notion of a continuing series of laboratory experiments to achieve desired outcomes. *Dark City* is home for thousands of "citizens" who are the actual subjects of daily experiments. The ostensible objective is for The Visitors to understand human emotions, but in effect the ongoing experiments offer simply one opportunity after another to alter the life circumstances of an individual and then trace the results and impacts. Truman Burbank, under the gaze of total surveillance, was also the object of frequent social experimentation, particularly

regarding his romantic life. His birth and life were both a televised experiment, and his creator, Cristof, sought to video tape the conception of a new life on the show. These film examples are versions of the Deweyesque social learning paradigm: the idea that public policies are simply temporary experiments, to be tried over and over with different variables being fiddled with until the proper results are obtained. Modern planning theorists like Friedmann and urban analysts like Dunn have evoked this kind of paradigmatic imagery of evolving social systems in their explorations of contemporary planning and development practices.[20] Projects are like experiments. What are the effects of new economic development tax incentives? What measure could be taken of the different variables at work like public investment, transport networks, communications initiatives, or community development efforts? The idea here, and the idea in *Dark City*, is to measure what happens when some variables are kept constant and others allowed to vary. To some extent, this is in contrast to the approach utilized within *The Matrix*, where the electronic machinery in control of the life support pods was interested almost exclusively in stasis, in making sure that all variables remained constant at all times for the organic life forms residing in the remnants of physical space in order to keep the interior virtual life of the pod inhabitants in a state of mental bliss and "stability" so that they would continue to contribute electric energy and protein to the operation of the societal machine:

> We are, as an energy source, easily renewable and completely recyclable, the dead liquefied and fed intravenously to the living. All they needed to control this new battery was something to occupy our mind. And so they built a prison out of our past, wired it to our brains and turned us into slaves.[21]

Yet in this latter reading are parallels to contemporary planning efforts that are designed to satisfy dominant capitalist interests by providing fertile circuits of capital investment to fuel economic revitalization, particularly after periods of crisis in the capitalist system involving overaccumulation and overcapacity. From this perspective, urban revitalization and renewal projects that are designed to improve the physical environment of cities and, at the same time, offer profitable outlets for capital investment and improved commercial and residential opportunities for citizens, can be conceived in the same way as the stasis-sustaining objectives of *The Matrix*. Likewise, it's clear that the overriding purpose of *The Truman Show* was as an ongoing experiment to advertise commercial products against the backcloth of "real" life, all of which were for sale in the Truman Catalog. The city is a packaged commodity, a spectacle designed to be consumed and "enjoyed," as an opiate if nothing else:

> People forget it takes the population of an entire country to keep the show running and since the show runs 24 hours a day with no commercial breaks the staggering profits are all generated from product placement. Everything you see on the show is for sale—from the actors' wardrobe, food products, to the very homes they live in.[22]

Another theme visible in the films is the changing effects of speed on everyday life. [23] The idea that computer technology, or more specifically the confluence of cybernetic-organic technologies, could give humans the capacity for almost instantaneous learning of complex fields of expertise is common to both *The Matrix* and *Dark City*. In *The Matrix*, the surviving members of the resistance force are able to ask their handler

back on the Nebuchadnezzar to download programs to, for example, fly a helicopter or to learn various martial arts. This is a direct descendant of Gibson's program straws inserted into brain ports (*Count Zero*, *Neuromancer*) that allowed his protagonists to fly jets or attack helicopters at a moment's notice. [24] In *Dark City*, the memory injections allow instantaneous receipt of new professional backgrounds such as police detective, hotel clerk, singer, pharmacist, or poor man to rich man. These ideas run parallel to the current popularity of distance learning, web based instruction, and urban planning simulations. In all three, the idea that time can be overcome is the key theme. In distance learning, people are promised they can "learn at their own pace," which of course implies "fast" learning, or at worst learning that is not 'burdened' by having to go to classes or wait an entire semester to complete a course. Web based courses are offered with the same implied promise—learn as fast as you can, no doubt faster than what a classroom has to offer. Urban simulations of proposed planning projects also represent another version of the quest for speed embedded in *The Matrix* and *Dark City*. With virtual depictions of urban development projects citizens can witness the end state of what would ordinarily be a much longer evolutionary process. But using simulations, interested parties can "see" into the future now, instantly, and learn what a proposed project will (supposedly, and within the parameters of the rules of the simulation) look like when it's completed. *The Truman Show*'s approach to speed, however, is in opposition to the other two films. The experiment in Seahaven unfolds at the pace of life, day-in and day-out, year after year, testing the patience of the "viewing audience" (not to mention the actors) in a fashion similar to the afternoon soap opera. Things evolve slowly because they have to, at least up until Truman has his epiphany, and speeds the game up. Then, at least for Truman, things can't go fast enough, and the machinery of control fights a losing battle to keep up.

The big finish

In the solipsistic city, we're never quite sure who's dreaming up the reality we experience. And at the end of these three films, while our ostensible heroes move on to "the next level," it's anything but certain that the reality they each experience—their new urban reality—is any different, or any better, than what they had. Truman steps through the door into the new (old) world, Neo flies into the blue sky, and *Dark City* becomes an oceanside resort. Cities are transformed, miraculously, because **someone** wants them that way. One version of reality is traded for another. Like the latest shopping mall or urban theme park, the codified thoughts of planners create new realities that replace what's gone before, seamlessly and fast. The solipsistic city lives.

Notes

1. D. Deutsch, *The Fabric of Reality*, Penguin, New York, 1997.

2. J. Beniger, *The Control Revolution : Technological and Economic Origins of the Information Society*, Cambridge: Harvard University Press, 1986.

3. M. C. Boyer, *Dreaming the Rational City*, Cambridge: MIT Press, 1986.

4. R. Fishman, *Urban Utopias in the Twentieth Century: Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier*, New York: Basic Books, 1977.

5. W.H. Wilson, *The City Beautiful Movement*, Baltimore: Johns Hopkins Press, 1989.

6. P. Hall, *Cities of Tomorrow*, London: Blackwell Publishers, 1996.

7. Deutsch, op.cit., p. 83.

8. See, for example, W. Mitchell, *The City of Bits*, Cambridge: MIT Press, 1996; and N. Gershenfeld, *When Things Start to Think*, New York: Henry Holt, 1999.

9. C. Norris, J. Moran, and G. Armstrong, eds., *Surveillance, Closed Circuit Television and Social Control*, Brookfield, VT: Ashgate Publishing, 1998.

10. E. J. Blakely, and M. G. Snyder, *Fortress America : Gated Communities in the United States*, Washington, D.C.: Brookings Institution Press; Cambridge: Lincoln Institute of Land Policy, 1997.

11. S. Bodie-Gendrot, *The Social Control of Cities?* London: Blackwell Publishers, 2000.

12. M. Gray, *Drug Crazy: How We Got Into This Mess and How We Can Get Out*, London: Routledge, 2000.

13. L. Wachowski and A. Wachowski, *The Matrix*, Original screenplay, Available online at: http://www.geocities.com/Area51/Capsule/8448/Matrix.txt. April 8, 1996.

14. See, for instance, M.C. Boyer, *The City of Collective Memory*, Cambridge: MIT Press, 1994; D. Hayden, *The Power of Place: Urban Landscapes as Public History*, Cambridge: MIT Press, 1995; and L. Sandercock, *Towards Cosmopolis: Planning for Multicultural Cities*. New York: John Wiley and Sons, 1998.

15. R.D. Kaplan, *An Empire Wilderness: Travels into America's Future*, New York: Vintage Books, 1998.

16. I. Audirac and A.H. Shermyen, "An Evaluation of Neotraditional Design's Social Prescription: Postmodern Placebo or Remedy for Suburban Malaise?" *Journal of Planning Education And Research* 13 (3): 161-173, Spring 1994.

17. S. Zizek, "The Matrix, or, two sides of perversion," *Inside the Matrix: International Symposium at the Center for Art and Media*, Karlsruhe, Germany, 1999, Available online at: http://www.nettime.org.

18. Wachowski and A. Wachowski, op.cit.

19. M. Sorkin, ed., *Variations on a Theme Park: The New American City and the End of Public Space*, New York: Hill & Wang, 1992.

20. See J. Friedmann, *Planning in the Public Domain,* Princeton: Princeton University Press, 1987; and E.S. Dunn, Jr., *Economic and Social Development: A Process of Social Learning*, Baltimore: Johns Hopkins Press, 1971.

21. L. Wachowski, and A. Wachowski, op.cit., p. 47.

22. Andrew Niccol, *The Truman Show*, shooting script, Available online at: http://plaza20.mbn.or.jp/%7Ehappywel/script/truman.html

23. J. Gleick, "Seeing faster," *The New York Times Magazine*, included in the series entitled "Old Eyes and New: Scenes from the Millennium," Available online at: http://www.ntimes.com/library/magazine/millennium/m4/gleick.html, 1999.

24. W. Gibson, *Count Zero*, New York, Ace Books, 1987; and W. Gibson, *Neuromancer*, New York, Ace Books, 1994.

NET IN THE WIRES

BINARY THINKING

FLASH FETISH

SPATIAL DISCURSIONS

DECONSTRUCTING HYPERLINKS

SPEAKING IN DJINNI

AMBIGUOUS PANOPTICON

TECHNICAL MACHINES

NET IN THE WIRES

Arthur and Marilouise Kroker

Net in the Wires traces the internal logic of the Net, bringing to the surface of consciousness the creative possibilities and potential dangers of the *invisible environment* of technoculture. In Net culture, we actually live in a world of externalized perception, are bombarded by arrays of streamed knowledge, and may even have begun to think in ways that mimic the logic of the Net. Speed, fragmentation, hybridity, multi-sourced, layered, plugged-in, relative: these are the new vocabularies of sight, vision, speech and understanding that are hardwired by Net culture. When culture is googled, minds become free to cross into new territories of the imagination.

The contributors to *Net in the Wires* are full-fledged members of the digital generation. Born within the vector speed of net culture and deeply habituated to life in the wires, their private autobiographies merge perfectly with their public writings. These are digital road stories.

We are dealing here with a series of cutting-edge discussions of the real material history of *Net in the Wires*: stories of Flash fetishism, computer codes, technicity and evolution, the meaning of digital space. Each article is noteworthy for its originality, intellectual courage in staking out often lonely positions, and superb knowledge of the actual functioning of Net culture. Here the digital generation stakes its claim to be heard, and insists on being heard in a language that is as fluid, flexible and reversible in its meaning as the Net culture which is the object of its fascination. It is as if the Net itself finally acquired a voice, began to break out of the streamed noise of the data vortex, warning us in advance of the paradoxical nature of the digital future: speed and slowness, transparency and tracking. In *Net in the Wires*, we are hearing an important thread of the global digital community as it goes public with fabulist tales, serious and ironic and probing, concerning the contradictions and promise of technoculture when it is fully proximate to human experience. How else to explain the wonderful crossing of private autobiography and public theorization which is the hallmark of the different contributions to *Net in the Wires*.

For example, **Fox Harrell** is a perfect digital hybrid: a writer, artist, computer programmer who approaches net culture from the perspective of his actual experience as a game designer and animation producer. Which is probably why his article, “Speaking

in Djinni," can be such a deeply poetic reflection on computational media and media art, exploring how "interfaces influence art" and programming language imposes its silent imperative upon its often unaware "users." Here, the rules of programming ("reference, control, abstract data structures, block structure and polymorphism") quietly shape in advance the horizon of the digital imagination. It's the very same with **Robert Nirre**, a pseudonym for a programmer living and working in San Francisco. A latter-day heretic, Nirre breaks the holy (digital) tablets of designer language. Consider his subject-matter: 'The Genealogy of Dead Space;' 'The Illusion of Community;' 'Predatory Software Controls; 'The End of Cyberspace;' and 'The Triumph of Networking.' Breaking with the spell of cybertopia, Nirre is one member of what might be called the "virtual class" who has transformed his material knowledge of software culture into an extended political critique of the illusions of digital futurism. Equally, Harrell's diagnosis of the silent environment of computational media and Nirre's prophecy of the end of cyberspace is intensified by **Peter Lurie's** article, "Why the Web Will Win the Culture Wars for the Left." In working life, a General Counsel for a wireless and Internet service which he helped launch, Lurie has studied the codes with devastating political effect. He argues that the real, longstanding impact of web culture is that it actually rewires the brain and resequences how we think, understand and communicate in wired world. For Lurie, deconstructionist thought is not limited to postmodernism but has bled its way into material culture via the ways of perceiving endemic to *Net in the Wires*. Here, members of the digital generation are *ipso facto* deconstructionists, effortlessly understanding and practicing a style of thought opened up by the web: associative links, relational analysis, multi-sources points of view. Consider two of Lurie's conclusions concerning the cultural impact of the web: "The web is a postmodern tool that will inevitably produce a postmodern perspective;" and "Its influence is structural rather than informational, and its structure is agnostic." The cultural and political implications of Lurie's creative interpretation of the web as a "postmodern tool" is provocatively explored in his second article, "The Rush to Judgment: Binary Thinking in a Digital Age." Here, Lurie writes what is, in effect, a manifesto for a renaissance of political diversity equal to the non-binary character of the web. As he argues:

> (O)ur genetic and computer codes may be Manichean, but our thinking must not be. Dualism, which originated as a theory about the structure of the world, has calcified into an analytical set-piece. We must find another model… It would be vibrantly relational, a cross-pollinating perspective yielding imaginative solutions rather than deadening, zero-sum compromises.

The ultimate impact of *Net in the Wires* is yet unknown, a fact which is fully reflected in the three other articles in the section. For example, **Nate Burgos** works to topple the designer icon of Flash. In "Flesh Fetish," Burgos studies the broader cultural context out of which programming language in general, and Flash in particular, has emerged. Arguing at first that Flash is understandable in the psychological language of cyber-obsession, he then diagnoses the cultural conditions which have psychologically prepared the way for the quick acceptance and massive popularity of Flash as a digital designer language of choice. Writing from a post-Foucauldian perspective, **Mark Winokur** theorizes the future of technoculture under the sign of the Internet as "The Ambiguous Panopticon." However, rather than apply a strict determination of the power of surveillance to understanding *Net in the Wires*, Winokur works a brilliant reversal of Foucault. For Winokur, the essence of the Net is its "indeterminacy," the outstanding fact that the Net is both

signifier and signified. "The Internet is like language-as-ideology in being a construct, but unlike ideology in being a material construct. Again, ideology must be inferred while the Internet is palpable." Thus, Winokur concludes: What is the future of the Internet? Exploitation or accessibility? Habermas' modernism or Jameson's postmodernism? "…(A) cultural arena for solving the problems of being modern, or simply another tool of late-capitalist exploitation?" Which is not at all what **Belinda Barnet** argues in her article, "Technical Machines and Evolution." A Lecturer in Media and Communications in Melbourne, Australia and self-described as having "an irrational obsession with technics and evolution," Barnet sets out to write the story of a "technical machine." As she states: "I want to locate a dynamic in technics that stems neither from the soul nor from human societies, which grants the technical object its own materiality, its own limits and resistances…". Asserting that the 21st century will be lived out in two different, quite possibly contradictory, evolutionary tracks—genetic and technical—Barnet explores the history of technicity for its traces of memory, transfer and reproducibility. In the background of Barnet's pathbreaking analysis of technicity as a living milieu is Heidegger's insight that if technology is our destiny, *then we ourselves are already deeply technological*. To which future will the question of human destiny attach its loyalty: genetics or technicity? And if we consider *Net in the Wires* as the story of the evolution of a technical machine coming-to-life, then at what point do we cease to be interested spectators of net culture, becoming instead its digital progeny?

THE RUSH TO JUDGMENT

BINARY THINKING IN A DIGITAL AGE

Peter Lurie

Contrast is power. The greater the distinction between one position and another, the stronger its credentials. We have an atavistic impulse toward opposition: every analysis of a concept or thing reverts to a sketch of its converse. Since dualism is invariably invoked as a hermeneutic aid, we don't notice its role in structuring our thoughts, in shaping and finally constraining our understanding. After thousands of years of a binary approach to political, philosophical, economic and sociological problems, we have let our imagination ossify. We are three-dimensional beings imprisoned within a two-dimensional perspective.

Banners and slogans are distilled ideas: reductionism is our weakness. In the run-up to the invasion of Iraq, a baldly dualist perspective changed the terms of debate and made both a peaceful resolution or a broader coalition force impossible. Protestors around the world chanted 'No Blood for Oil.' Supporters responded: 'Anti-war Is Pro-terrorism.' Still others wanted a more finely-tuned discussion about the long-term effectiveness of inspections backed by the threat of force. Polls taken in February suggested that such a policy had the support of pluralities and perhaps majorities in England, America and even Germany, but it was a position that required elaboration and compromise.[1] In the event, they never had the chance. Strident voices hijacked the debate and marched off in opposite directions, bullhorns blaring. Polarized ranting made real discourse impossible. The war might have been avoided or more broadly supported—in either case, a less divisive and discouraging result, one with better long-term prospects of success.

We shouldn't have been surprised. Dualism is older than organized religion, as old as philosophy. Plato distinguished between forms and the world, the ideal and the actual instantiation.[2] The Bible is an extended allegory of good and evil, of us (the chosen people, and then those who follow Christ) against them (Egyptians, Canaanites, Romans, sinners—a medley of unbelievers).[3] The Old Testament chronicles the mostly horrific tribulations of a tribe: its interactions with other, less durable populations, and its efforts to secure God's blessing (if not reliably his aid), while diverting his wrath to others.[4] The New Testament is an extended meditation on saints and sinners and the paths to heaven and hell.[5]

Gnosticism, which predates church-centered Christianity by several hundred years, held that the spirit world was ideal and the physical world contaminated and evil.[6] True knowledge rested in the spiritual being, base knowledge in mere matter. Reincarnation was not a blessing but rather a sentence. In this, the Gnostics foreshadowed Nietzsche's eternal recurrence, in which each action must be repeated endlessly.[7] Earlier, Zoroaster, who lived in the 6th century B.C., believed the world to be a product of the struggle between Ormuzd and Ahriman, light and wisdom on the one hand, darkness and evil on the other.[8] The Manicheans, a hybrid of Gnostic and Zoroastran thought, with a helping of pre-Islamic Persian pantheism, posited a world perfectly divided between good and evil, the former represented by the spirit and the latter by the body, the two spheres radically and irrevocably distinct.[9] Although Catholicism rejected Platonic dualism in favor of a theistic monism, a God-centered unity, St. Augustine remained preoccupied with the difference between physical and moral evil,[10] and Thomas Aquinas and the Scholastics distinguished between spiritual beings and the bodily matter that the spirit animates.[11]

Descartes, the first modern thinker to provide a systematic analysis of the dualism between mind and body, held that the mind and body interact at a single point—the pineal gland, of all places.[12] Descartes may have been wrong about the gland, but his focus on the causal relationship set the terms of the mind-body problem and gave rise to a new discipline: the philosophy of the mind.[13] Descartes conflated thought and being, but others were less certain. Spinoza and Schopenhauer believed that it was impossible to quite distinguish between body and soul, and for that reason the nature of consciousness was unknowable.[14] Saxophone players since Lester Young have tended to agree.

If the mind-body problem no longer occupies a central place in philosophic inquiry, it is because cognitive science has successfully advanced the idea that the mind *is* the body. As Steven Pinker has demonstrated to great acclaim: "The mind is a system of organs of computation designed by natural selection to solve the problems faced by our ancestors in their foraging way of life."[15] There is no soul in the machine. Rather, the machine is constituted to create the effect of a soul; the machine is so finely calibrated that it is conscious of its existence and its potential for nonexistence.

* * *

Efforts at synthesis have been unsatisfying. In Buddhist cosmology, yin and yang are opposing forces, similar to the Manichean concepts of good and evil, which comprise an overarching whole, the Tao.[16] Dissatisfaction and ill-health result from an imbalance between these two forces, and happiness is closely tied to an individual's ability to get the balance right. Yet the basic organizing principle of Eastern thought is plainly dualist, for harmony requires a synthesis of yin and yang.[17]

Nietzsche, taken with Buddhist and Zoroastrian (Zarathustran) thinking, identified two opposing artistic forms and explored the ways in which Greek tragedy embodied them. The first, which he called Apollonian, represented order, reason, clarity and harmony. [18] The second, the Dionysian, denoted wild creativity, free-spirited and usually drunken play. Many philosophers interpret Nietzsche's conception of tragedy to elevate the Dionysian over the sterile Apollonian, but Nietzsche was a subtler thinker. He was searching for position beyond dualist structures, just as he demanded an ethics beyond good and evil. Nietzsche believed that the strong-willed could balance Apollonian and Dionysian forces.[19] Few would be capable of such mastery, usually effected

through dedication to a particular art or sport, and then only briefly. At those moments of crystalline balance, the over-man would gain insight and knowledge.

Nietzsche's conception of the tragedy was an attempt to synthesize dualist thought, but it wasn't a rigorous, systemic effort. Nearly all postmodernist theory, including the entirety of linguistics and deconstruction, is founded on a structuralist theory of language as a system of binary signs. Each sign is made up of a signifier (the word itself) and the signified (the concept or meaning). De Saussure observed that these signs are arbitrary, in that they might plausibly refer to anything else. The letters s, i, s, t, e and r suggest a girl or woman who shares the same parents as the referent, but the idea of this woman is not linked by any inner relationship to the succession of sounds that serve as its signifier.[20] Deconstruction at once inverted and advanced structuralist linguistics, but in its reliance on the relation of sign to signifier, it remained essentially dualist.[21]

The Marxists, for all their revolutions, were traditionalists in this respect. Dialectical materialism set religion against science, capital against labor, elevating in each case the latter as the determining factor in any inquiry into the structure of society. For the Marxists, the kind of idealism Plato advocated was useless if not misleading. Rather, society was better served by an analysis of how material factors, such as the means of production, determine the social and economic structure of society.[22]

More than ten years after the fall of the Berlin Wall, political theory remains stubbornly dualist, despite the evidence that there are more than two positions on the political spectrum. If the 20th century taught us anything, it is that political thought cannot be divided neatly into left and right. Indeed, the political landscape is less a continuum than a circle, with the fascist right and the totalitarian left adjoining each other on the dark side of the political planet, an unpleasant territory that now includes the fundamentalist state. Recent adventures in foreign policy are instructive, since Conservatives and Labour in England, and Republicans and Democrats in America, don't line up neatly when it comes to foreign politics. The Bush-Blair alliance is one of a radical conservative and a liberal with centrist tendencies. So too with Chirac and Schroeder. In the Middle East, it's the conservative warriors who end their lives striving for peace (Rabin and Sadat). And yet we persist, in America, England and elsewhere, to divide the political debate into left and right.

We divide liberty into negative values (the right to be free of restrictions) and positive ones (the right to food and shelter and work). Isaiah Berlin, starting with an obscure quote from Auchilochus, grouped thinkers as either hedgehogs or foxes: hedgehogs know one big thing, while foxes know many things.[23] Similarly, the protagonist of John Updike's Rabbit tetralogy divides all humanity into rabbits and bulls. Rabbits dart about to survive while bulls plod on, unwavering.[24]

There are no Platonic hedgehogs, no thoroughbred rabbits. Except for the true believers, we are all mutts. Everyone, going about their daily lives, will be both a taurine rabbit and a twitchy-nosed bovine. A healthy society will understand that there are no pure positive and negative liberties, that free speech means little for the starving.

* * *

Even the arts have succumbed. The Matisse-Picasso exhibit that opened at the Tate Modern before hopping the Channel to the Grand Palais and then the pond to MoMA Queens, pits the two artists against each other, reducing masterpieces to a half-century long, hubris-fueled game of artistic poker.[25] The catalogue is devoted to a "Comparison with Comments," two pictures on opposite pages with a paragraph comparing

them. It's puerile. Evidently not to be outdone in the race to the binary bottom, The Metropolitan Museum of Art in New York organized "Manet/Velazquez: The French Taste for Spanish Painting," which—apart from Met director Philippe de Montebello's obvious joy in recasting French 19th century painting as an awed response to Spanish masters—makes, with the ostentatious resources at the Met's disposal, the incisive point that artists are influenced by their predecessors, a process that involves less anxiety than outright mimicry.[26]

Dualism may be hardwired into our genes. The chemical structure of DNA is helical, two strings of sugar phosphates wound round each other and connected by supporting trusses of hydrogen, dangerous if detached or misaligned. Watson and Crick understood that the binary nature of DNA was its critical trait:

> The novel feature of the structure is the manner in which the two chains are held together by the... bases...[which] are joined together in pairs, a single base from one chain being hydrogen-bonded to a single base from the other chain, so that the two lie side by side... Only specific pairs of bases can bond together. ... [Since] only specific pairs of bases can be formed, it follows that if the sequence of bases on one chain is given, then the sequence on the other chain is automatically determined.... It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material.[27]

If the influence of DNA on thought structure seems a leap, Richard Dawkins's work renders it more plausible.[28] Natural selection operates upon genes, not species, so the evolutionary success of the genes we cart around with us—or, more accurately, the genes which utilize humans as a useful reproductive vessel—may be attributable to the kinds of thoughts they determine.[29] Humans may not be walking and talking dualists, but genes certainly are.

Dualism lies at the heart of life. It should not then be surprising that given the chance to build the ultimate machine, we based it on zeros and ones. Just as the DNA structure determines replication and reproduction—the laws of life—computer code controls software and, more broadly, cyberspace. Larry Lessig has written that just as constitutions identify and protect values, computer software preserves certain values at the expense of others. Code, Lessig argues, is law.[30] And code, at heart, is binary.

* * *

Our genetic and computer codes may be Manichean, but our thinking must not be. Dualism, which originated as a theory about the structure of the world, has calcified into an analytical set piece. We must find another model. We must bring a multivalent tool to bear on political, sociological, philosophical or economic issues. It would be rigorously open-minded, continuously recalibrated. It would cast dichotomies as guideposts rather than fenced-in camps. It would be vibrantly relational, a cross-pollinating perspective yielding imaginative solutions rather than deadening, zero-sum compromises.

Efforts to find a 'third way' suggest the desperation that dualism yields, particularly in the political arena. It is there that a multivalent tool would be most welcome and useful. As liberal democracies mature, political voices accrete into two major parties because they are unable to wield significant influence outside them. Opinions that don't advance the party's current strategy are shunted. A broad coalition—a big

tent—is usually an ineffectual one. In the United States the two-party system is creaking, with the Republicans bloated with money and power and the Democrats finally emerging from fearful disarray. This is partly the result of the surprisingly symbiotic relationship between corporations, with their lavish lobbying purses, and the Christian right, which votes, writes letters, protests and, well, votes. Corporations pursue economic interests while the Christian right monitors social matters, and because they rarely conflict, it turns out to be relatively easy for the Republican party to address both. The recent strength of Green parties in Germany and Scandinavia, and the occasional burst of hateful exuberance by Le Pen's Front National and Austria's Freedom Party, are exceptions that prove the rule. Their gains are almost immediately co-opted by one of the entrenched parties (consider the endearing Mr. Joschka Fischer, Germany's foreign minister, faithfully serving Schroeder's Social Democrats).

The loss of effective political diversity emasculates liberal democracy. It may foster corruption. A new perspective, shorn of dualist tropes, would create a more dynamic republic—and it could work in real life.

Few political issues cleave a group of citizens as neatly and ferociously in two as environmental problems. A hydroelectric dam is a good enough example. It produces electricity for the surrounding community, water for down-valley farmers, a hell of a hurdle for spawning salmon, stagnation and a slow death by silting for the river and the riparian ecology, and, in the submergence of often stunning valleys and waterfalls, a symbol of human arrogance to environmentalists. A dam has a way of producing a fantastic array of interest groups: loggers, farmers, environmentalists, fishermen, outdoorsmen—who may include backcountry hikers and kayak enthusiasts, who tend to be philosophic environmentalists, and sport fishermen and hunters, who may not—and then there is the electric power company, its stockholders, and the large and small construction firms with an eye toward many-zeroed contracts. And somehow, among all these voices, the dispute is inevitably drawn as narrowly as possible—YES! or NO!—as if humans, with our laughter and irony and opposable thumbs, with our sense of wonder and the capacity to design a thing as beautiful and functional as a bicycle, could think of nothing more complex.

All of the interest groups—with the exception, perhaps, of the off-the-grid ecotopians and their neighbors, the antigovernment survivalists—need the dam, or at least the electricity it will generate. Even the coldest bean counters can appreciate the value of unspoiled wilderness. The solution to the dam dilemma will lie in the broadest balance of power generation, harvesting and extraction of resources, and wilderness preservation. This dam must be linked to the last dam, to the next gas-fired plant, to the roadless national monument across the state. Some environmentalists, for example, are working to connect wildlands across continents rather than focusing on gemlike islands of wilderness slowly losing their viability to encroaching development. It turns out that the earliest preserves in Europe, North America and Africa were sustainable because the surrounding territory was largely uninhabited. Now that tract housing has reached the Yellowstone gates, the ecological health of these areas are foundering. Connected wildlands both strengthen the ecology of more strictly cordoned areas and permit development elsewhere. The nature of the project compels compromise with the broadest range of constituencies rather than the one-off toe-to-toe battles with the snowmobile lobby in one region, the logging industry in another, ranchers on the plains and developers on the outskirts of town. A multivalent compromise based on relational thinking will create a coherent framework for incremental issues.

In the future, all politics will be global. Before then, we must strive to draw political issues as broadly as possible. In the short term, this will make solutions more difficult by increasing the complexity of any acceptable compromise. It's always easier to cut a side deal; remember the popularity of the smoke-filled antechamber. But the plans and compromises brokered there don't long outlast the cigars.

Even the conflict in the Middle East has been perverted by dualist thought. Cast as a dispute between Israelis and Palestinians, any incremental gain by one must represent a loss by the other. When the focus is real estate, solutions tend to be zero sum, but even where the land at issue includes holy sites of three major religions, a broader, relational perspective would advance the peace process. A solution is not likely to be reached by drawing lines in the sand. Rather, every directly and indirectly interested party will have to contribute, compromise, and fold down its aggressions. Syria will have to cede its control of Lebanon in return for part of the Golan, a recognition of Israel, and a demilitarized zone along the Heights. Egypt will have to warm a cold peace with free trade, while it and Jordan grant amnesty and citizenship to Palestinians living there. Israel will have to allow a relatively small but symbolically substantial number of Palestinian refugees the right to return to and live peacefully within the Israeli state. The wealthy Gulf states will have to generously fund a new Palestinian state and end support for terrorist organizations. Iraq must be rebuilt with the assistance of the United Nations. Palestinians will have to police themselves and quash terrorism, or Israel will have the right to defend itself against the fledgling state. And Israel will have to withdraw from Gaza and all but a short security zone along the Green Line—one that excludes the settlements. Then the region may slowly recover from this thousand-year thrashing.

* * *

It would be easy enough to dismiss any call for a new way of thinking as starry-eyed idealism, but an important piece of the foundation has already been laid. Few believe that the technological revolution will bring peace, love and understanding, but it has already yielded a freer, more open society, one in which more people have access to more information, possessed of the tools necessary to both contribute to the community and succeed within it. The internet may not change the world—the millennium and the millennial market seems a long way behind us now—but technology and globalization will make broad, relational thinking increasingly easy to understand, even necessary.

During the Clinton years, the White House famously employed a technique misleadingly termed triangulation to control the political agenda.[31] But it was less about finding a third way than about splitting the difference, finding a defensible middle ground between extreme views. It worked well enough for a while, but it was finally ineffective. When the bubble burst, America found that it had not come very far at all, and indeed may have taken a few steps back—a desperately imbalanced society with extremes of wealth and poverty that has mislaid its sense of civic purpose. Its hypocrisies have not gone unnoticed. Much of the rest of the planet either resents or in many places loathes American exceptionalism, its sense of entitlement, even its professed ideals. In the decade following September 11th, the U.S. and its allies must accomplish a great deal more than it did in the decade preceding it. The terrain will be much less forgiving.

The need for a more imaginative mindset is pressing, even urgent. There is no life at the poles, or at least not much of it. The action is south of the Arctic and north of the Southern Ocean. We live there; we must think there as well. Just as the beauty of black & white photography lies less in pure blacks and perfect whites than in the 11-tone gray scale, we must learn to think across a continuum. The power of an Ansel Adams print is less in the intrinsic majesty of Half Dome, which is photographed thousands of times each day, than in Adams' mastery of the zone system, a rigorously calibrated method of controlling exposure, development and printing to maximize range and density. The zone system is famously difficult. Adams used it to locate as many as 25 gray tones, but most photographers have happily abandoned the zone system in favor of the tinkering pleasures of Photoshop. As citizens, however, we don't have that luxury. We must think broadly on an open plane. That will require courage and, like the great basketball player, a sense of where we are. We don't think that way, but we should.

Notes

1. See, for example, Patrick Tyler and Janet Elder, "Polls Finds Most in U.S. Support Delaying a War," *New York Times,* February 14, 2003, A 1; John Allen Paulos, "Polls, a Proverb and the Price: Gauging War Sentiment in the U.S. and Elsewhere," *ABCNEWS.com,* March 2, 2003 Available online at: http://abcnews.go.com/sections/scitech/WhosCounting/whoscounting030302.html; Warren Hoge, "Parliament Backs Blair on Iraq, but Vote Bares Rift in Labor Party," *New York Times,* February 27, 2003, A 12.; Richard Bernstein, "Continental Reaction: Speech Praised by Europe's Politicians, but Public Is Still Unpersuaded," *New York Times,* February 6, 2003, Sect. A, p. 21.

2. Plato, *Phaedo*, in *Plato, The Collected Dialogues*, Hugh Tredennick, trans., Princeton: Princeton University Press, 1999, pp. 40-84.

3. See, for example, Judges 3; Exodus 1:1; Habbakkuk 1; Psalm 9:17; Daniel 12:2.

4. See, for example, anything in Exodus, but particularly Exodus 12; Psalm 136:10-16.

5. See, for example, Matthew 25:46; Luke 16:19-31.

6. Elaine Pagels, *The Gnostic Gospels,* New York: Vintage, 1989, pp. 122-27.

7. Friedrich Nietzsche, *The Gay Science,* Walter Kaufmann, trans., New York: Random House, 1974, sections 285, 341.

8. Thomas Bulfinch, *Mythology,* Modern Library, 1998, Chapter XXXVII.

9. John Bowler, *Oxford Book of World Religions*, Oxford: Oxford Univ. Press, 2000, p. 565.

10. St. Augustine, "On the Nature of Good," in *The Essential Augustine,* Vernon J. Burke, ed., Indianapolis: Hackett, 1974, sections 1-25.

11. F.C. Copleston, *Aquinas,* London: Penguin, 1991, pp. 156-172.

12. G.J.C. Lokhorst & Timo T. Kaitaro. "The originality of Descartes' theory about the pineal gland," *Journal for the History of the Neurosciences*, 10, No 1 (2001): pp. 6-18.

13. Descartes, "Meditations on the First Philosophy," in *A Discourse on Method, Meditations and Principles* John Veitch, trans., New York: Everyman, pp. 79-88.

14. Spinoza, *The Ethics and Other Works,* ed. and trans. Edward Curley, Princeton: Princeton University Press, 1994, pp. 48-55; Schopenhauer, *The World as Will and Representation*, E.F.S. Payne trans., New York: Dover, 1966, pp. 153-165.

15. Steven Pinker, *How the Mind Works*, New York: Norton, 2003, p. 21.

16. Alan Watts, *The Way of Zen*, New York: Vintage, 1989, p. 175.

17. Lao Tse, *Tao Te Ching,* Stephen Mitchell, ed. and trans., New York: HarperCollins, 1988, section 2 ("Being and non-being create each other / Difficult and easy support each other / Long and short define each other / High and low depend on each other / Before and after follow each other").

18. Nietzsche, *The Birth of Tragedy,* Walter Kaufmann, trans., New York: Random House, 1967, ch. 1-5.

19. Ibid.

20. Ferdinand de Saussure, *Course in General Linguistics,* Wade Baskins, trans., New York: McGraw-Hill, 1965, pp. 12-14.

21. Jonathan Culler, *On Deconstruction: Theory and Criticism after Structuralism,* Ithaca: Cornell University Press, 1983, pp 227-280; Terry Eagleton, *Literary Theory*, Minneapolis: Univ. of Minnesota Press, 1996, pp. 110-131.

22. Terry Eagleton, *Literary Theory*, Minneapolis: Univ. of Minnesota Press, 1996, pp. 169- 188; Terry Eagleton, "Towards a Science of the Text," (1976) in *Marxist Literary Theory,* Terry Eagleton and Drew Milne, eds., Oxford: Blackwell, 2002.

23. Isaiah Berlin, "The Hedgehog and the Fox" in *The Russian Thinkers*, London: Penguin, 1994, pp. 22-81.

24. John Updike, *The Rabbit Novels*, v. 1 & 2, New York: Ballentine, 2003.

25. "Matisse Picasso," Museum of Modern Art, New York: February 13-May 19, 2003; Henri Matisse, Isabelle Monod-Fontaine, John Golding, John Elderfield, Anne Baldassari, Pablo Picasso, Kirk Varnadoe, Elizabeth Cowling (contributors), *Matisse Picasso*, New York: Museum of Modern Art, 2002.

26. Gary Tinterow, Genevieve Lacambre, Deborah Rolden (contributors), *Manet/Velazquez: The French Taste for Spanish Painting (Metropolitan Museum of Art),* New Haven: Yale Univ. Press, 2003.

27. The seminal article is James Watson and Francis Crick, "A Structure for Deoxyribose Nucleic Acid," *Nature,* April 2, 1953.

28. Richard Dawkins, *The Selfish Gene,* Oxford: Oxford University Press, 1999, pp. 46-66.

29. Ibid.

30. Lawrence Lessig, *Code and Other Laws of Cyberspace,* Basic Books, 1999, pp. 3-9.

31. See, for example, the overheated rant by the otherwise talented Chris Hitchens: Christopher Hitchens, *No One Left To Lie To: The Triangulations of William Jefferson Clinton*, New York: Verso Books, 1999, pp. 23-53.

FLASH FETISH

Nate Burgos

"Motion is the message." This mantra, inspired by Marshall McLuhan, was evangelically promoted by Hillman Curtis, principal of a motion graphics firm at last year's American Center for Design's *Living Surfaces Conference*. His presentation of mutant shapes, ambient backgrounds, and textual mist engaged the audience's visual sense. The big screen was not vapid with static Powerpoint slides. It ebbed and flowed with words and images that moved to a bodily rhythm. The screen no longer looked and felt flat. It was a living surface. Flatland was repressed for the time being. What made this repression of gravity possible was Flash, Macromedia's solution for realizing bandwidth-lean, high-impact web content. It is also a cult. Flashimators are multiplying like the number of Flash Players (over 200 million) being plugged into browsers.

Point, line and plane. Square, circle, triangle. With Flash, these fundamental building blocks of visual experience have extended their usability on screen. Points multiply and diminish. Lines stretch and shrink. Planes elevate and drop. Squares changing into circles changing into triangles. This "tweening"—this orchestrated movement of visible objects—has found a haven in the internet vernacular. This haven has grown into a legion of Flashimators, zealous in imbuing text and images with kinesics, making words and pictures sing the body electric. The intensity of visual agitation can be cranked up or down. Flash is the graphic equalizer allowing manipulation of visual decibel levels. This is at the discretion of the Flashimator. When it comes to the expressive possibilities of motion graphics, Oscar Wilde's dictum of "I could resist anything but temptation" comes into play and very much is pushed to Flash Forward. (Faced with the fascination with animation, the marriage of style and communication should never be divorced.) What is manifested are constellations of dancing light and space, a vector-based liquid crystal display, aesthetically driven and mathematically generated. (The marriage of art and science should never be divorced.)

The Flash site is developed in the guise of a microcosm that blossoms into a macrocosm. The internet medium is the "stage"—the platform within which the Flashimator imports, pastes, and sculpts "symbols" (characters) assigned with "actions" (roles) in his/her multi-dimensional graphic plot. The Flashimator is an author of a play on the

visual verities of life. The expressive range of motion graphics is tremendous, from serenity to anxiety. The Flashimator is a visual art therapist, whose script is one of visual exploitation. The screen assumes the quality of water: crystalline, fluid, and translucent. Opacity is shunned for a through-the-looking glass view. The Flashimators create worlds inhabited by cinematic collages: the words roll; the images emerge and submerge. The audience is enticed, swooned perhaps. The viewer takes on the role of Alice in Wonderland—cast adrift, immersed in a spectacle of combustible letterforms, kaleidoscopic images, and prancing shapes amidst a chameleon background. What motion will the mouseover unleash? The message coagulates into a readable mass then scurries into the color field from whence it came. As the message fades, a tribe of giant letterforms bloat themselves. Their scale fills the screen at an obnoxious rate like a Jackson Pollack drip painting oozing with pigment. What remains is a freeze frame of digital paint without the accumulated crust. Our appetite for the mind-popping sweetness of eye candy is whet.

Imagine also the viewer coming into a zone of screen apparitions whose positions are unpredictable: they arrive from the sides, top or bottom edge, or from somewhere within the depths of the live area of the screen. The screen is a compositional viewfinder. It can only see so much. However limiting the screen view is, it is the lens through which the Flashimator transmits moving messages to seduce us, grabbing our imagination, keeping us fixed on the message's movements which may enter into another set of coordinates, or into another "scene", or into another message remaining to be revealed. Is the moving message a dogmatic epistle, a journal entry, a historical commemoration, an ode to nature, a lovelorn letter, or a soliloquy?

From analog to digital, visual communications on the internet have quickly converted from static pages to dynamic cells with the advent of Flash. The tempo is open: adrenalized motion=presto, walking motion=andante, slow motion=adagio, abrupt motion=staccato, seamless motion=legato. The visible word is liquified, jellifying and pollinating, flowing like oil, dripping like molasses. The screen is a window to cascading typography. But never wading through visual morass.

A dance sequence is initiated. Who leads? The steps, the visual cues, cannot be anticipated. This is visual improvisation, whose melody and harmonics can be that of a waltz, a fandango, or a dirge; whose structure is that of a sonata or a concerto. The Flashimator is a conductor directing graphic assets into a smooth-and-connected arrangement of word, image, time, and sound. A legato touch is paramount. Each visual combination is a musical phrase, crafted with care. As the Flashimator's sensibilities and techniques grow, he or she gains more competence in marrying words and images to the screen to the point of visual virtuosity. The visual repertoire expands in dramatic currents. The Flashimator's "symbols" don the metamorphic personality of the mythic sea-god Proteus. A species of the protean sort glide within the digital aquarium of the screen. The site-seer observes their qualities from the other side of the bubble.

In ArtAndCulture.com, artists' names breathe like ethereal vapor. Their visual resuscitation personifies the artists' restless pulse beat and inventive vitality. At Turtleshell.com, fireflies gravitate around your cursor. They are your lantern-companions on your site exploration. These fireflies do not prove to be the will-o'-the-wisps that throw you off course. In Once*Upon*A_Forest.com, the invisible hand of Virgil leads you to a virtual tour of surreal assemblages, likened to postcards strewn with animated abstract patterns that are artificial and natural in flavor. In PregnancyCalendar.com, numerals grow big and small. These are the numerals of embryonic maturation.

Accompanying the chronology is narrative written in the first person. Like it's Flash counterparts, this site celebrates life, especially that found in the fusion of word and image. Memory is preserved and shared. Flash is the technical incubator of storytelling, where a body of text is treated as a body, stimulating in faculties and possessing emotional warmth.

Making engaging content is a passionate pursuit. Moving messages to move (to woo) online viewers is a commodified pastime. A Flash site is not about the software. Utilizing the capabilities of Flash is not a dry exercise in motion graphics. It concerns Romanticism with visual phenomenon—visible letters tweening into visible words tweening into visible signs tweening into visible metaphors tweening into visible feelings. The internet is a semiotic field of dreams. And Flash has become an integral tool for delving into this brave new digital canvas in which the Flashimator shares Pollock's attitude of being "in" the painting. It is the wand charging static textual particles.

Originating in the mid-1990's, Flash has emerged as the dominant laboratory for weaving and casting graphic spells whose charm is fast and scalable. These spells set a new paradigm of visual alchemy to nurture, entertain, and delight visual thrill-seekers in a new medium with the same message: "The purpose of creation is beauty." (Hazrat Inayat Khan, 1882-1927)

Related link: flashfilmfestival.com

SPATIAL DISCURSIONS

FLAMES OF THE DIGITAL AND ASHES OF THE REAL: CONFESSIONS OF A SAN FRANCISCO PROGRAMMER

Robert Nirre

The Genealogy Of Dead Space

Distance is dead. The world has ceased to align itself on spatial gradients, lost its topological reference and become discrete, gridded, encoded, enmeshed in webs of tangled hierarchies and productized data, in access control structures and security plans and deployments, distribution logics and fluctuating lines of control and specificity all subject to variant rates of diffusion across embedded media topologies and the multiplicitous parameterizations of wealth, class, color, identity, ideology and style.

But frankly, this is not very clear.

Let us be precise, move slowly: distance can be understood both physically (in the most literal sense) and conceptually (as that which renders access a function of time). On a plane the two are identical: something twice as far away (physically) takes twice as long to get to. But imagine this plane was crossed by a mountain range, or anything time-consuming to traverse. Physically a distance spanning this feature, while identical to another, would be conceptually greater. To represent this we can construct a conceptual plane which is linked to the physical plane by a transformation: in this case stretching the mountainous region, injecting more conceptual space into it to account for the difficulty of traversing it in physical space.

We can imagine other transformations that would account for other physical features. For example, replacing the mountain range with a road would require not merely inverting the transformation into a lateral shrinking but also applying a longitudinal contraction (since one would choose to travel along the road, which one wouldn't do with the mountain range). Anything nonsymmetrical (a river, for example, which aids travel in one direction) would require introducing a new dimension into the conceptual plane, with distances measured along it expanded or contracted according to which way one was traveling (an unfortunate but non-critical complication we will henceforth ignore).

What is clear is that any physical geography could be mapped onto a (perhaps dimensionally elevated) conceptual plane by a set of superimposed transformations. It is obvious also that further transformations could be applied to this terrain, either by modifying it directly (building roads, leveling mountains) or by a technological adaptation (making snowshoes, constructing maps) providing increased access to some portion of it. We can divide these transformations loosely into area, linear, and point types.

An area transformation expands or contracts an entire area. When made by humans it corresponds to either a drastic alteration in the terrain (leveling forests, draining swamps) or to an ability or technology developed upon man himself (riding horses, surviving in the desert). As the latter it is the most primitive type of transformation man applies to space.

Linear transformations correspond to the construction of pathways, roads, canals and the like. They are more sophisticated than primitive area transformations, requiring the ability to modify the terrain and thus providing a potentially greater deformation, but are more limited in scope. Point transformations occur when two points (but not the areas around them) are brought close together. They correspond to an engineering technology that transcends the plane, punching holes in it (airplanes, tunnels, bridges), and are the most focused (and hence powerful but restricting) of forms.

Of course an area extended becomes a line which attenuates into points, and points in sequence form lines which, gridded, cover an area; this is less a distinct typology than a delineation of idealized points along a spectrum that runs from low amplitude, low specificity, low investment (area) transformations to high amplitude, highly specific (point) transformations which require massive prior investments of energy to realize. Driving, for example, is sometimes area (in suburbs and cities) and sometimes linear (highways). Trains exist somewhere between linear and point.

The most efficient transformation structure on a plane depends on the distribution of places one is concerned with reaching; assuming a certain locality amongst these a reasonably optimal structure will include different levels of the spectrum selected according to the vagaries of history and development, with higher transformations linking dense cores and successively lower ones incorporating surrounding areas. One thus exists within a nested layering of transformations, which layers one ascends to and descends from according to the distance traveled: you walk to your car, drive to the airport, fly, etc., and then reverse the process.

But if conceptual distance is to be understood as we've defined it, as that which renders access a function of time, we must consider that access can be realized in terms other than physical presence. This is the domain of communication systems. A message dispatched into such a system traverses the conceptual space defined by its underlying transport medium (courier, telephone wires, radio waves) but the transformations that construct this space may be selectively (and non-symmetrically) permeable to different types of messages: interrogative (those that request information), informative (those that convey information), or imperative (those that effect a change in the recipient). Furthermore the message, as a creature free from physical constraints, has the potential to be multiplied (broadcast, mechanically reproduced) within this space. When the underlying medium is electromagnetic the transformations applied (be they point, linear, or area) are absolute: what they join can henceforth communicate instantaneously. In the case of wireless communications (area transformations, multiplied) the economics of spectrum allocation and the transmission apparatus limit their permeability (in mass media) to nonsymmetrically informative messages: one is the passive recipient of information streams issuing from a few centralized points. Wire-based communications have

no such constraints. Their transformations must be inscribed on physical space and thus their development obeys a reverse dynamic from that observed in transportation systems: they are used to connect a few important points first, then branch out, and finally end up networking entire areas together. But it is only with the widespread adoption of computers for the automated storage, replication, and distribution of information that these networks are freed to multiply what they carry (via newsgroups, multicasting, publishing, etc.). And that is when things start getting interesting.

The Illusion Of Community

Cyberspace: a floating term with different images. In the sci-fi imaginary it is a dark plane, an awe-inspiring planet, something mysterious and electrified, a neon density of city lights arrayed against the eternal vastness of space with strange energies and glyphic forms, mutating avatars and data streams in ceaseless flow. But what we commonly apply the word to, the web, is a little more mundane. You type; you connect. Your computer nuzzles into another and sucks off a loving, coded flow. You follow a link, you traverse, you search, you back out again. But what is this, exactly? Clearly it isn't amenable to our spatial understanding. There is neither a physical nor even a conceptual space. There are places but nothing between them, no interspatiality; one navigates a sprawling agglomeration of webbed-together billboards, of insides without exteriors, of islands of hyperdense information adrift on etherealized seas.

It is an article of faith with many technologists that an immersive, virtual reality cyberspace (perhaps in its more humanized/urbanized form, as a "metaverse"[1]) will one day dominate our online experience, but this is far from a foregone conclusion. Nevertheless contrasting these images of cyberspace allows us to critique distance from the perspective of utility (what does it do, what functions does it serve?) and examine the implications and viability of its absence.

So what does it do?

Distance orders. One occupies a point from which some things are closer and some farther away. One can move amongst these but their relationship to each other doesn't change.

Distance makes visible. One can survey a space and determine what it contains (or if it's occluded, what it could potentially contain).

Distance provides neutral zones. The notion of distance implies a space between places where subjects can see each other and participate in unmediated relationships.

The lack of these qualities explains the curious character of the web. In the absence of space brand names become the central ordering principle, the chief structure superimposed on unfettered chaos. Real estate becomes something no longer found but created, carved from the semantic war-zone of the consumer's mind, but to achieve this the denizens of nonspace must embed themselves in traditional media topologies (via advertising) where they can acquire the visibility the web, with all its immediacy, fails to offer.

To the novice user it's all terribly disorienting. She wanders the menu options offered by the portal, hops to a few big-name sites she's heard of and finally, seizing a search engine, boldly slashes a cross-section through the tangled growth and plunges in. But without being able to ascertain where she's been, how much of what she's seen, what else is out there or where anyone else is the suspicion soon arises that while she's lost in the boonies running in circles, suffering plug-in deficiencies, and battling jack-in-the-box porn windows, somewhere out there the real internet party is seriously going down.

But there's no party because there are no people. The web posits a subject and object but no others. There is no way to detach from its immediate presence, to turn around and see who else is there. Unlike broadcast media it's point-to-point (symmetric interrogative/informative), not point-to-many (non-symmetric informative), but this is still a communications grid, far from a communal space, and still based around a unicity of interaction with static points. One can interact with others through these points but that mediation comes at a cost: communication that is restricted, formatted, censored, and archived, wrapped in ads and subject to revocation at any time. A radio or television projects an area outside it within which people can experience it. Passively, to be sure, but as a group. But the websurfer, locked in a feedback loop through the junctions of screen, mouse, and keyboard, interacts alone. But these complaints are nitpicking. Fundamentally distance restricts and limits, it extorts time as the price of all its pleasures, and has no basis in the web's underlying transport medium (where the actual flow of data is orthogonal to one's direction of movement). The web exists to provide access to information, not a community. Visualization and virtual reality technologies will come to it but as means to structure it and render it visible, not livable.

They will not create spaces but present maps and interfaces; one will use them but one won't be inside them, and neither will anyone else. Distances will be arbitrary and space will be vacated, selected and arranged according to whatever queries and filters one puts in place.

Which perhaps addresses some current visions of virtual reality but doesn't really get to the root of things. Cyberspace as originally envisioned in the works of William Gibson,[2] was neither a form of media nor a communal space.[3] It was the operant field of a radical individual empowerment by technologies that, it is true, penetrated and colonized the body but did so only to enhance it, to elevate and transpose its sensorium into an abstract realm of financial and informational flows where all its natural capabilities (instinct, intuition, spatial perception, kinesthesia) could be brought to bear. In the hands of metastasizing corporations technology had laid waste to much of the world, but these same technologies allowed suitably fitted cyborgs to meet them on their own terms, to exist in their world as first-order entities instead of particularized functions, traversing the communication and capital nets of the world with fluid ease. Which may come to pass. But the fundamental premise of this vision, that the layered and interlocking webs of commerce and communications and the vast architectures of the world's data archives all compose a space that can be conceptualized in a paltry three dimensions and through which movement has any significance, seems based on a strange and unlikely corporealization of informational mechanisms which invests them with those properties whose absence is the true revolutionary characteristic of our age.

However, occupied virtual worlds are being created. In computer games and virtual reality chat spaces participants assume avatars and explore medieval realms, extraterrestrial settlements, and assorted other fantasia, therein to quest together, meet, talk, or (most commonly) engage in mutual high-speed repetitive slaughter. Here, at last, space has a role, but only as a surrogate.

It's as if virtuality was eating the real, eating history, eating myth, eating the future and vomiting it all back up again in bubbles of gossamer simulation. One revisits the outmoded paradigms of mechanized warfare, explores manufactured kingdoms, plays the sports one can't be bothered to in real life and mimes intercourse, but the landscapes these unfold across are not the vanguard of a coming spatialization, they are its zoos and museums. Playgrounds for vestigial senses and obsolescent drives.

Predatory Software Controls

We have touched on the transformation of space in transportation systems and its partial restitution in telecommunications systems; we have not yet investigated functional systems. By functional we mean systems which exchange imperative messages between their parts, where control takes its place alongside communication. The informative messages traversing our communication systems serve imperatively within any number of encompassing functional contexts (social, commercial, financial, etc.), but the role of distance in these latter is unique.

Fundamentally distance restricts and limits, but in a functional system this can serve a positive purpose: it prevents unwanted interactions, it keeps things away. The importance of this is easily overlooked: the efficiencies of proximity are obvious while the structural functions that spatial buffers implicitly provide (manageability, isolability, locality of effect, etc.) are more subtle. New transformations perturb these buffers and cause transient stresses while the systems they've touched adjust, but when these transformations conspire to effect a wholescale destructuration of their underlying space then pathologies arise. Systems become overwhelmed, overloaded by information that used to be naturally filtered out by distance. They become transmissive, vulnerable to sudden traversals by viruses, panics, and epidemics.[4] They become increasingly exposed to malicious intervention. And they evidence a growing sensitivity to initial conditions, and a penchant for chaotic effects. Thus, twin themes of the near future will be exploiting the advantages of limitless speed while retrofitting systems destabilized by the removal of spatiality with mechanisms that reconstitute its structural effects. But the erasure of space provides another dynamic based on simply this: things that can get at each other compete. The increase of competition can be destructive (leading to overspecialization and homogenization, the red queen effect,[5] the tragedy of the commons,[6] etc.) or beneficial, but either way it accelerates the rate at which systems evolve and thus favors entities and configurations that can rapidly mutate to exploit emerging opportunities.

Computer programming (more precisely, software engineering) provides a clear illustration of where these developments lead. Flexibility and adaptability are crucial goals of any software architecture. Moreover software lives in a world utterly without space or distance. Any piece of code could access any point in the process's memory, accomplish anything; thus, the essence of the art consists in structuring subsystems so as to reduce their potential for unwanted interaction while preserving their flexibility to rapidly evolve. To achieve this one modularizes systems into component parts, hides their implementations behind clearly specified interfaces and grants access to these according to the principle of least privilege (as little as needed). These principles, extended and elaborated, are at work everywhere today: in the disaggregation of the corporate body into virtual corporations and turnkey service providers,[7] the sweep of standardization across industries, the increasing opacity and automation of all forms of products and services[8] and the spread of security regimes via authentication and surveillance measures. With distance evaporated control mechanisms crystallize across supersaturated topologies. Firewalls and filters accrete at interfaces. Homeostatic feedback mechanisms spread and merge. Regulatory metasystems coalesce and stabilize competitive matrices. Classification and codification schema multiply and assign everything a place.

In the cultural sphere production and mass-media scale economies approach a toxic level of monotony. Minds sharpened for use as intellectual tools and soaked in easy

reproductions of world culture and gratuitously irrelevant university educations revolt in a breaking rash of destructuration and fragmentation, a spontaneous precipitation of differentiating subcultures that are vectored in by new transmutations of the corporate form: pure research and marketing concerns that have jettisoned their manufacturing/distribution hulks the better to shape-shift with their rapidly mutating markets.

In the personal sphere new selection criteria are posed. If the industrial age demanded physical (exterior) conformity in pursuit of economies of scale, the information age demands interior conformity in pursuit of economies of interconnection. One is componentized: rendered modular (plug-compatible), cleanly specified and labelled. Not a cog in a machine but a conductor for the flows that will be applied. A nutrient media for the contagions specified. And more. When criminals can strike anonymously, at a distance, then everyone is a suspect. When all markets are fused into one then everyone is a competitor. And when any effect can chaotically ramify and everything hinges on control mechanisms, on links and switches and servos whose very power is the difference in magnitude between cause and effect they enable, then everyone is a potential source of disruption and must be guided, normalized, watched and controlled. But simultaneously these systems feed on proliferation and ceaseless change, and thus a strange dichotomy infuses them, a sort of hardware/software cleavage that realizes a focusing, channelling, synchronization and integration of all energies for the purpose of cycling them at ever higher speeds in spasmodic streams of synchromeshed variation.

And so, even as space implodes, the systems it contains grow larger, wider, more sophisticated, multistructured, becoming partitioned, hydral, complexified, increasingly resistant to any form of attack and capable of absorbing local failures. And thus the chief sensation of our time is a feeling of integratory fractionation, of falling apart while coming together. We sense that we are nested inside of contractions inside of expansions. We sense our actions moving in different directions in distinctly different spheres.

The End Of Cyberspace

We are concerned, primarily, with the efficacy of the human form. Transportation systems govern how this form moves, communication systems how it senses and functional systems how it acts (and what acts upon it). In the primitive state a natural relationship exists between these: the self is the locus of concentric fields of increasing extension (where you are, what you can affect, what you're aware of) on a single conceptual plane.

Electromagnetic technologies shatter this arrangement. The self remains in place but its presence is released along fluxes and wires that impose transformations so extreme as to be effectively infinite, the space under them not merely shrunk but imploded into points of hyper-dense singularity. Within these points space and distance are entirely annihilated. But there is still structure. This is the regime of the switch and the signal, of information, that most curious of substances that has no intrinsic properties and serves only to parameterize and configure the behavior of the system within which it operates. This is the essential difference between the real world and the informational. Information has no significance apart from the machine that chooses to interpret it. The effects it causes are neither necessary nor subject to any limitations. In fact it has no relationship with them at all except to select them from an array of offered choices. And it is this complicitous yet disjunctive relation between cause and effect, this inextricable cycling of interpretation and parameterization, this interpenetration of figure and ground mediated through the instantaneous and frictionless omnipresence of microelectronics that gives the digital world its smooth and radically dis-synchronous texture.

It is a world composed purely of mechanism, and subject to a physics irreducible to our own. There is no action, only atomic state changes; no distances, only connection; and the very medium within which this world consists possesses no reality. It is utterly indeterminate until the moment that it is functionally contextualized within (and contextualizes) the complicated, shifting exegesis of codes that inscribe it. The physical world (where conserved substances obey principles of linearity and locality and interact according to immutable laws of quantitative equivalence) remains only in fragments and residues (bandwidth, processor speed, storage capacity), irritants informational systems strive compulsively to displace, excise, reject, and annihilate.

This is the world ours disappears into, our systems sucked into its dark, ineluctable core. Inside they are transformed: reduced to strands of dataflow and component transactions and woven into its networks, inscribed in its circuitry. But this realm has fine mesh filters, selective membranes: it seems we're a little too fleshy to pass through. Instead we accrete around its interfaces, forming as low-grade peripherals around its terminal points for the sole purpose of binding it to the real, meshing it with legacy systems. What is effected is a progressive evacuation of human intelligence from systems centers, a centrifuging of paper, verbiage, relationships and meaning from nexuses that, now dissipated into electronic networks, disappear.

In a bureaucracy we are nodes in networks of circling paper; in a factory we are parts of machines; either way we permeate and control all levels of our environment. But the networks (and factories) are becoming capable of running themselves. We manage and supervise, distill and decant information, provide the fusillades of point mutations we refer to as innovation and supply the support matrices these systems rely on but all these occur on the periphery of centers that are increasingly obscure, where we operate as functions, agents, and avatars for forces increasingly beyond our ken.

Perhaps here we can locate the powerful resonance of the myth of cyberspace. It arose at a point in history when certain trends in technology were becoming apparent but their absorption and deployment for functional purposes was still in its nascence. Biotech, digital communications, personal computers, and portable electronics hinted at a future on a scale (personal) and a scope (global) that had been inconceivable earlier. [9] Video games and sophisticated audiovisual devices foretold new levels of interactivity and immersion. These were personal, intimate technologies: their potential for attaching to and controlling the human form was clear, but at their intersection another premise seemed possible: that they would allow one to plunge through the wormhole and come out on the other side, entering a body virtualized for full participation in the digital realm. This was both a movement away from the body proper (as flesh, meat) and towards an idealization and reconstitution of its functional essence. It hypothesized that once they had achieved a certain density and sophistication, informational mechanisms, from an appropriately abstracted viewpoint, could be subsumed under spatial/physical forms. What is interesting about this is not so much its plausibility as how strongly it resonated with the mass unconscious, and the torrent of psychic energies it unleashed. This image of a virtualized real and a spatialized virtual struck deep in a collective imagination suffering the vitiation of technologized space.

Its promise was to capture the functionalities dissolving into a nebulous stratosphere and throw them back into space, reinscribe them on a terrain that was clear, ordered and visible. It also promised to import the monadic subject (the unity at the center of graded concentricities of access and awareness) into this space, while imbuing the subject with a new set of digital powers. But most importantly, if this world

was a space and the user localized as a subject then the body (the whole sensory, perceptual, and motor apparatus) could be resurrected at their interface. From the dawn of agriculture to the rise of the symbolic analyst class, civilization has progressed by circumscribing, controlling, and finally eliminating (with surplus energies channeled into sports, entertainment, fitness, etc.) the animal functions of the human form. Now, suddenly, there was the image of a reversal: of the human form as technology's apotheosis and integration, the body recontextualized within information networks and charged with all their fantastic powers. A new body would rise, phoenix-like, from the flames of the digital and the ashes of the real.

This body would occupy an environment constructed from dream landscapes of the past. To a world that was mapped, gridded, partitioned and surveilled it offered itself as a frontier, a zone of lawlessness and adventure. To a world glutted with waste products and saturated with media forms it offered the purity and vastness of interstellar space. There was no illusion that it would be free of corruption, collusions of power, or deception, but it framed these with classic noir romanticism. And it promoted itself as an image of transcendence in the best traditions of western idealism, as the spirit's escape from the degraded flesh and a corroded, wicked world.

Despite all this, the myth of cyberspace flared only briefly before vanishing. It understood that technologies were erasing physical space and manufacturing illusory ones, but it misjudged in anticipating a convergence of these trends on the functional plane. While virtual reality was foundering on the incommensurability of organic and digital perception functional systems were draining away, screened by a heady wash of entertainment imagery. Cyberspace depended, ultimately, on extrapolating potentials extracted from indeterminate technological waveforms. As these collapsed, the myth was revealed for what it was: a poignant imaginative lunge that illuminates exactly what will be denied us. A nostalgia for a world that will never come to be.

But this nostalgia is no longer with us. If we remember it at all it seems quaint and far away. The charms of the spatial (of movement, predictability, organization, an integral self) are losing their hold on us, as are our apprehensions of its absence. It seems, after all, that we are oozing through the filters. We are reconfiguring, acclimatizing, and slowly gaining confidence. We are learning to swim in digital seas.

This is an ontological shift of fundamental significance. It marks a vast range of stresses, distortions, disjunctions and transitions across all aspects of the human form. Mentally, it involves converting from a visual to a linguistic modality, from spatial to symbolic orderings, from fixed to fluid viewpoints, and from a centered to a fragmentary model of self. Physically, it involves reconstituting the body not functionally but within the domain of sign systems as a pure symbol, a screen across which difference can play. Culturally it corresponds to the elevation of differentiation and categorization as central principles. In the realm of knowledge it manifests as a sensitivity to issues of contextualization.

This shift is hardly spontaneous; it spreads differentially through the social body according to the feedback cycling of selection criteria and environmental matrices; yet it is spreading, and it provokes resistance as it does. This is chiefly because it challenges conventional, culturally determined modes of perception and behavior, but there is a deeper revulsion that senses the nihilism at its core. It is an abandonment of the body, of space, of our whole inborn cognitive skill in location, mapping, movement, visual assessment, and orientation, and with that the ideal of a comprehensible, unified world. But few respond to this; these principles have already long since been repudiated. Chaos has inundated us; what was solid has already washed away.

The Triumph Of Networking

We began by watching space deform under the impact of transportation systems. What was important about this was not our typology of transformations but the fact that, regardless of these transformations, the end result was always a conceptual plane — a space on which the subject and objects could be located, and across which they could move. We can consider this the organizing principle of spatiality.

We can oppose this to the organizing principle of networking. Here there is neither location nor movement, but only connection. Our hypothesis is that this principle is superceding the former; that the large-scale systems we compose are progressively migrating to it, and that we are adapting as well. If we have a thesis, it is that this movement of transition and adaptation is the central dynamic of our time.

We chose the term cyberspace to interrogate this movement — as proposed originally to examine a moment of atavistic longing for spatiality, and as currently incarnated to establish the ramifications of its absence. We claimed that spatiality serves functions which are absorbed into systems as it deteriorates. And we concluded with the thought that it is more natural as well; and thus, to a certain extent, this transition represents a loss.

But this is a rather wishful coherence to attribute to our wanderings, and these are heavy claims to erect on the flimsy framework we've thrown together. We shall have to regard them as tentative. We examined distance and space from various angles; nothing more.

Notes

1. Neal Stephenson, *Snow Crash*, New York: Bantam Books, 1992.

2. William Gibson, *Burning Chrome*, New York: Arbor House, 1986.

3. William Gibson, *Neuromancer*, New York: Ace Books, 1984.

4. Jean Baudrillard, *The Transparency of Evil*, trans. James Benedict, New York: Verso, 1999, pp. 60-70.

5. Matt Ridley, *The Red Queen: Sex and the Evolution of Human Nature*, New York: Penguin Books, 1995.

6. Garrett Hardin, *The Tragedy of the Commons*, Science Magazine, 162, 1968, pp. 1243-1248.

7. Timothy Sturgeon, *Turnkey Production Networks: A New American Model of Industrial Organization?*, Working Paper 92a, 1997.

8. Jean Baudrillard, *The System of Objects*, James Benedict, trans., New York: Verso, 1996.

9. Bruce Sterling, *Mirrorshades: The Cyberpunk Anthology*, New York: Ace Books, 1988.

WHY THE WEB WILL WIN THE CULTURE WARS FOR THE LEFT

DECONSTRUCTING HYPERLINKS

Peter Lurie

Cultural conservatives have a lot of worries. They fear that Grand Theft Auto and other video games will turn their kids into crowbar-wielding criminals, they believe that Hollywood will turn their daughters to floozies and sons to gigolos, and they despise the constitutional barrier between church and state as an unnecessary evil that has estranged religious beliefs from public life and eroded core values. Underlying all these concerns is the overarching belief that moral relativism—which holds that competing claims to right and wrong cannot be judged objectively—is making America a godless, bankrupt country, and a very dangerous place to raise a kid.

With Southern Republicans in control of all three branches of government, conservative barricades appear well manned. Just one justice short of an invincibly reactionary majority on the Supreme Court—excluding moderate conservatives, for seven of the nine current justices are Republican appointees—and relentlessly stocking the district and appellate courts with the most conservative jurists they can find, the Republicans are pressing a radical social agenda, one that continues to widen mistrust between an increasingly religious US and the more secular countries of Western Europe. The culture wars between the traditionalist Right and the pluralist Left have started to look like a rout everywhere but in the larger, coastal cities. Conservatives are recasting communities to be more comfortable with, if not prostrate to, received authority in the form of literalist interpretations of religious and political texts.

That success will be short-lived. Long after the next bubble has burst, the internet will have surpassed the hype generated by the last one. Not by changing the way we live and work, but by subtly undermining the culture wars and tipping the battle decisively to the left.

This will result not from the range of content available online—the limitless quantities of porn, for example—but rather the **process** of finding it. The architecture of the web, and the way users navigate it, closely resembles theories about the authority and coherence of texts that liberal deconstructionist critics have offered for thirty

years. Deconstructionists believe that close analysis reduces any text—novel, statute, religious work—to meaningless blather. The popular response to deconstruction has always been that it's counterintuitive, that no one reads that way, that it lacks common sense.

That will change. Like reading or breathing, web browsing itself is agnostic with respect to politics and culture. Unlike reading or breathing, however, surfing mimics a postmodern, deconstructionist perspective by undermining the authority of texts. Anyone who has spent a lot of time online, particularly the very young, will find themselves thinking about content—articles, texts, pictures—in ways that would be familiar to any deconstructionist critic. And a community of citizens who think like Jacques Derrida will not be a particularly conservative one.

HTML, hyperlinks, frames, and meta-tags are the essential building blocks of the web. They combine to create a highly associative, endlessly referential and contingent environment that provides an expanse of information at the same time that it subverts any claim to authority, since another view is just a click away.

These basic technical tools are similar to deconstructionist analytical tools. Hypertext markup language (HTML) provides graphic display instructions to the web browser. Codes control the presentation of each web page, including pictures, colors, fonts and the organization of text. Without HTML, a web browser would show a continuous scroll of plain text. Although HTML is normally hidden, the viewer can select a viewing option that reveals the program codes. By choosing to make HTML visible, the structure of each web page is laid bare, like a theater with transparent curtains and sets, so the lighting crew, scaffolding, director and actors in the wings are all exposed. Hyperlinks, which often appear in underlined blue text, provide the essential connectivity of the web, enabling the user to jump from one page to another, a sort of black hole through which a viewer can jump in and emerge in another place. Framing divides a web site into separate windows, each displayed in a separate part of the screen and independently functional. Hyperlinks connect each frame, allowing the user to move among screens. Search engines help users locate information they want. Google, for example, returns a short description of and hyperlink to a list of sites ranked by likely relevance. In many cases the web page communicates to the search engine through metatags, which are encoded in the HTML and usually consist of key words that provide an associative description of the site itself.

A person engages the Web in much the same way that a deconstructionist critic approaches a text. Deconstruction, which denotes a process rather than a belief system, shows how novels, statutes and court opinions collapse upon themselves, making their underlying assumptions absurd. For the deconstructionist, each text is endlessly referential, a web of associations and connections that is finally ambiguous. The structuralist critic Ferdinand de Saussure laid the foundation of postmodern thought by describing language as a system of signs. Each sign was made up of a signifier (the word itself) and the signified (the concept or meaning).[1] Saussure's first principle was that such signs are arbitrary.[2] The letters s, i, s, t, e and r suggest a girl or woman who shares the same parents as the referent, but the idea of this woman "is not linked by any inner relationship to the succession of sounds s-o-r which serves as its signifier in French."[3] Indeed, the woman at issue could as simply be represented by another succession of letters or sounds. For Saussure, the relationship between the signifier and the signified was merely historical and therefore arbitrary. The letters b, o, o and k could have signified a flying animal, but were instead doomed to represent a bound sheaf of printed papers too rarely capable of flight. Since each sign (such as the word

"book") has meaning only because it doesn't signify something else (a bird rather than a book, for example), and the words themselves are arbitrarily assigned, meaning itself is only relational—it cannot be grasped on its own.

Meaning, then, is not contained or conveyed by a word or series of words because it is dependent on what those words do not contain or convey. Meaning is part of a process, in which words are examined with respect to other words, which lend meaning only in relation to still more words. As Terry Eagleton wrote ten years before anyone other than Tim Berners-Lee had heard of the World Wide Web, language "look[s] much more like a sprawling limitless web where there is a constant interchange and circulation of elements."[4] Deconstructionists advanced Saussure's work by detaching the signifier from the signified and arguing that meaning is present only in words that themselves are indeterminate and relational.[5] Each word or sign in a sentence is linked to all the others, forming an infinite or at least inexhaustible network. Every text, fiction and nonfiction, statutes and religious works, has a flickering or suspended quality: its meaning is whatever may be grasped by a particular reader at a particular time.[6]

Deconstructionists believe that writing and reading is a discourse, a kind of open conversation or play, through which the reader pieces together a meaning by distinguishing one word from another. A favorite tactic of such critics is to analyze a detail in the text until it unravels the entire structure of the work and renders it incoherent.[7] Widely-accepted interpretations—such as the story of Exodus as promising the inevitable empowerment of repressed groups—come to appear naïve. Indeed, the Supreme Court has done something similar with the 11th Amendment. After 200 years as a curious backwater of the Constitution, the 11th Amendment now stands at the center of the Court's jurisprudence, the foundation of the increasingly broad doctrine of sovereign immunity (a phrase found nowhere in the constitution), that is radically broadening the power of state government at the expense of both Congress and citizens, at the same time that it casts doubt upon received ideas about other aspects of the United States Constitution. A deconstructionist would not argue that the Supreme Court is right or wrong about federalism and state power, but only that such radically divergent interpretations of the same text indicate that any appeal to an authoritative meaning, including an investigation into the intent of the author (in this case, the framers of the Constitution and Bill of Rights), will be a misguided and ultimately fruitless project.

The Web is a postmodernist tool that will inevitably produce a postmodernist perspective. This is an unobvious result. After all, social conservatism is the kind of grass-roots movement that the internet should complement. The Web improves the coordination of far-flung constituents, aiding organization, recruiting and the dissemination of information while reinforcing beliefs by increasing the number of sources with consistent viewpoints. Conservatives who have long complained of the liberal bias of the major media can now avoid those sources altogether, customizing a diet of news from like-minded online sources. Professor Cass Sunstein has emphasized the danger inherent in what he calls cyber-cascades, where people who share similar views communicate only with each other, reinforcing their own perspectives but precluding exposure to new ones.[8] There have always been conservative and liberal newspapers, Sunstein notes, "[b]ut the emerging situation does contain large differences, stemming above all from a dramatic increase in available options, a simultaneous increase in individual control over content, and a corresponding decrease in the power of general interest intermediaries."[9] As options multiply, intermediaries narrow. If every consumer of information creates a "daily me", which filters all unpalatable news and opinions, the citizenry will become increasingly parochial.[10] More broadly, Sunstein worries that cyber-cascades

will fragment society, slim political and cultural discourse and clear the shelves and stalls of the marketplace of ideas.[11] Credited to Oliver Wendell Holmes, Jr. and based on a theory that John Stuart Mill first sketched, this marketplace sifts and exposes the truth and value of competing theories. If the marketplace metastasizes into isolated stalls, free speech will quickly lose its value and the marketplace of ideas will close for lack of customers.

Sunstein's prophecy is politically neutral: the internet will enervate the intellectual vigor of all movements by isolating them in cyber chambers that echo with eerie cheers and self-congratulatory applause. There is every reason to believe, however, that the Web will subvert conservative thought even as conservatives browse friendly terrain, from family.org to heritage.org to fed-soc.org. The content available online is much less important than the manner in which it is delivered, indeed, the way the Web is structured. **Its influence is structural rather than informational, and its structure is agnostic**. For that reason, parental controls of the sort that AOL can offer gives no comfort to conservatives. It's not that Johnny will Google "hardcore" or "T&A" rather than "family values;" rather, it's that he'll come to think, consciously or not, of everything he reads as linked, associative and contingent. He'll be disinclined to accept the authority of any text, whether religious, political or artistic, because he'll have learned that there is no such thing as the last word, or indeed even a series of words that do not link, in some way, to some other text or game. For those who grow up reading online, reading will come to seem a game, one that endlessly plays out in unlimited directions. The Web, in providing link after associative link, commentary upon every picture and paragraph, allows, indeed requires, users to engage in a postmodernist inquiry.

Reading the bible online at www.bible.org is a typically interactive effort, one that despite the intentions of the Biblical Studies Foundation, which operates the site, explodes the authority of the text. The viewer chooses any of eighteen different versions of the bible, and then finds a matrix of hyperlinks organized by chapter and verse that link to the requested section. Four frames provide the biblical text and accompanying information, including footnotes hyperlinked to other sources with explanatory material, a hyperlinked index of every other chapter, and links to the Biblical Studies Foundation's homepage, as well as other related sources. The site also contains the customary search function, which appears on the left, and of course the internet browser itself has a search function that is always visible, so that an engaged reader may be constantly toggling between biblical text, commentary in the footnotes, word searches suggested by the bible or footnotes or a combination of both. Readers unfamiliar with a word may click on the footnote with a short definition or synonym. If that is unsatisfactory, typing the word into the search function will yield a link to a dictionary of biblical words, terms and phrases that may offer a more refined and accurate definition. The reader may be satisfied and return to the text or pursue the matter further, needing just two clicks to find the same passage in an alternative translation. If the reader is interested in a historical analysis of the passage, a search for 'biblical history' yields and array of relevant academic and religious sites from all perspectives. A reader might devote a day to pursuing a single passage, a single line, finding herself farther and farther afield from the original text and translation. Indeed, she might forget which site she was reading. Reading the bible online is an exploration of multiple sources, commentators and bibliographic tributaries.

Reading any other presumptively authoritative text online presents a similar experience. The US Constitution is available at, among other sites, www.usconstitution.net. Most clauses include hyperlinks to commentary from well-known and lesser authorities. Footnotes provide short summaries of legislative history and important court decisions. A review of the Second Amendment, upon which the entire gun control debate rests, led this reader to twenty-four different sites, each directly or indirectly linked, offering finely spun phrase-by-phrase analysis. And that was just the first sentence of this short amendment. By the time the curious reader returns to the original text, her head will be cocked back, distrustful, possibly exhausted, certainly skeptical if not despairing of any authoritative interpretation. Indeed, she may come to believe that there is no original meaning at all. Eagleton wrote:

> That any such transcendental meaning is a fiction ... is one consequence of [deconstruction]. there is no concept which is not embroiled in an open-ended play of signification, shot through with traces and fragments of other ideas.... Consider, in our own society, Freedom, the Family, Democracy, Independence, Authority, Order and so on. Sometimes such meanings are seen as the origin of all the others, the source from which they flow; but this ... is a curious way of thinking, because for this meaning ever to have been possible other signs must already have existed. It is difficult to think of an origin without wanting to go back beyond it.[12]

The Web invites, even demands that its users go back, forward, around and elsewhere in an associative search for meaning. Jonathan Culler, in a discussion of Barthes, writes: "The text is ceaselessly traversed by codes, which are the source of its meanings."[13] Structuralists such as Barthes and then Deconstructionists like Derrida created a revolution in hermeneutics by identifying the codes that inhered in every line of prose. Not long ago, one had to be a graduate student to grasp the concept. No longer. The Web illuminates these codes for everyone to see and, much more importantly, use.

In this light, the conservatives' fear of moral relativism is well-founded. Absent some divine authority, or lacking any consensus about the existence or nature of such authority, relativists believe that morality is socially determined, wholly dependent on standards existing in a community at a particular place and time. In a pluralist society, then, there can be no consensus regarding good and evil. If it is not quite true that anything goes, tolerance dictates that we must respect the choices that others make, even if they are repugnant to others in the community. Same-sex marriage, under this view, is no more right or wrong than the traditional variety, and we cannot condemn those who practice it. The prevalence of moral relativism is often considered to be inversely proportional to the strength of religion. The United States undermines this view and demands an alternative explanation. Religion is hardly in decline here. A higher percentage of Americans go to church, mosque or temple each week than went either one and two centuries ago. By any measure, the US is the most religious of all Western industrialized nations and the most religious of any country outside Islam.

Perhaps for that reason, conservatives blame the kind of liberal elites who tend to congregate in New York newsrooms and Northeastern classrooms. The usual suspects condescend toward religion at the same time that they mandate tolerance for all lifestyles and teach postmodern theories suggesting that received beliefs tend to be arbitrary or self-serving or both. This argument tends to overstate both the liberalism and elitism of the accused, as well as their influence, and it misses the most powerful and pervasive source of moral relativism: the Web.

Technology undermines traditional belief systems even as it creates a belief in a kind of heavenly paradise, a kind of Technopia. In his book *The Future of Ideas: The Fate of the Commons in a Connected World,* Larry Lessig argues for an open society in which everyone has access to information and the tools necessary to contribute to the community and succeed within it.[14] A former colleague of Sunstein's at the University of Chicago who migrated to Stanford, the very capital of Technopia, Professor Lessig believes that the Web could create an interconnected, information- and idea-rich republic. He warns, however, that unless we balance private ownership of intellectual property and the public's ability to refine and build upon it, we will never inhabit such a place.[15]

Open, shared platforms of content and code must be the foundation of such a radically free, creative and informed society, but an unholy trinity of Congress, the courts and media and software companies have effectively sealed content and applications by lengthening copyright laws and strengthening intellectual property protections. The most recent example is the Sonny Bono Copyright Term Extension Act, which extended by 20 years both existing copyrights and future copyrights. A copyright grant is a limited monopoly, a reward for innovation, but the reward, if too generous (long), will surely stifle it, for any increase in copyright term strengthens monopolist practice and isolates innovation from improvement in much the same way that Sunstein fears that cyber-cascades weaken the dialogue of democracy.[16] In 2001, Professor Lessig predicted that

> ...two companies—AOL Time Warner and Microsoft—will define the next five years of the Internet's life. Neither company has committed itself to a neutral and open platform. Hence, the next five years will be radically different from the past ten. Innovation in content and applications will be as these platform owners permit. Additions that benefit either company will be encouraged; additions that don't, won't....Content and access will once again be controlled; the innovation commons will have been carved up and sold.[17]

If software code, the DNA of the internet, is privately held, citizens will be cyberserfs on corporate estates. There can be no freedom without commons. Businesspersons, artists and academics must be free to graze on the rich turf of ideas that lead to further innovation. In his previous book, Professor Lessig argued that just as police regulate cities, code regulates cyberspace.[18] Corporations wield power invidiously, veiled by the promise of free markets, effectively co-opting the institutions that should balance public and private ownership. If state police power was the principal concern of the 20th century, corporate control of code should be that of the 21st.[19] Just as we defeated the totalitarian regimes that restricted personal liberties, the argument continues implicitly, if a bit hysterically, so must we circumscribe the power of the largest media and software companies.

For many technologists—those who believe that technology, properly configured, will save the planet—Professor Lessig is the much-lauded (and well-schooled) David against an array of corporate Goliaths. As chairman of <www.creativecommons.org>, which is dedicated to increasing the sum and access of intellectual property online,[20] and as lead counsel for the petitioner in *Eldred v Ashcroft*,[21] in which he challenged the constitutionality of the Bono Copyright Extension Act (he lost), Lessig has argued

that Congress had overstepped the authority vested by the Constitution by essentially marching the copyright term toward perpetuity.[22] His fight continues, most recently in the form of the Public Domain Enhancement Act. The bill would require copyright owners to pay a $1 fee to maintain their copyright after the first 50 years have elapsed since the work's original publication, effectively liberating vast quantities of material for free public use.

Victory will not elude Professor Lessig, though it may surprise him. A public weaned on the Web will be increasingly sensitive to the value of open platforms and the possibilities inherent in shared media and code. The increasing ease with which even moderately trained musicians mix and sample recorded works, and the misguided battle between the Recording Industry Association of America and music lovers, are just the first of many disputes that will reshape copyright law and practice. Citizens who are no longer awed by received authority will use the instantiations of that authority—whether in the form of text, graphics, music or code—for their own purposes.

Professors Lessig and Sunstein sketch despairing visions because they haven't recognized the essentially deconstructionist nature of the Web. The architecture of control that some media and software companies would use to stifle innovation, and that citizens use, consciously or not, to cordon themselves from genuine debate, will at the same time foster an open, inquisitive and markedly liberal spirit. New challenges to the free exchange of ideas will arise, but a newly emergent majority on the Left will rise to tackle them.

Notes

1. Ferdinand de Saussure, *Course in General Linguistics,* trans. Wade Baskins, New York: McGraw-Hill, 1965, ch. 1.

2. *Ibid*., pp. 12-14.

3. *Ibid*..

4. Terry Eagleton, *Literary Theory,* Minneapolis: University of Minnesota Press, 1983, p. 129.

5. *Ibid*., p. 128. See also Jonathan Culler, *Structuralist Poetics: Structuralism, Linguistics and the Study of Literature,* Ithaca: Cornell University Press, 1975, p. 243-245, discussing Jacques Derrida, *Writing and Difference*, trans. Alan Bass, Chicago: University of Chicago Press, 1980.

6. Eagleton, pp. 128-129.

7. *Ibid*., p. 133.

8. Cass Sunstein, *republic.com,* Princeton: Princeton Univ. Press, 2001, p. 49.

9. *Ibid*., p. 11.

10. *Ibid*., p. 13.

11. *Ibid*., pp. 8-10.

12. Eagleton, p. 131.

13. Culler, p. 243.

14. Lawrence Lessig, *The Future of Ideas: The Fate of the Commons in a Connected World,* New York: Vintage Books, 2002 (first published by Random House, 2001).

15. *Ibid*., pp. xxi-xxii, 6.

16. *Ibid*., pp. xxi-xxii.

17. *Ibid*., p. 267.

18. Lawrence Lessig, *Code and Other Laws of Cyberspace,* Basic Books, 1999, p. 86.

19. *Ibid.*.

20. www.creativecommons.org/learn/aboutus. ("Our aim is not only to increase the sum of raw source material online, but also to make access to that material cheaper and easier. To this end, we have also developed metadata that can be used to associate creative works with their public domain or license status in a machine-readable way. We hope this will enable people to use the our search application and other online applications to find, for example, photographs that are free to use provided that the original photographer is credited, or songs that may be copied, distributed, or sampled with no restrictions whatsoever. We hope that the ease of use fostered by machine-readable licenses will further reduce barriers to creativity.")

21. *Eldred v Ashcroft*, 01-618 U.S. (2003). Argued October 9, 2002; decided January 15, 2003.

22. Brief for Petitioners, *Eldred*, p. 18.

SPEAKING IN DJINNI

MEDIA ARTS AND THE COMPUTATIONAL LANGUAGE OF EXPRESSION

D. Fox Harrell

I. Introduction—Speaking in Code

In the Djinni's lair they speak in code. Their Djinnish language does not reflect a subservient nature as they announce "your wish is my command." They have mastery over elements of our mortal realm, their words cause events to occur. What people hear in their words is their imperative language translated into our human tongues. They speak in commands, power words with concrete effects. "Open sesame" opens doors, a wish becomes a tangible possibility. Humans translate thoughts into operations using computational media. The languages humans use to express these commands affect what they produce using these media. The process of translating from ideas into imperatives has profound consequences. Aladdin's tale narrates one example of this process, the tale here tells another.

Computational media reflect the previous generation of media. They also offer new characteristics unseen in earlier technological media. What are these new characteristics and how can they be examined? There are many varieties of computational media and it is quite difficult to isolate a particular subset to begin investigation. However, the tools used to present and create media art lie behind every media artwork. The theory of programming languages is a useful means by which to characterize these media. Formal languages offer broad insight into the nature of computational manipulation and specific organizational structures of imperative languages reveal reflections of these structures in media software. This is a natural reflection because the theory of languages expresses organized models for executing algorithms and structuring data, which are the types of manipulations human creators perform on media when treating it as computational data. Finally, this is a means to characterize only formal aspects of

media manipulation, not the semantic. The ideas here are not presented in a technological determinist vein—stating that it is programming language theory that caused this restructuring of media. The influences of media and culture upon each other are mutually dependent. This will be shown by reviewing examples of these concepts of formal manipulation from both art and computing. The reflection of programming languages in computational media should be no surprise, and using the tools of programming language theory to consider such media provides illuminating insight.

II. Interfaces Influence Art

I sit now in an accursed palace, corrupted by the literal and malicious nature of a Djinn. I am a humble man, made from earth as we all are. Still, that the language of the Djinni, of those beings composed of fire, should be so malevolent, is a fact that I shall always lament. When he emerged from the lamp and acknowledged my three wishes, when I wished for the fulfillment of my artistic vision as a lavish palace of lacquered coral and gold, alas I did not realize the venom dripping from fate's bite. Had I been a stonemason and crafted this castle with my own two hands the ceilings would not be so low that my back scrapes them as I shuffle, bent over, to my throne. Had I been a carpenter my satin canopied bed would not be so splintery that it takes thirty minutes for me to slip safely from it at dawn. Had I been a master of the olfactory arts of oil crafting and perfumery I would have been able to banish the aroma of sulfur and replace it with myrrh laden zephyrs wafting through every corridor. Alas, the tool I used was a contractually obligated, but ungrateful and rancorous, Djinn. The words "make for me a lavish palace" were made reality by the Djinn's language and all that I had left unspecified was decorated by his cruel tastes. My consolation is that my request was not spoken: "make me a lavish palace" (as the colloquial version would have been worded) lest instead I would now be the inhabited abomination rather than be inside of it!

Artistic works are related to the tools used to create them. The mark of the tool is apparent, whether the work has an explicit relationship to the tools as in a tromp l'oeil painting, which reveals its effect only when the mark of the tool becomes recognized and the illusion is broken, photography, which in the past has been presented by news media as a transparent tool that represented a window to reality—an aura which continues now despite its double nature now as a purveyor of false images, or Nam Jun Paik's blending of human and machine materials, which generates his "cybernated" art concept.[1] This paper considers primarily screen based media artwork generated on a personal computer. Typically these works are created using commercial software such as Macromedia Director, Adobe Photoshop, Adobe Premiere, etc. Of course some minority of artists also create their own computational tools. Regardless, even these artists are influenced by the medium of their art and it is important to understand what this influence is when engaging their work.

A starting point in this examination is the recognition of the role of the interface as being intimately tied to content. Douglas Englebart was one of the early innovators of the contemporary computer interface.[2] He designed a networked environment designed to support collaborative interaction between people using computers.[3] Englebart is known as the inventor of the mouse, windows, email, and the word processor. In his times even the idea of a computer as a monitor connected to a console with an input device such as a keyboard was novel. It transformed the relationship between people and computers in the fifties and sixties. Englebart proposed "a way of life in an integrated domain where hunches, cut-and-try, intangibles, and the human

'feel for a situation' usefully co-exist with powerful concepts, streamlined terminology and notation, sophisticated methods, and high-powered electronic aids." Echoes of the contemporary computer interface reverberate from his speculative way of life. When describing a tool that an architect could use to describe a working list of specifications and considerations he wrote: "the lists grow into an ever-more detailed, interlinked structure, which represents the maturing thought behind the actual design."

Englebart describes the language of his augmentation medium as "the way in which the individual parcels out the picture of his world into concepts that his mind uses to model the world, and the symbols that he attaches to those concepts and uses in consciously manipulating the concepts ('thinking')." Process hierarchies represent the hierarchical approach that humans use to solve problems. He viewed symbol structuring as a crucial part of language, a new means by which people could "begin experimenting with compatible sets of structure forms and processes for human concepts, human symbols, and machine symbols." The cumbersome acronym H-LAM/T (Human using Language, Artifacts, Methodology, in which he is Trained) reveals the connection between human work and machine symbols underlying Englebart's work. The primacy of language as a structuring device is apparent and the key idea of associating concepts and names within a hierarchical structure is a main theme.

Another example of the connection between the conception of media production and the user interface is apparent in the work of Alan Kay.[4] He invented the object-oriented language "Smalltalk" and many innovative features used in contemporary interfaces. Kay's slogan is "Doing with Images makes Symbols." In this case, he associates the symbolic with the imperative object oriented programming language Smalltalk (the mouse is associated with "doing," and "images" are associated with icons and windows). Object oriented programming means that objects know what they can do. In this model it is possible to select an object and send it a message asking it to fulfill the user's desires. The paintbrush knows what colors it is allowed to paint with, all the user has to do is tell it to use one. The concept of the symbolic is what allows manipulation of objects in this way. Kay describes the symbolic as that which enables humans to tie together long chains of reasoning. In this regard, the reasoning process of the user of the interface is expected to correspond to this symbolic model embodied in the programming language paradigm.

Working in a realm defined by what the program and its programmer see as the user's mode of working influences the method by which the user engages those using the tools. The user of a computational interface can then ask "where lie romantic notions of art process?" "What of inspiration and random or spontaneous methods?" "What of non-hierarchical thinking and procedure?" Certainly conventions of artistic production have not disappeared in media production software, in fact artistic paradigms have been as hard-coded into these tools as programming conventions. Adobe Premiere does not force users to think in terms of frames and transitions that are inherited from conventions of cinema or constraints imposed by hardware in older media technology (such as frames and linear time progression). Despite the fact that the influence of artistic production and technology is a two-way street it is useful to examine the direct influence of software upon artistic production. To understand the assumptions made by user interface designers it is informative to look at programming language theory. Then it is possible to step back and look at how software such as Photoshop or QuickTime leave their marks upon media production.[5]

III. Formal and Programming Languages

I do not wish to credit myself too greatly. I was a humble fisherman, and a dabbler in algebra and alchemy, before my discovery of the lamp. My knowledge of fish far exceeds my knowledge of unearthly creatures. Still I cautiously praise myself that, in my elaborate, if cramped, gardens I planned my next wish for months. I crafted my language perfectly. I would be completely literal and unambiguous in my next request for the Djinn. I invented a language. It would specify first the number of requests and subservient wishes embedded within my one wish. It was not an attempt to greedily exceed the bound of two more wishes. My desire was only enough precision so that I would not be thwarted and cursed once again rather than finally granted boon. This language would translate my clay human tongue to the language of spirits. My plan had grace and elegance, it put my knowledge of the algebra to its greatest test. In the end, I succeeded at that! Why then, reader, do you detect the disconsolate tone in these words. Because as I prepared to say my formal, refined, and completely specified wish for a bride that would inspire clouds to gather and disperse, waves to roll more quickly, and my heart to infinite joy—I realized that in uttered word my wish would take me four thousand and ninety six days to pronounce.

A formal language is defined as a set of finite strings, each made up of atomic symbols.[6] Formal languages can be denoted by a mathematical structure called a grammar. The main form in a grammar is a "production" which describes a rule by which one string in a language can produce another. Languages are classified according to the types of productions allowed in them, and this is one way of characterizing the power of a language. A very simple type of grammar is defined by regular expressions. Regular expressions allow for composition of strings in a few very particular ways. These are: alternation, concatenation, and closure. To make an analogy with natural language: alternation means choosing one expression from two lists of expressions in English, composition means joining two expressions together to form one, and closure means describing expressions using only partial patterns (e.g. looking at only expressions that contain the phrase "media art.")

More complicated formal language systems allow naming of separate parts of language and specifying the ways in which they are put together. This is analogous to describing the English language in terms of paragraphs, words, or letters. It is possible to describe rules for how these pieces fit together. More powerful formal language systems allow use of these rules to describe the function of the language and actually make deductions using the language. These types of languages are an abstract way to categorize programming languages.[7] Taking a step back reveals that the methods of composition used in formal languages are mathematical descriptions of some processes humans use to think and create artifacts. Making film consists of concatenation of frames or clips onto one another. Editing music uses the principle of alternation as clips are spliced together from different sources. Compositional elements are often labeled to aid in the process of recombination. Rules are defined for how these elements should be recombined—personal rules, rules of convention, and physical rules limited by the physical means by which the media may be assembled.

In computational media these rules can be automated and implemented algorithmically. Moreover, it is possible to force compliance to a particular set of rules to assure that a particular organizational strategy is followed. It is possible to concatenate two film clips using any of a variety of dissolves or wipes. One may pick images

to insert in word processing documents as easily as one can cut and paste words from a variety of different sources. One can label these individual segments, paste them in layers over one another, perform searches through them, or substitute one element for another using convenient thesaurus features. Formal languages provide a concrete way to talk about these processes that people engage in with texts. One can go further, however, and look at some of the constructs of modern imperative programming languages. Nearly all commercial software is constructed with these languages and the structure of the languages is directly reflected in the structuring of the software.

Programming languages are designed to fit very particular criteria. A good language is designed for: abstraction, orthogonality (features should be free from unexpected interaction), simplicity, regularity, consistency, and ease of translation.[8] Not every language fits these criteria, but as abstract goals it can be seen that these features also carry through to software interfaces. The goals of regularity and consistency are evident in the means for cutting and pasting provided in many user-interfaces. The method of selecting "cut" from a menu is the same as the means for selecting "paste." This may seem obvious, but another choice could have been to make the means of cutting analogous to the real world of cutting and the means of pasting analogous to the real world experience of pasting resulting in different modes of interaction. Instead, however, the mindset associated with the design of traditional interfaces has been influenced by the design of programming languages since the early days of Douglas Englebart's research in the fifties. Hierarchical organization and categorization within lists of information are often the underlying means by which media production software is forced to structure artistic information. Despite the presence of a "cut" command, there is no easy analogy using commercial software to the cutting of a text into pieces, tossing those pieces into a shoebox, and recombining them at random. There is no organizational feature in Adobe Photoshop analogous to dumping a pile of photos onto the floor and running ones hands through them until s/he finds the one that "calls out to her/him." There are no commands to force a font to forgo its natural irregularity and take on an expressionist texturing or to become blurred by teardrops such as is possible when writing a handwritten letter.

It seems unreasonable to expect such individualized features to be available when working with computational media, yet it is far from unreasonable to acknowledge that artists, scientists, and casual creators of media work in extremely diverse and personalized ways. It is far easier to achieve a lack of orthogonality when working in paint (mixing in strange fluids to create unexpected interactions) than it is in commercial software. It takes an extraordinary amount of effort to create one's own software production tools that do not enforce the features of a programming language. The argument being made here is that these features of formal and programming languages are not unique to technological media, but their enforcement and implementation are. The restrictions imposed by these features and the power of structuring information and media in complex patterns and manipulating it algorithmically are not easily separable from the creation of computational media or the experience of being an audience of it.

IV. Characteristics of Programming Languages

I was happy for a time, I had forsaken my wish for a bride and was married instead by love, providence, and whatever fortunate design allowed my simple person to appeal to my mate. My second wish was for a ring fit for her desires, and somehow divine predestination allowed this simple request to be fulfilled. My final wish, I concluded, would be grand. A

wish for love, a wish for our future, a wish for forever, a wish that would make each day as fresh as sipping from a chalice brimmed with morning dew, fresh as new moments after a rainshower. So I toil still, to make my perfect language more concise, to let it be spoken naturally. I must let it be composed as neatly as a fern's leaves, but it must be as infinitely expressive as the conch's spiral. It must signify wonderfully like Mowlana Jalaluddin Rumi's poems.[9] It must embody the clear thought of Abu Ja'far Muhammad ibn Musa al-Khwarizmi's mathematics.[10] In these words I realize that it is not the task of one man to create this language. I do not pretend to be the superior of these thinkers and feelers that loom across time. I am in their shadows. With the diligence of women and men across many times, throughout many lands, and with the proper blessings, I hope one day my dreamed language will be expressed. Until then, I reserve my love-inspired wish and ponder more the structure underlying the speech of the beings made of fire whose words cause action and reshape our earthbound experience of this world.

Following this account of programming languages and their appearance within media creation tools it is possible to isolate other relevant characteristics of programming languages. Important characteristics include: reference, control, abstract data structures, block structure, and polymorphism. There are direct connections between each of these concepts and computational manipulation of media.

Reference is the idea that informational elements and their names are separable within a computer. Naming systems can be introduced to describe a text in some media and fluidly change names and content independently. In a trivial example, sections of a story can be labeled as: "beginning", "middle", "climax", and "ending. " Then it is possible to swap out the information labeled "climax" with revised information, thus retaining the story structure. This example is simplified but not far-fetched. Professional graphic designers use such features in software regularly, as do professional sound technicians.

Control means that it is possible to structure the flow of information in a system. An example of a control structure in a programming language is a loop. In both music and video processing software artists can create explicit media loops. In a great deal of modern popularized music computational media are used to create drum loops as a basic unit of music composition. The video and installation artist Bill Viola is vitally aware of this as he states that "viewing becomes exploring a territory, traveling through data space."[11] Control structures represent the means used to shape these paths through media data space. Bill Viola continues his description of computational media manipulation asserting that "editing will become the writing of a software program that will tell the computer how to arrange (i.e., shot order, cuts, dissolves, wipes, etc.)."

Abstract data structures are the means by which data spaces are organized. Lists and arrays of information are basic compound data types, but one can combine base data types in any variety of abstract ways to represent current needs. Circles become numbers: integer coordinates for the center point and a floating point radius, dates become several fields of integers. Basic programming structures became revolutionary structures when introduced explicitly to media art. This can be seen in work such as Luc Courchesne's "Family Portrait" which uses laserdiscs indexed by HyperCard stacks to allow users to respond to questions asked by members of a family to create startling, sensitive interactions. When describing ways to construct video artwork, Bill Viola refers to "visual diagrams of data structures already being used to describe the patterns of information on the computer video disc." The medium of a videodisc can be seen as merely a digital update of former videotape media, but when looked at for

the actual way in which the information is structured a quite distinct nature is revealed. The structure of the computer programming language has been used to restructure the information of video data. Data types such as matrices, linked lists, and records have become the status quo for the organization of media in digital formats.

Block structuring allows for hierarchical organization of computer programs. It also allows each block level to be manipulated separately. This structuring is pervasive throughout media production software. Text can change font or color at the letter level, word level, sentence level, paragraph level, page level, or document level with precision and ease. Photographs can change onionskin layer at a time, affecting lower levels but not higher levels. These levels are nested into hierarchies with ease and can be imported into other such hierarchies at will. Whereas the nature of a photographic manipulation could be seen as based in continuous fluid and light when done using traditional dark-room techniques, professionals using media software often work using block structures. The software is structured in such a way as to discourage and inhibit other methods of use.

Polymorphism is the idea that data or functionality can change depending upon its context. The extension of this idea is that structures for manipulating one data type can manipulate data of another type. It is possible to use a jpeg image just as easily within a word processing document as it is to composite the image in a photographic document. The data here is not actually polymorphic, but the concept of using the data in such a variety of settings is. Cutting and pasting a graph is done using the same mechanism as cutting and pasting a paragraph. The same "play" button on a Quicktime player starts playing an audio file the same way as it starts a video file. This software exhibits the traits of polymorphism. This type of media fluidity, unknown in previous media, is becoming an expected trait of the experience of computational media.

It is certainly possible to look at various models of programming languages in order to elicit more parallels in computational media. Those listed here represent some of the most important characteristics of computational media that are often enforced by software. The idea behind such programming languages extended far beyond computer science and in some sense are general concepts to organize information. The concentration of all of these modes of operation and ways of thinking, their rigorous enforcement by a machine, and the compliance of media artists to their tough strictures (by default of the tools they work with) is something new.

IV. Conclusion

The havoc unleashed by Djinni's granting ill-considered wishes by humans reveals the Djinni's lack of concern for the environment in which s/he is operating. The considerate Djinn probably could understand that the human languages cannot properly express wish fulfilling words. Likewise, humans should realize that computational languages have effects upon what we create using them. This essay is meant to use accounts from theory programming languages to reveal a glimpse into the computational medium and the ways in which a meta-medium is not a consolidation of previous media but has its own recognizable traits and languages. No creation by any artist can escape this chain and transcend the nature of its medium in a material sense. The expressive, analytical, evocative, or otherwise subjective interpretation or intent of the work can certainly transcend the computer, but in a concrete material sense the mark of the programming language as a primary characteristic of computational media is always evident.

Notes

1. Nam June Paik, "Cybernated Art," Manifestos, originally published in *Great Bear Pamphlets,* New York: Something Else Press, 1966. Reprinted in *Theories and Documents of Contemporary Art: A Sourcebook of Artist's Writings*, Berkeley: University of California Press, 1996 and *Multimedia: from Wagner to virtual reality*, eds. Randall Packer & Ken Jordan, New York: W.W. Norton & Company, Inc., 2001, pp. 39-43.

2. Douglas Englebart, "Augmenting Human Intellect," originally published in "The Augmentation Papers", Bootstrap Institute, 1962. Reprinted in *Multimedia: from Wagner to virtual reality*, eds. Randall Packer & Ken Jordan, New York: W.W. Norton & Company, Inc., 2001, pp. 64-90.

3. ONLine System (NLS). developed at the Augmentation Research Center of the Stanford Research Institute and unveiled in 1968.

4. Alan Kay, "User Interface: A Personal View," *The Art of Human-Computer Interface Design*, ed. Brenda Laurel, Reading: Addison-Wesley Publishing Company, 1989. Reprinted in *Multimedia: from Wagner to virtual reality*, eds. Randall Packer & Ken Jordan, New York: W.W. Norton & Company, Inc., 2001, pp. 121-31.

5. Lev Manovich, *The Language of New Media*, Cambridge: MIT Press, 2001, pp. 140-41.

6. Noam Chomsky, *Syntactic Structures*, The Hague: Mouton, 1995.

7. Ryan Stansifer, *The Study of Programming Languages*, Upper Saddle River, NJ: Prentice Hall, 1995, Chapter 2.

8. *Ibid*., p. 5.

9. Mowlana Jalaluddin Rumi, *The Essential Rumi,* trans. Coleman Barks, New York: Harper San Francisco, 1995.

10. Rushdie Rashid, *The Development of Arabic Mathematics: Between Arithmetic and Algebra*, (Boston Studies in the Philosophy of Science, Vol. 156), Dordrecht, The Netherlands: Kluwer Academic Publishers, 1994, pp. 8-22.

11. Bill Viola, "Will There Be Condominiums in Data Space," originally published in *Video 80*, no. 5 (Fall 1982). Reprinted in *Multimedia: from Wagner to virtual reality*, eds. Randall Packer & Ken Jordan, New York: W.W. Norton & Company, Inc., 2001, pp. 287-98.

THE AMBIGUOUS PANOPTICON

FOUCAULT AND THE CODES OF CYBERSPACE

Mark Winokur

We cannot agree on an historical point of origin for the Internet. (Bletchley Park? The telegraph? The diorama? The abacus? The Atlantic Cable? Painting? Writing?) Its techniques and tools are still in the process of development, perhaps even in their infancy. Internet culture is heterogeneous and dynamic. Its economy is not stable, seeming sometimes as fantastic and illusory as the Internet itself. Its status as global tool or tool of globalization is still unclear. Most importantly, even the object of study, and so the appropriate methodologies for study, are unclear. Like other nascent forms of representation before it, the Internet in its infancy presents itself as—and may actually be—the site of cultural, political, and ideological contestation. Or it may not: the contest may in fact have ended before it began, in which case scholars interested in such things can, like Lawrence Lessig, write only about who won and who lost. The grandest claim one might plausibly make is that the Internet at the present moment is the material actualization of the post-structural indeterminacy that characterizes post-Nixon/Mao/Gandhi representation and cultural theory, from the post-1949 Middle East, to the films of Peter Greenaway, to deconstruction, to *White Noise*. However, it behooves the critic to find a sector of critical theory through which some of these assertions might be more clearly elaborated.

The cultural-critical "app" I choose for discussing this poststructural indeterminacy is Michel Foucault's notion of panopticism: first, because it is one of the more straightforward poststructuralist notions; second, because it is not just an important and conventional touchstone within the community of poststructural critics, but has also made its way into popular discourse; third, because it already has a familiar application within Internet studies; and fourth, and most importantly, because the Internet and the panopticon make significantly similar assumptions about the creation of the subject within discourse. Both panopticism and the Internet construct space with a special attention to the subject's internalizing a particular model of space, and a particular notion of how people are distributed throughout space in relation to one another, and with

a special attention to the defining of the individual through the space she occupies. Further, both are intensely interested in the construction and distribution of authority over and within the subject. So I will forward a limited thesis connecting the Internet to this corner of poststructuralism: in literalizing Foucault's panopticon, the Internet makes us question the notion of and, perhaps, redefine panopticism. This redefinition in turn allows us to ask questions about the nature of Internet representation. We may ask not only whether the Internet signifies panopticism, but whether it redefines "construction" and "signification" themselves.

Panopticism 1.0

In fact, panopticism seems an appropriate poststructuralist model for this instance because the Internet has been tentatively read through the lens of panopticism before, for example in Communications Studies. It has something of the same status as a reflection on the coming of new technologies as Martin Heidegger's "Question Concerning Technology" and Walter Benjamin's "Work of Art in the Age of Mechanical Reproduction." However, though Foucault and panopticism have a hefty presence as the objects of critical study *on* the Net (274,000 Google results for "Foucault," and 17,100 for "panopticon," including a trading card site featuring Foucault and several other poststructuralists),[1] his actual utility as a theorist *of* the Net is limited in scope to studies of visible surveillance on the Net: in other words, to studies of such phenomena as information-gathering about individuals (e.g.: Carnivore software), attempts to evade such cataloguing as data encryption, or, more generally, late capitalism itself.[2] Other special properties of panopticism—particularly spatialization, totality of experience, coercive discourse, and ambiguous/internalized authority—are not frequently linked to the Internet. Neo-Foucauldian cultural critics understand surveillance society as a top-down phenomenon in which an otherwise scarcely visible oligarchy utilizes new technology as a tool of social surveillance.[3] They understand panoptic society to be a sort of Orwellian 1984 or Kafkaesque Castle in which power is invested in the powerful if invisible. The aim, then, of the neo-Foucauldian critic is to bring the powerful to light by revealing how she uses the technology for surveillance purposes. Such critics are interested in the way that society constitutes its constituent members as either prisoners or jailers, not the way that society itself is in fact a prison house in which surveillance is distributed in a manner that makes us our own prisoners. For example, though the most exhaustive work on panopticism and new technology—David Lyon's *The Electronic Eye: The Rise of Surveillance Society* [4]—contains a lengthy discussion of the way in which panopticism is defined by "uncertainty as a means of subordination" (in other words by how the authoritarian gaze is unverifiable), his discussion of panopticism *per se* is largely concerned with the various data-collecting agencies that use the Internet to exert an external coercion on the individual, not with how such authority is internalized: "The prison-like society, where invisible observers track our digital footprints, does indeed seem panoptic." [5] A little less often, scholars are interested in the ways that the Net limits our ability to think outside the Net, in other words in questions about discourse and discipline.[6]

The question of whether corporations and governments exercise power over the individual by collecting data about her are probably far more politically useful than the questions raised in the present essay. Nevertheless, I shall eschew the traditional discussion of actual agencies of control in favor of a discussion of those other conditions that define panopticism. Is the Internet surveillant? Without question. But is the

Internet surveillant after the manner of the panopticon? We cannot answer this question by means of sociological accounts that are simply interested in the government and corporate tendency to get to know us better through Internet spying. The panopticon does not use information just to know us; it also deploys information to create us, to constitute us as compliant workers and consumers. Essentially, if it is panoptic, the Internet must serve the same panoptic/enlightenment function of social control through a physical control of the body in space and a rhetorical control of the definition of subjectivity that other panoptic institutions do. This larger question may be parsed: is the Internet an "institution"? For example, does the Net have a discourse that determines its own boundaries of action? Is Net surveillance coercive? Does the subject in front of the screen *internalize* this coercion? If coercive, does the Net establish a diffused authority? Does the Internet encourage a pro-social uniformity in its citizens? How does the Internet define the relationship between spatialization and discourse? Is the Net a discipline in both senses: a body of knowledge and a form of coercion, the knowledge being the vehicle of coercion? What other ways of thinking about bodies in space does virtuality either interrupt or promote?

Foucault's Panopticon

If we wish to know whether the Internet is panoptic rather than simply surveillant, we must briefly revisit Foucault's own writing in *Discipline and Punish*.[7] This synopsis of the plot of Foucault's "Panopticism" chapter is not exhaustive; rather, it is blazon-like, meant to itemize and summarize those dynamics I shall examine later.

For Foucault, history is dynamic, and authority and coercion define the subject in different ways at different times. Before the Enlightenment, effective punishment of the criminal was visible punishment: hangings and decapitations were made visible to the masses as a spectacle.[8] But the rise in European population—and its geographic mobility—in the seventeenth and eighteenth centuries made feudal and monarchical models of social control outmoded. For the beginning of the Enlightenment, the practice of authority is defined as procuring for a small number, or even for a single individual, the instantaneous view of a great multitude. Spectacle is replaced by surveillance within the prison-panopticon. Unlike the medieval object of punishment, the body of the prisoner of the panopticon is not tortured; it is simply separated—and thus alienated—from other prisoners, and watched. This attention to the body of the prisoner is total: it implies an interest in and effect on all the movements of the prisoner. Not knowing whether or when they are on view, prisoners ultimately internalize the notion of a surveyor. This prison-panopticon serves as Foucault's central metaphor for the rise of a society in which all institutions are disciplinary in both senses of the term. First, they represent a body of knowledge. Second, this disciplinary knowledge is always coercive, enforcing discipline—particular modes of behavior and belief—on the individual. Discourse plays an important role in this social coercion. Disciplinary knowledge is articulated through its own proprietary language, generally accessible only to adepts. And discourse is coercive in the sense that it is impossible to define or to think anything without the languages of the limited number of discourses available through a large but finite number of social institutions. Discourses define subjectivity. Finally, because the notion of a central surveyor is a fiction—so that authority is internalized by each individual surveying herself—panoptic society works by employing institutions to distribute power throughout society. This is not to say that power is democratically or equally distributed, or distributed for the purpose of democratizing society. Such distribution is

simply the most efficient way to maintain a stably quiescent and productive society, by making certain that everyone can potentially be surveyor or surveyed. In brief, Foucault thinks that the underside of the Enlightenment that we inherited from the seventeenth and eighteenth centuries is the desire to control increasingly large numbers of people in a manner that monarchies were not able to accomplish: both by distributing self-regulating bodies regularly through space and, as a consequence, by having people police themselves because they believe they are being surveyed.

Bodies in Space: Comparison to the Gaze-as-Authority in Film and Television

The panoptic gaze is—at least initially—unidirectional and fictive: while surveying the prisoners, the (implied) guard is herself invisible, the force of her fictional surveillance enough to keep the bodies of the prisoners evenly distributed and quiescent. Can the Internet be presumed to be phallic in this fashion: simultaneously powerful and nonexistent? (Foucault himself is silent on this point in *Discipline & Punish*.) I think that the answer depends on how one views the apparatus that connects one to the Internet: the monitor.

Like those of many film and media scholars interested in questions of ideology, my own gaze is drawn toward the coercive qualities of the screen, now the computer monitor.[9] The monitor is that part of the larger Internet apparatus that most immediately reminds one of now more traditional visual entertainment/information media. Governmental and corporate surveillance aside, I wonder whether, like other media, the monitor through which we view the world is always monitoring us.

American television and film are easily identifiable as panoptic institutions. They are disciplinary in the sense that they provide their own defining discourses, mainly variations on the themes of entertainment, desire, and consumerism. (Genre rules, for example, constitute a discourse.) Second, their promise of desire fulfilled keeps their audiences still and attentive.[10] Both film and television attempt to be total experiences, not only at the moment of spectatorship, but in their peripheral phenomena: their omnipresent paratexts, their connection to other forms of coercion (the "military/industrial/entertainment complex"). However, film seems more spatially panoptic than television. Like students in the classroom, patients in the hospital, and prisoners in the penal colony, film viewers are equally distributed in the space of the theater in a manner that gives each person more or less equal access to the film screen, reciprocally giving the screen equal access to each viewer. Because film takes place in the dark it is most often a monadic experience: each spectator is an island unto herself. However, like the central prison tower, the central object of attention (the screen itself) is well lit. And, as with the prison tower, we are to keep our attention riveted to this central structure; stillness is enforced. Finally, though we believe we have chosen to go to the movies in a way prisoners do not choose prison, we are metaphorically imprisoned both in the sense that our culture still gives us precious few authentically practical options, and in the sense that, like prison, movies are instructive. Films give us images with which we identify: models for culturally acceptable or desirable modes of thought and behavior.

Television does not seem spatially panoptic in the manner of cinema. The experience of television is less centralized; hundreds of people are not equally distributed throughout within a partitioned, grid-like space. However, citizens of television are distributed throughout the same living room throughout at least USA culture. (When the television monitor is in the bedroom or the gymnasium, it simply turns

these spaces into living rooms.) More importantly, solitary viewing does reproduce the experience of the monadic prisoner in her cell. And while, like film-as-entertainment, television provides us with imagoes for emulation, television is if anything even more instructive—more perceptibly coercive—than the movies.

Ironically, however, because their gaze is bi-directional, film and television constitute a twentieth-century variation on an eighteenth-century theme; these constructions of space and of the gaze are *cryptically* panoptic. By cryptic I mean that the prisoner's relationship to the tower is ironically slightly less deceptive than our relationship to the screen; the illusion of presence provided by the panoptic tower is doubled by the media illusion that surveillance is nonexistent. Prisoners understand themselves to be under direct surveillance. But, while we believe ourselves to be watching television and film, these media are watching us along those axes by which we are allowed social definition: our viewing habits and so (presumptively) our desires, through Nielsen ratings, advertising sales, bottom lines, pre-emptive censorship, and so on. While, during the experience of watching, we believe the gaze to originate from the spectator and onto the screen, in fact the gaze is relayed from the screen/tower to the spectator in a way that coerces her to internalize consciously and unconsciously the lessons of the screen. This, at least, is the assumption that advertisers take on faith.

Television and film (as well as Foucauldian theory itself), then, give us the following five dimensions along which to think about whether mechanical forms of visual representation like the Internet are or are not panoptic: (1) the gaze, (2) space, (3) authority, (4) totality, and (5) discourse. Is the gaze of the Internet (cryptically) unidirectional; in other words, does the gaze operate consciously, or does it convince us that we are watching it while it is actually watching us? How does the Internet define space? In other words, where is the Internet citizen when she is watching the screen, and where is she *in* the screen and in relation to others similarly engaged? How does the Internet invest and then deploy authority? To what degree is the Internet a "total" experience? Can the Internet be said to be uttered in a unified discourse and, if so, what is the nature of that discourse? Does this discourse institute desire and, if so, is this desire self-regulating, external, and productive of a tendency toward social uniformity?

The Gaze

The Internet is both more and less panoptic than television or movies, and for the same reason: its gaze is a special version of those media's bi-directional gaze. While, like the dream screen of film or television, the computer monitor observes us as we observe it, the bi-directionality of the monitor seems genuinely reciprocal in a manner to which neither television nor movies can aspire. Unlike these media, the Internet provides us the opportunity to create choices when we create web pages, or even talk back to the screen through bulletin boards, email, chat rooms, online games, and other such venues. Because we have traded the remote control for mouse and keyboard, the Internet gaze seems overtly rather than cryptically bi-directional. In short, the Internet is at present the best version of what Roland Barthes calls a "writerly" text, a text whose meaning can in some measure be constituted by the reader. This at any rate was the assessment of such foundational 1990s Internet theorists as George P. Landow.[11] Utopic critics still characterize the Internet as the very opposite of the panopticon; it is more consciously "empowering" than other media because, unlike movies or television, it allows a greater range of behaviors, a greater number of choices, and a certain ability for creative self-expression that is not possible in other electronic media.

But does this bi-directionality really imply consciousness and mass empowerment, or is the keyboard simply a glorified remote control? Certainly, it is the remote, at the level of simple consumerism. As with television and cinema, the Internet gives us false, essentially consumerist options: ABC or CNN becomes eBay or Amazon.com, AOL or MSN. We are encouraged to think that using Netscape strikes a blow at the insidiously secretive Microsoft because it is an "open-source" application, though the equally monolithic AOL/Time Warner now owns Netscape. Two Internet devices important to most conversations about freedom and creativity are perhaps even more illustrative of the ambiguously determinative quality of the Internet: hypertext (or hypermedia), and the avatar. In the early and mid-1990s, hypertext was touted as the cure for the inactivity enforced by other forms of representation, as if hypertext could save other forms of representation from ennui and entropy.[12] Hypertext gives the web surfer a sense of choice, a sense of the Internet as an exciting experiment in *bricolage*. But, though it is still an interesting and innovative technique *within* many websites, hypertext seems *across* the Net to have a limited number of uses, almost all of them (with the exception of hyperlinks that take the user from one site to sites of similar interest) again simply commercial: banner ads connecting to retail, auction, and pornography sites. Further, early theorists of hypertext were unaware that the "pop-up" advertisement (this "anti-choice" hyperlink did not appear until 1997) would be so omnipresent.[13] Even the apparently non-commercial use of hypertext to get from search engines to the information they offer scarcely conceals the fact that many search engine companies are paid to find commercial hits first. Many scholars shy away from the Internet when they discover that most search engine algorithms favor commercial over non-commercial sites. The notion of freedom to "surf" is at least in part undercut by the gentle corporate appropriation of hypertext.[14]

With the exponential growth of sophistication and interest in visual representation and online gaming, the second, newer route to apparent self-determination has been the *avatar*, the icon the Internet citizen can make—or more usually buy and download—that may represent the citizen in online games or in more sophisticated visually oriented chat sites like The Palace and ActiveWorlds. The avatar seemed for awhile the very apotheosis of the American dream, and the antithesis of the panopticon: it *embodied* the fantasy that we can refashion ourselves in any manner we wish. We can't be under surveillance if no one knows who we are: what we look like, what color we are, what religion and ethnicity, what sex. The actual deployment of the avatar on the Net, however, has been mixed. While the characters played in online games are thriving, the visual chat rooms in which participants could engage in some serious personality changes have not fared so well. The Palace is now defunct, and ActiveWorlds now charges for what was originally a free universe. The price of freedom is not eternal vigilance, but, at the time of this writing, about $9.99/month. (Online gaming is even more expensive; game avatars have sold on eBay for four figures.) Further compromising the notion that the avatar means freedom is—finally—the fact that the Internet is surveillant, not in the sense of the government's collecting data on its citizens, but in the much more permeative sense that corporations need to verify our existence and status as stable, desiring consumers. The avatar construct is met at every turn by credit card verification. Online gaming is a sort of metaphor for the antagonisms between identity and commerce: I cannot be Palomar the Invisible without swearing fealty to PayPal the Verifiable.

Further, while both utopic and panoptic critics of the Net describe the Net as visible spectacle, neither takes into account the Net's hardware—its architecture—as a determinant of the gaze. Remember that, for Foucault, Jeremy Bentham's panopticon ultimately determines the design of schools, factories, hospitals, and other kinds of public architecture. While utopic accounts, for example, oppose the notion of the Internet as significantly surveillant because it is not associated with a visible architecture, the simplified diagram for the relationship between surfer and Internet or intranet looks suspiciously like the schematics for Bentham's prison.

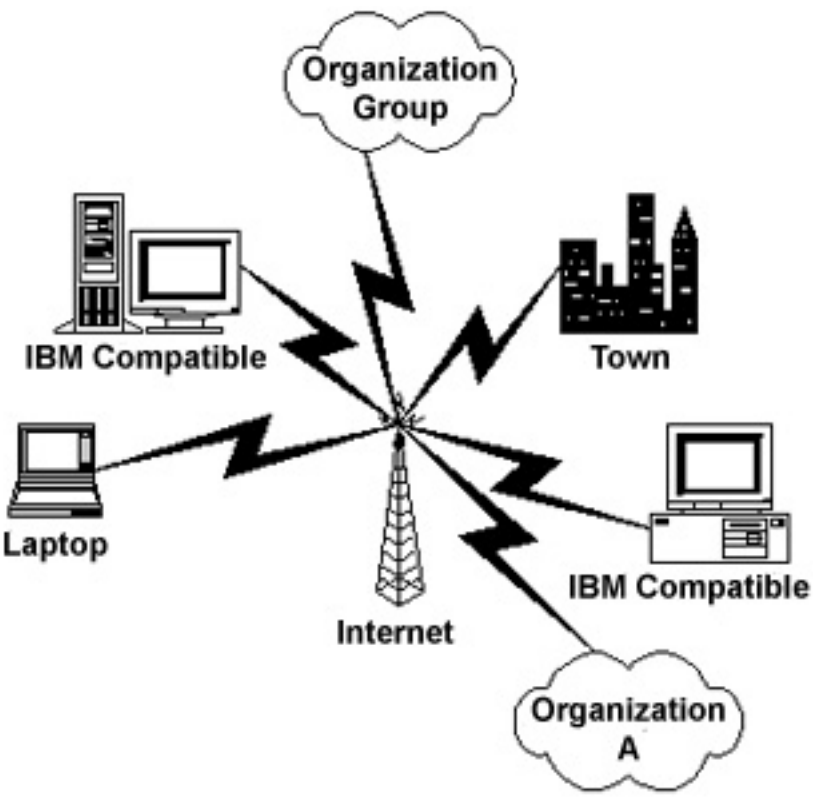


Fig 1. Flowchart of server-terminal relationship

Fig 2. Illustration of Bentham's panopticon

Whatever its direction, the gaze is located in a hardware space defined by center and periphery. The Figure (1) illustration even contains a central tower radiating light. For those interested in surveillance phenomena like Carnivore, the server is the locus of authority; the server master and webmaster can and do censor our access and input,

encouraging Net-citizen uniformity. In short, the flowchart for Internet hardware is panoptic. Even insofar as we are not describing a physical architecture but rather the flow of information, we are still simply indexing the move from a capitalism invested in things to a late capitalism for which ideas are the principal trope for the buyable.[15]

However, even if the Internet is not really utopic but rather a tool for late capitalist appropriation, we must still account for the fact that, unlike film and television as entertainment, the Internet cannot yet constitute all spectators as one spectator, or even as a small set of spectators. Entertainment seeks to create unconscious and monolithic audiences, but, because the Internet is a modality as much as it is a medium in the sense that it provides different kinds of venues for expression—from web sites to MUDs to chat rooms to BBSs to newsgroups to client servers to BLOGs—entertainment and consumerism, though a large presence on the Internet, constitute a small percentage of its representational capabilities. As a consequence, the Internet enables different and simultaneous possibilities for awareness, including but not limited to the consciousness/unconsciousness of media representation. Expanding on the habitually untheorized notion of the surfer, the following list is not exhaustive; rather, it suggests the heterogeneity of surfers' stances in the same way that the educable sons of the Passover Seder suggest all children without defining them:

1. *The surveyor.* This gaze is external, overt, and directed toward the surfing subject, who is conscious of being watched. This is the surveillant gaze of Carnivore, employer surveillance of employee email, and so on. The object of desire is constituted as the satisfaction of the regulations of that gaze. In short, the Internet is what critics have designated as Panopticon Classic.

2. *The moviegoer.* This gaze is external but cryptic toward the surfing spectator, whose desire is constituted externally and so is unsatisfiable except through conformist/consumerist behavior. In short, as consumer entertainment, the Net is cryptically panoptic. The Internet is a movie or a shopping mall, and the subject is the traditional spectator/shopper.

3. *The gamer.* Originating from the surfing self, this gaze is outward, into the Net. The object of desire is external. In making us active participants, the Internet makes us critics: we are aware of the conditions of the Net in a way we are not of a movie. We achieve total immersion, but not total unconsciousness. Our desire is directed toward non-consumer sites, and much of our time is spent trying to circumvent capitalism. The same subject who is unconsciously influenced by a film's product endorsements will still avoid banner ads, spam, and pornography.

4. *The writer.* The gaze is inward; the desire is for self. Perhaps, in co-constructing the Internet, the subject recreates desire differently, for example reconstituting desire less as a question of subject and object, and more as a function of the subject refashioning her own subjectivity.

5. *The lurker*. Originating in the surfing spectator, this cryptic gaze is specifically voyeuristic; it is the desire to see without being seen, the individual's desire to appropriate some of the authority of social surveillance through imitation of it. As such, this gaze shares with Laura Mulvey's notion of the masculine gaze the belief that the gaze can be sadistic and exploitative, resides in the spectator, and reflects the deployment of surveillance-as-power in society at large.16

6. *The spy.* A "proactive" lurker. The user of applets, spyware, etc.

These gazes cannot all be said to be subordinate to an overarching capitalist gaze simply because they exist in a medium created by and permeated by a consumerism whose hardware relegates some to the center and others to the periphery. The consumerist tendency is panoptic, but the working out of the gaze is as yet too heterogeneous to be considered appropriated.

Space

Perhaps because both gaze and space are genetically linked to spectacle—and so to the heterogeneity of Internet spectacle—in a way that, say, the notion of discourse is not, Internet spatiality, like the Internet gaze, is and is not panoptic, and for the same reasons: spatial heterogeneity militates against panopticism, while the need for verifiability tends to result in a spatially uniform Internet citizenry. On the one hand, the experience of surfing the Net seems spatially heterogeneous. The Internet contains an enormous variety of spaces, limited only by the web designer's ability to re-envision two- and three-dimensionality. Seeing a film in a theater, people sit evenly spaced in semi-circular fashion around a single image, panopticon-style; as Jean-Louis Baudry notes, the scene of filmgoing reproduces Plato's allegory of the enslaving cave which is itself, we might note, panoptic (if anachronistically so) in the sense that it provides an illusory world in order to enforce immobility in its viewers.[17] Internet citizens, in contrast, log on in different places at different times; the Internet often seems mood-dependent. If she has an Internet connection at home and at work, or also has access to a cyber-café, or has wi-fi, the surfer is not even limited to surfing from a single "real" space.[18]

However, like television, the Internet also renders all spaces as one space—the monitor-user interface to which most users (at least those without an Ethernet connection) have spatial access in the same way: through the almost cabalistic invocation of that ethereal *nomen* which must never be spoken: username and password. For the simple surfer, the Net is also like television when, as a consumer, she is watching the same dozen sites as everyone else. The Net seems a little more homogeneous when one considers that the expense of logging on limits participation to the members of just a few classes, and significant development to just a few nations. And if we consider Internet technology as a *determinant* of meaning rather than simply its vehicle, such technology—the interlaced order of pixels by which a monitor renders objects visible to the orderly and hierarchicalized distribution of surfers, servers and modes along a fiber optic grid—suggests the even distribution through space reminiscent of panopticism. If the critic is looking over the shoulder of the user, she may decide that his surfing is a liberating experience. Observing, however, from the server site or the fiber optic engineering room at Qwest, she may see him as a point on the grid.

And, while the Internet is a more temporally heterogeneous experience than the experience of viewing movies and television, it is still panoptic to the degree that it is genuinely monadic in a way that these media may only approximate. Whatever actual communication the Internet fosters, the physical experience of surfing the Net is almost always absolutely monadic: we are alone, in a physical space differentiated from all others. For Foucault this partitioning is crucial for defusing and diffusing social and political opposition: "Avoid distribution in groups; break up collective dispositions; analyze confused, massive, or transient pluralities. Disciplinary space tends to be divided into as many sections as there are bodies or elements to be distributed."[19] The Internet is not panoptic in the sense of evenly distributing bodies on a grid *á la* the assembly line or the military formation (two of Foucault's favorite examples). We don't all surf at once, or for

the same number of hours a day. And Internet use is still not as universal as television spectatorship. But, while the movie and even the television come to an end for us, we are "structured to feel" (to paraphrase Raymond Williams) that the Internet is temporally endless, that the conversations, games, negotiations, and exchanges happen whether we are awake or not.[20] Television and movies are packaged in a manner that suggests peaks and troughs in viewers' interest. At least this is the assumption behind "prime time" and "bargain matinees." But the Internet has no prime time or matinee. Or, to say it correctly, though the Internet has peak bandwidth-use hours, it has no peak hours of representation and few hours of participation that are commercially and socially recognized as such. Internet traffic actually does conform to measurable patterns of peak use, but chat rooms, MUDs, role-playing games, music-exchange networks, commercial sales sites, auction sites, and pornography sites take almost no notice of these spikes in bandwidth use. While games like Everquest hold special events during peak hours of play, it is still the case that online gamers can and often do remain in the game for days at a time. Like panoptic society, the Internet gives the impression of being eternal: all times are one uniform time.

Authority

While the Internet construed as gaze and space is at best only ambiguously panoptic, the notions of authority and totality suggest that the Internet is *capable* of a perfect panopticism in a way that perhaps no other social institution or form of representation is. Surveillance on the Internet is panoptically (if mischievously) democratized, and the Internet is capable of being the *total experience* to which other media can only aspire.

To begin with an earlier point: in opposition to the actual top-down surveillance of corporations and the government, the gaze of authority in film and media is not visibly surveillant after the manner of the panoptic tower. Its coercion is cryptic and unconscious: as consumers of entertainment we are not usually aware of being under surveillance. Bentham's originary panopticon is characterized through visible surveillance by a guard, who, all the same, *is not necessarily there; he is a fiction of authority* displaced by self-regulation and regulation by one's neighbors. (Slavoj Zizek refers to this fiction of authority as "radical uncertainty."[21]) This fictionality has three important consequences: our relationship to authority and our own identities, based on a fiction, are also fictional; the citizen is uniformly self-policing; and everyone has a little power to police the state.

Does the Internet similarly institute an internal agency that ensures a vision of authority and society in which each person is her own and her neighbor's monitor? Certainly software exists that encourages the tendency toward self- and peer-surveillance, and among other blandishments, such software is advertised as security *against* corporate and governmental surveillance.[22] Anti-virus software, spyware, anti-spyware, anti-pornography software, firewalls, Trojans, anti-Trojan programs, worms, data-erasure programs, and other forms of self-surveillance—software more or less readily available to all Internet citizens—can infiltrate other computers or monitor the penetrations into one's own computer; it is possible to locate the source of the attack, thus monitoring the activities and strategies of individuals and corporations. While some of this software seems to constitute a resistance to panopticism by maintaining individual privacy, it reflects the degree of self-consciousness we have developed about our Internet behavior. Derived from the belief that we *may* be under surveillance

at any given time (and so suggesting the present/absent guard in the tower), such software keeps everyone in the game, distributing a little bit of power and authority to every player who owns a modem. This distribution of power—not the actual top-down intimidation of Carnivore—is panoptic. As Foucault asserts, rather typically describing the panopticon itself as a machine:

> Any individual, taken almost at random, can operate the machine... The more numerous those anonymous and temporary observers are, the greater the risk for the inmate of being surprised and the greater [his] anxious awareness of being observed. The Panopticon is a marvelous machine which, whatever use one may wish to put it to, produces homogeneous effects of power.[23]

Foucault speaks of a web of power relations in which absolute authority is invested, not in an oligarchy made up of—depending on your conspiracy of choice—media owners, the NSA/CIA/FBI, owners of multinational corporations, heads of state, or the Jews, but in everyone who has internalized that prison guard. Which is to say everyone on the Net. Anyone can install Net Nanny, AdAware, Norton Firewall, or other "user-friendly" applications. Everyone has a little power, though power is shared unequally and oppressively.[24]

Totality

The total distribution of power along the Net grid reminds us of panoptic totality; not only is the distribution of power among Net citizenry absolute, the experience of being subject to authority is complete as well.[25] Television and film aspire and fail to be total experiences in and of themselves; the impossibility of avoiding the paratexts that complete their cultural significance indicates both the desire and the failure. Much more than film and television, the Internet has been endlessly discussed since before its existence as a portal to one kind of total experience that still eludes us, but that is not the subject of this paper: virtual reality.[26] However, we may look closer to home—or the workplace—to find another kind of total experience in the making, for which the virtual worlds of *Neuromancer* or *The Matrix* (1999) are at present simply metaphors. Conceived both as more than simply surveillance but still less than a *total* experience, the Internet as a technology is itself gradually being assimilated into at least two bits of new-technology hardware: the personal digital assistant (PDA), and the cell phone. Even the name of the latter device suggests Foucault's impression that each citizen inhabits her/his own prison cell. Both devices are quickly assimilating other communications and representational devices as well: email, the pager, the digital camera, the video camera, the tape recorder, global positioning systems, and the video game. When the problem of screen size is solved (perhaps by the addition of video glasses, making all individual movement an extension of surfing the Net as driving has become an extension of the cell phone), William Gibson's cyberspace as the experience of total immersion will be more than realized. The PDA can now download all forms of representation, from poetry to pornography. The PDA operative—probably affluent, certainly computer literate—is now immersed, not just in the web of the Internet, but in every sector of communications. No paratext is necessary—or indeed possible—to explain the experience of the cell device, because the device has access to all texts that refer to it.

The notion of total immersion echoes an often-cited, much discredited "humanist" bit of film theory: André Bazin's "The Myth of Total Cinema," the most important assertion of which is that cinema always tries to convey an ever more realistic sense of the real.[27] Like total war, total cinema suggests complete immersion in the spectacle one

had simply been viewing. Writing in the 1950s, Bazin implicitly assumes that cinema's ever-increasing ability to present us with a window on the actual is nevertheless asymptotic: representation may go thus far and no farther. Hence, the notion that cinema can be "total" is a "myth." But, in combination with other new technologies, the Internet promises to make that asymptotic line tumesce just enough to touch its own limit.

This tumescence determines the erasure of another asymptotic separation, between the "virtual" and the "real." That is to say the ideological construed as the representation of reality becomes—or was always already (as poststructuralists have proclaimed for thirty-five years now against both New Critics and traditional Marxists, who insisted on either a formal or a material real)—the real.[28] This erasure is especially true for panopticism, where the only reality possible is that presented us by social constructions of disciplines, discourses, and institutions. Panoptic society is always already virtual. We can always know only what we need to know in order to ensure the continued operation of the panopticon. In this sense new technologies-as-panopticon is the apotheosis of the notion of panopticism. If what we really mean by the panopticon is a vehicle for the conveyance of ideology, new technology is meta-panoptic: it disseminates itself as ideology.[29] Total immersion as ideology is the vision of *The Matrix*, in which, for most citizens, no reality is visible but that created by the technologies that keep them unconscious, still and drained in a hidden post-apocalyptic landscape, while convincing them that their lives are rich and full.

But new technologies have an even more immediately total effect on the body. For Foucault, the panopticon is the social ideal for which the Enlightenment strove; it is the social *raison d'être* for the rise of the sciences and other disciplines. In a counter-psychoanalytic manner, the panopticon acts on the mind through the disposition of the body, rather than the other way round. Like ideology, it seeks to be the sum of all experience for the citizen. On its own, but more especially in conjunction with other new technologies, New Technology is the closest thing to an apotheosis of that desire for totality; it is along this dimension, then, panoptic.

The Internet as part of a matrix of new technologies affects the body panoptically, which is to say in an unconsciously oppressive manner. Paradoxically, but in a manner that confirms the increasingly diffused quality of power through new technologies, the affluent sector that can afford PDAs—which is to say the presumable wielders of power—is most in thrall to the technology: at the beck and call of anyone who pages, phones, or faxes them. The PDA and cell phone owner is not the mistress of the manor but its chatelaine, which is to say medieval middle management: Herbert Marcuse's *One-Dimensional Man* or Sloan Wilson's *Man in the Gray Flannel Suit*.[30] However, the Internet citizen may be differentiated from corporate middle management in one important respect: the latter exists in a vertical hierarchy at the top of which is a CEO, and at the bottom of which is, depending on your point of view, the worker and/or the consumer. In contrast, in the new-technology panopticon, everyone is middle management: again, everyone has a little power: all are oppressive. Everyone is answerable to a higher authority, and everyone is a higher authority. In cyberspace immersion, everyone has approximately the same status, despite minor differences between, say, the surfer and the web *master*. We are assaulted by banner ads, but we can also flame anyone with an email address, a website, or a chatroom or Listserv presence. It is the One-Dimensional Man made to look three dimensional in two dimensions. Put another way, for the new middle management, new technologies are the apotheosis of Foucault's idea that panoptic society recreates the body as mechanical: "the machine required can be constructed."[31] New Technology is the literal embodiment

of the somewhat figurative language Foucault uses in describing a discipline as "a type of power, a modality for its exercise, comprising *a whole set of instruments*, techniques, procedures, *levels of application*, targets; *it is a 'physics'* ... of power, a *technology*" (italics mine).[32] While other forms of representation (movies, novels) are only metaphorically technologies (or, at best, the products of an invisible technology), the Internet is visibly technological. While poetry captures the imagination, the integrated cell phone/PDA envelops the body.

So, while neither the direction of the gaze nor the constitution of space does not itself define the Internet as panoptic, the Internet as a total experience may still be a *literalization* of Foucault's panoptic society in a way that no other institution can. As a consequence, the Internet tends to leave us aware of our minds but not of our bodies. One might compare the Net with masturbation fantasy, an experience that, while implicating the body, takes place mostly in the mind's eye, which is to say virtually.[33] Finally, as a sector of new technologies, the Internet represents a continuation of the twentieth-century media impulse to refashion the panoptic "by other means." If the twentieth-century media panopticon is cryptically and incompletely panoptic, the twenty-first-century matrix of Internet/new technologies is perhaps volitionally but completely panoptic, which is to say that—for now—we may still choose not to enter this particular prison, but also that, once in, our movements are determined by the technology.

If we understand the Internet to be a response to the Enlightenment interest in the effect of the mechanical on the body, we are still left wondering about the valence of that relationship: do new technologies subvert or apotheosize the Enlightenment? Is the web an Enlightenment project or, as Ravi Sundaram, citing Donna Haraway and other utopic theorists, suggests, "a crucial opposition from the old Enlightenment oppositions of nature and culture from which flowed the representations of human praxis and subject formation"?[34] Is the Internet, as Haraway and others suggest, a reaction against the Enlightenment's careful divisions between the organic and the inorganic, a reaction against disciplinary thinking? Is it, in other words, Haraway's cyborg culture, in which distinctions between feminine and masculine, first world and third world, collapse with the collapse of the categories organic/inorganic? Or is the truth, as Foucault suggests before Haraway, that the Enlightenment already conflated the organic and the mechanical, so that new technologies are in fact the apotheosis of the Enlightenment project: the defining of the organic in terms of the inorganic; the exercise of the machinery of power on the body in such a way that the body itself becomes a machine? If it is an Enlightenment project, is it the traditional face of the Enlightenment—the Encyclopedia, tentative experiments with democracy, and Isaac Newton—or is it the panoptic face: discreet oppression, disciplinary disciplines, Jeremy Bentham, and Napoleon Bonaparte?

Discourse at the Level of Code: Writing and Reading the Internet

The appropriate and most frequent object of Internet studies is the individual Internet subculture: adult chat rooms; game sites; art forums; pornography sites; nationalist, racial, ethnic, and religious websites; and so on.[35] Nevertheless, I have eschewed such subjects for the sake of a quixotic tilt at the Internet as a whole. The sole advantage of such an approach is that it allows me to ask at this point: does the Internet itself constitute a discourse? Is there a discourse *of* the Internet? In other words, is the Internet already defining and defined in the manner of all disciplinary discourses?

Because of its diversity, the Internet as spectacle (what is actually visible on the screen) cannot easily be considered to have a *unitary* discourse. At best one might assert the assumption of most cultural-studies research: that each Internet subculture has its own discursive practice. But we may be in error if we identify the diverse languages *on* the

Internet as the language *of* the Internet. Though the Internet is international—and so necessarily of many languages (though not all: no Masai)—such globalism does not imply a freedom from the constraints of discourse. Other languages than those of the spectacular Internet determine the limits of the Internet and its way of knowing and expressing the world. Strictly speaking, the codes and markup language in which internet content is written—java, html, xhtml, and so on—constitute the discourse of the Internet in the very specific sense that they determine the absolute limits within which the discipline operates. We can create only what these languages allow us to express. Or, as Lev Manovich asserts:

> As we work with software and use the operations embedded in it, these operations become part of how we understand ourselves, others, and the world. Strategies of working with computer data become our general cognitive strategies. At the same time, the design of software and the human-computer interface reflects a larger social logic, ideology, and imaginary of the contemporary society. So if we find particular operations dominating software programs, we may also expect to find them at work in the culture at large.[36]

If, as Manovich implies, the Internet and then the culture within which it is imbedded belong to whoever writes the code and codec, we may regard as significant the fact that so much software and hardware have originated in Japan, and that for economic reasons, the United States now imports much of its software development from other nations (India, for example). It becomes further significant that much of America's science elite—including computer developers—is (and traditionally has been) imported. The importation of Indian software implies an interface with post-colonial Indian culture. The Internet becomes transnational and multi-ethnic as much through its invention and development as through its use by various countries. Claiming America as the originator of the computer and the Internet constitutes the same order of historical dis-information as asserting that Thomas Edison invented the movies.

If it matters where the code comes from, we must assume that the writing of code reflects the conditions of the creator of the code. Put another way: the writing of code is not a completely scientific endeavor; rather, it is also cultural/sociological—it is an affect of the writer and her culturo-socio-economic background. The knowledge that Alan Turing was persecuted for being homosexual might allow us to queer computer science.[37] We must still ask, however, whether computer code is a discourse; whether it creates texts that constitute subjectivity after the manner of other disciplinary discourses; and whether, as a result, the Internet code and markup language are interpretable in the same fashion as other texts.

If the base languages of the Internet are not interpretable then this conversation is at an end.

However, some kinds of interpretation already pre-exist the asking of the question. An *aesthetics* of code has existed among programmers almost as long as programming itself. Programmers refer to "beautiful" programs, not because of the spectacle it enables on the monitor or in any other instrument, but because of the elegance, clarity, and brevity of the code-text itself. In another arena, writers argue about the *poetics* of code, taking computer code as the starting point for the production of poetry and narrative.[38] Perhaps more significantly for this essay, a kind of *semiotics* of programming has explored code's potential ability to enable the computer to originate meaning; as Jay David Bolter suggests, this notion is part and parcel, for example, of investigations into artificial intelligence:

> The computer is a machine for creating and manipulating signs; the signs may be mathematical, verbal, or pictorial. Computer programming and indeed all kinds of writing and reading by computer are exercises in applied semiotics. The first lesson any sophisticated computer user must learn is the difference between a sign and its reference, between the address of a location in the computer's memory and the value stored at that address. This dichotomy characterizes the machine at all levels: it is at the essence of hypertext and of programs for artificial intelligence, in all of which text is simply a texture of signs pointing to other signs.[39]

Though I will assert in a few moments that hypertext or any other originary Internet language is more than simply the usual and presumably endless chain of signifiers, I am intensely interested in the almost paradoxically hermeneutic/cultural-studies endeavor implied in this kind of study. The Internaut as hermeneut, or the Interneut. Let us concern ourselves, then, with the semiotics of the Internet code (Semenet), or, strictly speaking, of Internet code as discourse (Intercourse, Disinter, Disintery, or perhaps just DisCo).[40]

We might find a model that will help us, if not read the Internet, at least imagine how the Internet might be read, in Ferdinand de Saussure's oppositions between *langue* and *parole* and between signifier and signified. (These models also inform Foucault's notion of discourse.) Most critics of the web implicitly assume that the spectacular web is a signifier after the manner of television and media: it has something to do with representing the real world.[41] However, at a much more obvious—if counterintuitive—level, considered as the signifier, programming code is deployed on precisely the same assumption that Saussure makes about language: it is binary opposition. If one then not zero; if zero then not one. Platform and programming languages may be seen as *langue*, while the actual programs written are its *parole*. Read this way, we have as the object of study a sort of global language, the origin of whose rules matter less than the actual deployment of those rules by particular persons and cultures.

However, the same problem arises with this argument as with most structuralist arguments: it is at least partially ahistorical in assuming that, while the writing of particular programs (*parole*) is affected by the culture within which the codes are written, the context and structure within which programming language exists (*langue*) is irrelevant. To make programming code(s) the Master Code is simply to reify the notion that the white culture within which it is assumed to have been produced is substructure to every subsequent digital representation's superstructure. The analogy to Saussure's model is further flawed because that model is itself a partial explanation for the difficulties in translating from language to language, or from *langue* to *langue*. It assumes a multitude of different cultures speaking in different tongues and thus producing different kinds of meaning. Most of the Net, however, is uttered in html, xhtml, or one of a handful of other web-creation languages. In this sense, no significant linguistic distinctions exist between the production of meaning by New Delhi and its production by Silicon Valley software developers. So even if the web is not monolithic by virtue of its parentage, it is to some degree structurally monolithic. As such it is discourse, a language spoken by adepts in a particular discipline (programming) that determines that the text it creates will reproduce the same communal meaning over and over again.

However, complicating our vision of Net discourse as monolithic is the realization that we have examined it, so to speak, only horizontally: we understand that the use of html cuts across all national borders. We have not, however, rightly understood that programming has a vertical dimension: the abstract "assembler language" makes possible more linguistically recognizable programming languages, which in turn enable the creation of browsing software. Browsers read another code, html, which in turn makes xhtml, Flash, or Dreamweaver possible. Various plug-ins and filters are constructed on

top of these already precarious edifices, creating, not one, but several Towers of Babel in which each kind of code must learn to live in often-uneasy détente with other kinds of code. Finally, proprietary programming codes—often variations on the major programming codes—are deployed by individuals and corporations. In this scenario, the initial programming languages are not themselves monolithic edifices so much as the building blocks for an olio of edifices. Not substructure but bricks and mortar. Perhaps a clearer analogy is not with French or English, but with Proto-Indo-European, Altaic, Uralic, and Austro-Asiatic, themselves probably not monolithic, and finally all but erased and displaced by the flood of premodern and then modern languages to which they give birth.

Another, more contemporary analogy may make the possibility of code plurality and heterogeneity clearer. From 1895 until about 1950 there was no significant mass technology for viewing the moving image other than celluloid film projection. However, despite the realization that media has an undeniably homogenizing effect globally, most film theory and criticism since World War II has assumed that this basic commonality in technology has little effect on the medium's ability to express different cultures and ideologies in a heterogeneous fashion. (In fact, film historians tend to be nostalgic for the now-disappeared, unifying internationalism of silent film.) If one imagines for a moment that programming language is of the same order of artifact as film—in essence an "apparatus" rather than *langue* in the traditional sense—then the contributing languages of the Internet become at least as flexible in representing or resisting ideology and ideological difference as film is thought to be.[42]

While the structuralist Saussurean linguistic model seems inadequate for describing programming code or HTML, at a different level of signification, code embodies a certain post-structural idea about language: like language, code not only signifies the Net, it actually creates what it defines. But again, while this notion as observed about writing or speech is conceptual—a truth that must be inferred—it is self-evident in the case of the Internet. While we assign the inventive function of language to some vague and invisible ideology that requires our seeing the world in a trickily, repressively, and coercively pro-social fashion, we understand more directly that computer code is the abstract prime mover of effects we can see: Internet effects. In a certain sense *the Internet embodies the inventive quality of language because it is representationally the opposite of language.* While writing is palpable and the things it represents are abstract and arbitrary, code is (for all but the programmers who originate, improve, or steal it) invisible, while the things it represents—for example the Internet—is palpable, if virtual. In spoken/written language, the signifier is audible/visible while the signified—ultimately ideology—is invisible if ever-present; conversely, the visible effects represented on the Internet paradoxically signify both the existence of an invisible code/markup language, and also the signified of the code that has uttered them into existence. In a dynamic reminiscent of the now rather self-evident if principal declaration of deconstruction, *the Internet is the signifier of its own system of signification, or the signifier of its signifier. It is both signifier and signified.*[43]

However, the very materiality and palpability of the Internet—in contrast to the invisibility and evanescence that characterize the ideological ambiguity and arbitrariness to which deconstruction always refers—suggests that something other than simple deconstruction is at work here. The Internet is like language-as-ideology in being a construct, but unlike ideology in being a material construct. Again, ideology must be inferred while the Internet is palpable. While, like other critical strategies, deconstruction depends on subverting the Saussurean naturalization of signification by observing that the relationship between signifier and signified is only conventionally binary and so, consequently, ideological, the relationship between the signifier

and the signified for the Internet is (as Christian Metz asserted twenty-five years ago of the film image)[44] of a different order, requiring a different hermeneutics. It is as if the Internet—and software more generally—is the palimpsest of its code-as-signifier, which covers its own existence with the artifact it creates in a way that the written word never does. Code is not so much a self-consuming as a self-effacing artifact.[45]

What does this reciprocity of signifier and signified mean about the meaning of the Internet, and its status as panopticon-in-training? The answer is, I think, fourfold: the Internet's panoptic status depends, first, on whether its reciprocal model for the sign becomes the dominant trope for the way in which language works in culture;[46] second, on which social movements are conceived during the time of the invention of the Internet; third, on how the Internet inflects those movements; and fourth, on the awareness of the surfer of the encoding that underlies her Internet travels. To elaborate briefly: for Foucault, the panopticon has survived for over three hundred years as a defining if evolving technology that reflects changes in the way language is conceived: both as a series of discourses meant to define and categorize, and as a method of ordering people during the rise of the modern nation-state. In an analogous manner, the Internet arises at a time of industrial globalization and cultural border crossings, in other words during the dissolution of the nation-state. The new linguistics of the Internet will arise when the language has been foregrounded once more as an important political/ideological issue. It is not so much a question, as Manovich asserts, of the Internet's becoming the dominant cognitive model so much as a question of how Internet language may internalize and then re-inflect contemporaneous social phenomena. If, for example, the rise of the novel is significantly co-incident with European colonialism, then it may be important that the Internet's growth thus far is roughly coextensive with both the establishment of the World Trade Organization and the publishing career of Homi Bhabha.[47] The Internet in this respect is problematically transnational; it enables both access and exploitation. While we understand that it is the product of late capitalism, of an economy interested in the ownership of ideas more than of things, we still do not know whether the Internet is Habermas's new modernism or Jameson's postmodernism. Is it the cultural arena for solving the problems of being modern, or simply another tool of late-capitalist exploitation? At the moment it seems to be both.[48] The self-consciousness of the surfer of the code is approximately analogous to a consciousness of ideology. It is the awareness of the Internet as an artifact whose production of meaning is up for grabs by anyone who understands that it *does* produce meaning in very material—which is to say manipulable—ways.

The notion of a useable indeterminacy in meaning seems even more sensible as one understands that the fact of the Internet's signifying its own code is different from the relationship between other media and their material bases. Cinema does not signify the actual celluloid and emulsion that constitute it. And it can only inferentially signify the process of creation; even shot-for-shot remakes of films (*Psycho*, 1960, 1998) can't reproduce with any exactness the original. And for other reasons—expense, access to means of distribution and exhibition—film and television are difficult to produce. However, the Internet's code is instantly visible (if not immediately coherent) to anyone who clicks the appropriate browser button. And so the codes are revisable in a way that no other medium is.[49] In this respect, computer code allows at least the second coming of Walter Benjamin's notion of the reproducibility of texts as a kind of resistance: more people can appropriate the code of the Internet because it is more or less readily available for reinterpreting and rewriting in a way that film and television are not. At most, computer code suggests a re-thinking of how sign and discourse create the subject because, since the relationship between signifier and signified is no longer *completely* arbitrary

(though it is still completely conventional), neither then is the real simply a construct. Virtuality is, ontogenetically, neither completely material nor completely constructed. One would have to invent a new descriptor for its status, perhaps "materucted," or "consterial," or even "convircted."

The Internet, then, stands in relation to discourse as it stands in relation to other elements of panopticism: it is and it is not. It is discourse in the sense that it is language; it is not traditional discourse because the organization of its sign system departs radically from that of traditional systems of signification. Because the nature of Internet discourse is—at least for now—ambiguous in its newness, it is also difficult to assert anything about Internet subjectivity. If discourse constitutes the subject, what are we to say about a subject whose very materiality is in question, not because of the traditionally poststructural sense that it does not exist as such, but rather because the sign system of the Internet is impossible to define as simply material? At most, we may assert that the very ambiguity of Internet subjectivity suggests something different from the pronounced panoptic subjectivity created by the integrated PDA/web browser/cell phone.

Conclusion: Panopticism 2.0

If we have decided that the Internet is readable as code, even if that code is not clearly a disciplinary discourse, we still have not enabled critical activity. Though beautiful to the programmer, code and markup language are of course anathema to the critic and historian who, whatever flourishes her rhetoric may contain in the direction of corporate academic professionalism, has probably entered the discipline of literary or cultural studies because of the more or less neurotic love of the object of study—the novel and the poem—that the discipline demands. In contrast, the experience of reading code can in no way be thought of as the substitutively erotic experience of reading literature. It is not, in short, *jouissance*.

I can imagine as a consequence two critical responses to the reading of code. In the first, we may change the mode of processing pleasure away from the immediate gratification of the novel reader, and toward the delayed gratification of the archaeologist, most of whose pleasure probably does not derive from the initial reading of the text but from interpretation: translation, reconstruction of cultural context, and so on. One model for this kind of pleasure may be found closer to home in Walter Benjamin's projected Arcades Project, which was in some large measure supposed to be the reconstruction of all-but-disappeared texts.[50] This is the pleasure that critics in any case claim for themselves: reading is always interpretive. Reading code would simply be a test of the truth of that claim.

In the second response (as I have tried to hint throughout this essay), the interpretation of code might indicate a truly "professional" turn in literature/textual studies because it would not evoke the traditional text's moiety of *jouissance*. Approaching the Internet through its codes will reflect the direction of literature and cultural studies as discursive practices toward an ever-increasing utilitarian function in the disciplines, a function closer to linguistics than to the reading of literary texts. In short, whether or not we discover the Internet to be panoptic, the study of code threatens to reveal literary scholars to be contained in an increasingly rigid panopticon that reduces the "pleasure of the text" to degree zero. However, though hemmed in on one side by the constraints of the interpretive disciplines, politicized scholars might be involved in debates about representation that will have important political/ideological consequences over the next few years: dialogues about open source codes, Internet

censorship, intellectual property, and copyright are always already questions about representation and interpretation.

Even more liberating is the possibility that understanding the signifying system of the Internet would change our notion of how signification works. For Foucault, this kind of altered understanding implies an alteration in the way that we experience the world. In *The Order of Things* Foucault discusses how our attitude toward language changed and was itself changed by our culture's changing relation to epistemology. For example, he discusses the sixteenth- and seventeenth-century transition from the "classical" to the "modern" in linguistic terms:

> [I]n the sixteenth century, one asked oneself how it was possible to know that a sign did in fact designate what it signified; from the seventeenth century, one began to ask how a sign could be linked to what it signified... The profound kinship of language with the world was thus dissolved... Things and words were to be separated from one another. Discourse was still to have the task of speaking that which is, but it was no longer to be anything more than what it said.[51]

Foucault historicizes the "fact" of our realization that sign and signifier are related only arbitrarily. He finds a moment that predates Saussure by some two and a half centuries; the very beginning of the "long Enlightenment" is the moment of the emergence of the kind of discourse that produces modern disciplines and institutions out of the realization that, though words mean, that meaning is manipulable. In an analogous fashion, we may wonder whether the possible emergence of the Internet as a sort of ambiguously constituted Panopticon 3.0 does not bring with it a fundamental shift in the way we understand the world. It is perhaps the case that as a consequence of an accident in technology, we return to a revised or neo-classical version of pre-modern signification, in which words are once more genetically—or at least mechanically—linked to the things they signify.

One can imagine this realization as a liberation at least from the constraints placed on us by contemporary notions of signification. Under the current linguistic regime, cultural criticism often seems a sort of game in which we continually have to try to imagine a way out of the inevitable realization that definition is absolutely limited by language. We have different strategies for this game that, depending on the daring of the player, are conceived as either critique or subversion: "structures of feeling," "signifyin'," "the carnivalesque," "heteroglossia," and so on. What if we could go on at least to a different game that questioned in some more fundamental way the limitations placed on us by signifying-as-ideology? In short, it is conceivable that the Internet as ambiguous panopticon might be re-envisioned as a vehicle, not for oppression, but for a kind of liberation, not perhaps the human/machine dichotomy collapse imagined by Haraway and others (alas, a collapse already envisioned not only in the panopticon but in the aesthetic of Marinetti's fascist Futurism), but a kind of liminal space in which identity formation can be questioned. The problem with this liberation is of course that it is, for the most part, ersatz: it exists only virtually. But virtuality is its virtue as well. Virtuality is the ground of the Internet's ambiguity. Perhaps the linguistic oddity that characterizes the Internet will provide a way out of the otherwise inevitable binary opposition in discovering meaning. Perhaps there is another way of framing the future of the Internet than as one of two opposing stances, in other words as either the site of, if not liberation, at least of significant mass resistance (as opposed to, say, the bulk of academic Marxism or American independent films), or the helpless reproduction of the ideology of the culture

that produced it, as in Benjamin's oft-quoted Kafka quotation: "Oh, plenty of hope, an infinite amount of hope—but not for us."[52] A slightly more optimistic vision of the Internet might be found in a slightly different Benjamin:

> Only when in technology body and image so interpenetrate that all revolutionary tension becomes bodily collective innervation, and all the bodily innervations of the collective become revolutionary discharge, has reality transcended itself to the extent demanded by the Communist Manifesto.[53]

Acknowledgements

I would like to thank Katherine Eggert, Aaron Powell, and Will Martin for their invaluable help.

Notes

7. http://www.theorycards.org.uk/.

8. One of the best attempts to connect Foucault's notion of surveillance to the Internet is William J. Mitchell's *City of Bits: Space, Place, and the Infobahn*, Cambridge, MA: MIT Press, 1995: "[S]ince electronic data collection and digital collation techniques are so much more powerful than any that could be deployed in the past, they provide the means to create the ultimate Foucauldian dystopia." Another good example of the examination of data encryption is Thomas W. Wright's "Escaping the Panopticon: Data Privacy in the Information Age," Available online at: http://gsulaw.gsu.edu/lawand/papers/su98/panopticon/,1998. A more complete examination of panopticism and late capitalism can be found in Zygmunt Bauman, *Globalization: the Human Consequences*, NY: Columbia University Press, 2000.

9. One of the best of its kind is political scientist/social theorist Michael Rogin's "*Ronald Reagan*: the Movie," in *Ronald Reagan, the Movie: And Other Episodes in Political Demonology*, Berkeley, CA: University of California Press, 1987, pp. 1-43, which is a discussion of Reagan's conflation of his movie image and his actual biography in the media during his run for the California governorship.

10. David Lyon, *The Electronic Eye: The Rise of Surveillance Society*, Minneapolis, MN: University of Minneapolis Press, 1994, p. 65.

11. Lyon, 71. An even more recent book states the case more boldly: "[W]e have every reason to believe that cyberspace, left to itself, will not fulfill the promise of freedom. Left to itself, cyberspace will become a perfect tool of control." Lawrence Lessig, *Code and Other Laws of Cyberspace*, NY: Basic Books, 2000, pp. 5-6.

12. For example Kristine J. Anderson, in noticing the tendency of academia on the Net to neglect the increasing mass of minority and post-colonial writing and to concentrate instead on the canon, asserts that "while technology brings us ever closer to the world outside the continental U.S., our libraries and the Internet are rendering us more provincial." ("A Panopticon in Every Pocket: Or, the Scholar's Workstation in the 21st Century," in *The Journal of the Midwest Modern Language Association* 32, no. 2/3, Winter/Spring 1999, p. 35) In "So Much for the Magic of Technology and the Free Market" (in *The World Wide Web and Contemporary Cultural Theory*, Andrew Herman and Thomas Swiss, eds., New York: Routledge, 2000, pp. 5-35), Robert McChesney offers a more telling, neo-Marxist indictment of the narrowness of the Internet. From its inception, "there has been virtually no public debate over how it should develop; a consensus of experts simply 'decided' that it should be turned over to the market" (p. 7). This decision means that "the dominant forces in cyberspace are producing the exact type of depoliticized culture that some Web utopians claimed that technology would slay" (p. 34).

13. These features are gleaned from "Panopticism," in *Discipline and Punish: the Birth of the Prison*, tr. Alan Sheridan, Vintage Books, 1979, pp. 195-230.

14. See, for example, Foucault's description of the execution of the regicide Damiens, (*Discipline & Punish*, pp. 3-7).

15. The most significant scholarship thus far on the "archaeology" of the computer monitor is Lev Manovich's "An Archeology of a Computer Screen," published in *Kunstforum International*, Germany, 1995; Available online at http://www-apparitions.ucsd.edu/~manovich/text/digital_nature.html. A history after the fashion of C. W. Ceram's *Archeology of the Cinema*, his text is interested in the virtuality of the screen in a way that, except incidentally, mine is not.

16. Of course, film and media scholars understand that the mind of the spectator is not a tabula rasa—that, in fact, fairly complex mechanisms of identification are always in play. I am speaking here of purely physical stillness and quiescence: panopticism as it acts on the body, whatever gymnastics the mind might be executing.

17. George P. Landow, *Hypertext 2.0: The Convergence of Contemporary Critical Theory and Technology*, Baltimore, MD: The Johns Hopkins University Press, 1992, pp. 5-6. In this respect see also Silvio Gaggi, *From Text to Hypertext: Decentering the Subject in Fiction, Film, and Visual Arts, and Electronic Media*, Philadelphia, PA: University of Pennsylvania Press, 1997; Espen J. Aarseth, *Cybertext*, Baltimore, MD: The Johns Hopkins University Press, 1997; and George P. Landow, ed., *Hyper/Text/Theory*, Baltimore, MD: The Johns Hopkins University Press, 1994.

18. Again, Landow's *Hypertext* may stand as the best and most foundational of the lot.

19. Susan Kuchinskas, "Addicted to Advertising: Online Ads are Popping Up Everywhere, *Adweek*, Eastern Edition, 39, no. 42, Oct. 19, 1998, p. 58.

20. See, in regard to the corporate/government erosion of Internet freedom through the appropriation of its code, Lawrence Lessig, *Code and Other Laws of Cyberspace*.

21. Lessig asserts the connection between market and state control rather boldly: "The invisible hand, through commerce, is constructing an architecture that perfects control—an architecture that makes possible highly efficient regulation" (6).

22. Laura Mulvey, "Visual Pleasure and Narrative Cinema," *Screen* 16, no. 3, 1975, pp. 6-18.

23. Jean-Louis Baudry, "The Apparatus: Metapsychological Approaches to the Impression of Reality in the Cinema," tr. Jean Andrews and Bernard Augst, *Camera Obscura* 1, Fall, 1976; reprinted in *Film Theory and Criticism: Introductory Readings*, Fourth Ed., ed. Gerald Mast, et al., Oxford: Oxford University Press, 1992, pp. 690-707.

24. Even the notion of a heterogeneous spatialization—the three-dimensionality of the Net—is a construct and an historical tendency (though we do not realize it as such). The earliest incarnations of the Internet were simply verbal: messages sent back and forth that, though visible on a screen, had nothing about them of contemporary web graphics. One may idly wonder what visual form the Net would have taken in Western culture between, say, 400 and 1300 A.D., during an aesthetic moment *sans* three-dimensional or Renaissance perspective. Unlike discipline-bound criticism, the world of role-playing indulges in such questions about new technologies. "Steampunk" designates a role-playing world in which products of new technology are accessible through nineteenth-century steam technology, in, for example, Rick Neal, *The Ascension of the Magdalene*, Trident Inc, 2002.

25. Foucault, *Discipline and Punish,* p.143.

26. Raymond Williams, "Structures of Feeling," in *Marxism and Literature*, Oxford: Oxford University Press, 1985, pp. 128-136.

27. Geert Lovink, "Civil Society, Fanaticism, and Digital Reality: A Conversation with Slavoj Zizek," *CTheory*, Article A037, 2-21-1996, Available online at: http://www.ctheory.net/text_file.asp?pick=79 .

28. Foucault, *Discipline and Punish,* p. 202.

29. An advertisement from the Evidence Eliminator home page:

30. Did you know that the government and police are installing black boxes in ISPs to record your Internet surfing and downloads for evidence? Deleting "internet cache and history", will not protect you[;] your PC is storing deadly evidence... All those Web Pages, Pictures, Movies...E-mail and Everything Else you have ever viewed could easily be recovered—even many years later. Defend yourself! (http://www.evidence-eliminator.com/product.shtml.)

31. The benign version of this web of shared authority is the utopian vision of the World Wide Web itself as a place where users become creators or at least developers. Insofar as we can all create web pages, contribute to the debugging of software, and contribute to the development of

open-source software like Linux, we are all shaping the Internet. (At least those of us who can afford a computer and/or have access to an Internet connection.)

32. "On the whole, therefore, one can speak of the formation of a disciplinary society in this movement that stretches from the enclosed disciplines. . . to an indefinitely generalizable mechanism of 'panopticism'. Not because the disciplinary modality of power has replaced all the others; but because it has infiltrated the others...linking them together, extending them and above all making it possible to bring the effects of power to the most minute and distant elements" (Foucault, *Discipline & Punish*, p. 216).

33. A 1984 novel, William Gibson's *Neuromancer* pre-exists the Internet as we know it.

34. André Bazin, "The Myth of Total Cinema," in *What is Cinema*, vol. 1, trans. Hugh Gray, Berkeley, CA: The University of California Press, 1967. Dismissed for several decades as easy humanism, this essay seems now, in light of the attention spent perfecting special effects and virtual reality, to have a distinctly predictive authority.

35. One can see both tendencies—the desire to separate ideology from reality and the desire to conflate them—in several contemporary films, most notably in *The Matrix*. On the one hand, the premise is that the world of virtuality is the world of "false" ideology; it is a literally glowing picture of how society works that hides a reality of ruin, decay, and destruction. On the other hand is the notion that it is possible to fight ideology only within the space created by ideology. Though, Christ-like, he seems for a moment to transcend the boundaries of the virtual world, the hero—Neo—must fight firepower with firepower within the Matrix.

36. The notion that the era of new technologies is ripe for surveillance society is briefly touched upon by Roy Boyne, among others: "[In the eighteenth and nineteenth centuries] neither the technology nor the social infrastructure were in place. In the late twentieth century, the much more interested response across the delta of social thought to Foucault's rehabilitation of the Panopticon concept does suggest that social conditions may have changed, that the ideological armature of surveillance is much more established" ("Post-Panopticism," *Economy and Society* 29, no. 2, May 2000, p. 290).

37. Foucault, *Discipline and Punish*, 135.

38. Herbert Marcuse, *One Dimensional Man: Studies in the Ideology of Advanced Industrial Society*, Boston: Beacon, 1964, and Sloan Wilson, *The Man in the Gray Flannel Suit*, New York, NY: Simon & Schuster, 1955.

39. Foucault, *Discipline and Punish*, 215.

40. Zizek on virtual sex: "For example playing sex games. What fascinates me is that the possibility of satisfaction already counts as an actual satisfaction. A lot of my friends used to play sex games on Minitel in France. They told me that the point is not really to meet a person, not even to masturbate, but that just typing your phantasies is the fascination itself. In the symbolic order the potentiality already gives actual satisfaction" (Geert Lovink, "Civil Society, Fanaticism, and Digital Reality: A Conversation with Slavoj Zizek," at CTheory.net, Available online at: http://www.ctheory.net/text_file.asp?pick=79).

41. Ravi Sundaram, "Beyond the Nationalist Panopticon: The Experience of Cyberpublics in India," in *Electronic Media and Technoculture*, ed. John Thornton Caldwell, New Brunswick, NJ: Rutgers University Press, 2000, p. 290. Donna Haraway, "Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980's" *Socialist Review* 80, 1985, pp. 65-108.

42. Two excellent cultural studies anthologies are David Bell and Barbara M. Kennedy, eds, *The Cybercultures Reader*, London: Routledge, 2000; and John Thornton Caldwell, ed., *Electronic Media and Technoculture*.

43. Lev Manovich, *The Language of New Media*, Cambridge, MA: MIT Press, 2001, p. 118.

44. Because it led to his loss of security clearance and, indirectly, to his suicide, Turing's homosexuality is discussed mainly as an impediment to his continued work on the computer rather than as a motivating or structuring factor for the Internet.

45. See for example Florian Cramer, "Digital Code and Literary Text," Available online at: http://beehive.temporalimage. com/content_apps43/cramer/oo.html, 2001. Engaged in the Codeworks debates about the literariness of code, Cramer argues for a poetics of the Internet in the same manner I am arguing for a privileged critique of the same: "the theoretical debate of literature in digital networks has shifted, just as the poetic practices it is shaped after, from perceiving computer technology solely as an extension of conventional textuality ... towards

paying attention to the very codedness of digital systems themselves."

46. Jay David Bolter, *Writing Space: The Computer, Hypertext, and the History of Writing*, Hillsdale, NJ: Lawrence Erlbaum Associates, 1991, pp. 85-106.

47. Semiotics—that scientific examination of very science-method-unfriendly texts—seems the perfect paradigm for reading code. I imagine someone doing to Microsoft Office—or a portion thereof—what Roland Barthes did to the story of "Sarrasine" in *S/Z*.

48. One of the best articulations of this assumption is, oddly, a paper defending the Net as iconic in the Piercean sense. See Peer Mylov, "What is a Virtual Sign?" Available online at: http://www.hum.auc.dk/~mylov/What_is_a_virtual_sign.html.

49. Despite its materiality, the film apparatus is famously conceived as more a concept than a thing. See, again, Bazin, "The Myth of Total Cinema," and Jean-Louis Baudry, "Ideological Effects of the Basic the Cinematographic Apparatus," tr. Alan Williams, *Film Quarterly* 28, No. 2, Winter 1974-75, pp. 39-47.

50. The conventional semiotic model that best describes the relationship between code and software is probably Charles S. Peirce's notion of the index, both elements of which—the smoke and the fire—have a meaningful materiality.

51. Christian Metz, *le Signifiant imaginaire: Psychanalyse et cinéma*, Paris: Union generale d'editions, 1977.

52. Like Saussurean linguistics, Pierce's semiotic model is likewise unable to describe this self-effacement. Like code and spectacle, the signifier and signified are causally related. However, the signified does not of necessity efface its signifier. Smoke does not hide fire; the former simply indicates the existence of the latter.

53. The machine has repeatedly been a metaphor for the operation of culture and humanity in the twentieth century elsewhere than in Haraway, from Henri Bergson's essay on Laughter, *Le rire: essai sur la signification du comique*, Paris: Presses universitaires de France, 1989, to Gilles Delueze's and Felix Guattari's *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Minneapolis, MN: University of Minnesota Press, 1985. New technologies, however, have not been so widely deployed.

54. The WTO was founded in 1995, the same year that the G7 met in Brussels, largely for the purpose of deciding the future of the World Wide Web. Europa, The European Union web site, is founded then (European Communities, "The History of the European Union," Available online at: http://europa.eu.int/abc/history/1995/ 1995_en.htm). Alternatively, Bhabha's first two books argue against essentializing third-world countries, and instead encourage thinking in different ways about cultural *connectivity* between East and West. Bhabha's second book was published a year before the G7 meeting; his first book was published in 1990, the same year as the invention of the first World Wide Web browser, and the institution of the first hypertext system enabling connectivity on the Internet (Homi K. Bhabha, *The Location of Culture*, London: Routledge, 1994; Homi K. Bhabha, ed., *Nation and Narration*, London: Routledge, 1990).

55. Jürgen Habermas, "Modernity—An Incomplete Project," and Fredric Jameson, "Postmodernism and Consumer Society," both in *The Anti-Aesthetic: Essay son Postmodern Culture*, ed. Hal Foster, Seattle, WA: Bay Press, 1983, pp. 3-15 and 111-25, respectively. Though more persuasive writers like Lawrence Lessig suggest that legislation and legal decisions concerning the Internet support Jameson.

56. This is of course truer of open-source code than of Windows.

57. Walter Benjamin, *The Arcades Project*, Howard Eiland and Kevin McLaughlin, trans., NY: Belknap Press, 2002.

58. Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, New York: Random House, Vintage Books, 1973, pp. 42-43. Of course, this is a rather reductive historicizing because it does not take into account, for example, Romantic theories of the genetic relationship of language to things present, for example, in the work of Thoreau.

59. Walter Benjamin, "Franz Kafka," *Illuminations: Essays and Reflections*, Hannah Arendt, ed., NY: Schocken Books, 1968, p. 116.

60. Walter Benjamin, "Surrealism," *Reflections*, NY: Schocken Books, 1978, p. 192.

TECHNICAL MACHINES AND EVOLUTION

Belinda Barnet

> The reproducibility of the technical machine differs from that of living beings, in that it is not based on sequential codes perfectly circumscribed in a territorialised genome.[1]

How does one tell the story of a machine? Can we say that technical machines have their own genealogies, their own evolutionary dynamic? The technical artifact constitutes a series of objects, a lineage or a line. At a cursory level, we can see this in the fact that technical machines come in generations; they adapt and adopt characteristics over time, "one suppressing the other as it becomes obsolete."[2] So are we to understand this dynamic from a biological or a sociological perspective? I want to locate a dynamic in technics that stems neither from biology nor from human societies, which grants the technical object its own materiality, its own limits and resistances, which allows us to think technical objects in their historical differentiations. This calls for a new consideration of technicity, and a new consideration of the human being in relation to technics. The task will be difficult—"at its very origin and up until now, philosophy has repressed technics as an object of thought. Technics is the unthought."[3]

This essay will be a collection of notes towards such a perspective; it will be a prolegomena to the history of a technical machine, a history which is not included here and which has yet to be written. In this essay I will be exploring the work of Bernard Stiegler in relation to technicity and to human thought, but my task will not be to invert the history of philosophy itself, to "imagine the human as what is invented" by technics.[4] I do not wish to put forward a theory of human evolution. My intention is much narrower, or perhaps more jaded; I want to clear a space in which a technical object might evolve, and in which I might trace such an evolution.

Introduction

Niles Eldredge collects things for a living, and there are two great collections in his life. The public one is on display at New York's Museum of Natural History; its 1000 individual specimens stretch floor to ceiling for 30 metres across the Hall of Biodiversity.[5] There are beetles, molluscs, rotifers and fungi, spiders, fish and birds, all arranged into genealogical groups. The other collection is private; it spans an entire

wall in his home in rural New Jersey. This collection contains over 500 specimens, but of the "musical rather than the biological variety."[6] He collects cornets, a type of musical instrument. There are silver and gold ones, polished and matte, large and small, modern and primitive. Ever the biologist, Eldredge has them arranged in taxonomic relationships of shape, style and date of manufacture. Much of the variety in cornet design is based on the way the pipe is wound.

Late in 2002, Eldredge's curiosity got the better of him. He decided to feed these specimens through the phylogenetic computer program he uses for his trilobites, to apply the 'scientific method' to technical evolution for the first time. As usual, he asked the computer to come up with all the possible evolutionary trees and then make a 'best guess' based on the existing specimens.[7] The results were astounding. Compared to the phylogenetic diagram for trilobites, the diagram for a technical machine seemed much more 'retroactive'. Eldredge's musical instruments could defy the laws of evolution.

In the world of living things, there are basically only two ways creatures can obtain a characteristic: by inheriting it from a previous generation, or by evolving it in the present one. This last form of evolution is itself the subject of debate; an organism can't change its DNA in one lifetime (the only proven exception is found in the world of viruses). Biological organisms evolve gradually over hundreds of generations, subject to natural selection. They are dependent on the previous generation, dependent on the previous state of the system. If a species dies out—biological 'decimation'—its accumulated characteristics die with it. But technical machines are different.

> With cultural evolution comes the capacity to co-opt innovations at a whim. Time after time, when the cornets on one part of the tree acquired a useful innovation, designers from other branches simply copied the idea.[8]

In technical evolution, machines are not entirely dependent on the previous generation. They can borrow innovations from the past (retroactivate) or they can borrow from different branches of the evolutionary tree (horizontal transfer). As Eldredge put it in an interview with the author:

> By far the most striking feature of design history is the occurrence of alternative versions that cannot be said to emanate from any one pre-existing state [interview with the author, 2004

In Eldredge's diagrams, cornets that were relatively primitive seemed to co-opt innovations from different branches at a whim. If there was a particularly good innovation, then a 'burst' of rapid evolutionary activity would appear. The lines in the cornet evolutionary tree were thoroughly confused. Instead of a neat set of diagonal V-shaped branches, a 'cone of increasing diversity', you would see flat lines from which multiple machines appeared.[9] Flat lines do not characterise biological phylogenetic diagrams. When they appear, they imply explosive radiation. A flat line indicates that the gradual passage of time and generations has not preceded the development of a particular characteristic. It has happened spontaneously, with no physical precursor. This means that the cornet's relationship to time and inheritance is different than that of biological organisms.

Another striking feature of Eldredge's diagrams was that outdated or superseded machines could re-appear with new designs, as if they were held in memory and only needed a certain innovation to burst into activity again. This is what we mean by 'retroactivity.' Technical machines can reappear, borrow from each other across branches and then rapidly evolve in a single generation. In biological evolution, when branches

diverge, they diverge irrevocably; similarly, when branches die out, they cannot reappear. Technical machines are different. There is no biological decimation; nothing is irrevocable. Technical machines can operate on the past.

Technical structures, ensembles and channels are static combinations in which phenomena of retroactivity appear: by using the steam engine, the steel industry produces better steel, allowing in turn for the production of more efficient machines.[10]

This raises the question of technical 'memory', a topic we will explore in the next section. Why can technical machines retroactivate? What is the relationship of human thought to this? Is it humans that 'remember' previous generations of technical machines and transfer their characteristics between branches? If so, how and where do they remember them? Memory, and in particular technical memory, bridges "not just past and present, but outside and inside, machine and organism"[11] The question of time and inheritance—of memory—will be the leitmotif of this essay. It will be the question we pose to history. It will be the question that marks this theory of technical evolution.

Eldredge is also interested in memory and in technical evolution, but at this stage, he wants to warn against the indiscriminate use of Darwinian metaphors.[12] If innovations are taken from the past and spontaneously appear in another branch in which they have no physical precursor, this constitutes a break from genetic evolution. There is an evolutionary dynamic going on, but its rules of inheritance are not based on Mendelian genetics. We need another explanation for retroactivity, for horizontal transfer where there is no physical precursor. So I will be thinking the evolution of technical objects in terms of lineages and diagrams; but I will also be interested in precisely where this is different from biological evolution, where it exceeds the biological. Technical machines are ensembles in which phenomena of retroactivity appear, where there is a different relationship to time and inheritance, where there are different material limits and contingencies.

So we need to recognise a limit to genealogical metaphors. But the question remains: what is the relationship between human thought and technics? If there is technical 'remembering', then there must also be a mode of transfer and storage, and a place where this occurs.

> There is no archive without consignation in an external place which assures the possibility of memorisation, of repetition, of reproduction, of reimpression.[13]

Is this place inside or outside? If it is inside human memory, then how does it exceed our biological death as human beings? If it is outside, then where is it located precisely? The relationship between human memory and technics constitutes a tension, a tension that marks the break from genetic evolution. To explicate this tension, I will need to articulate a mode of passage, a logic. Eldredge does not provide one; as a scientist, he has simply pointed out that a dynamic exists, and that this dynamic is different to biological evolution. To articulate this logic, I will be using the innovative thinking of Jacques Derrida and Bernard Stiegler.

Derrida thinks the relation between humans and technics in terms of an 'originary supplementarity': human memory is a prosthesis of the inside. It is neither inside nor outside, but constitutes a 'relative interiority'. Stiegler's thinking may be seen as a radicalisation of this concept. Whereas Derrida is concerned to articulate the tension in terms of a 'logic', the logic of difference, Stiegler is concerned to articulate this logic in terms of its historical differentiations in different technical systems. The logic will only

appear in its differentiation; the "interiority is nothing outside of its exteriorisation."[14] This is why Stiegler will be useful to any material genealogy of a technical machine. It will give us descriptive purchase on this logic as it is articulated in technical objects. We will unpack this concept in more detail presently.

For the moment, let us return to the problem raised by Eldredge; technical machines break the laws of genetics. From his perspective, this is because they are subject to intelligent design. Part of the reason Eldredge created these diagrams in the first place was to prove to the Creationists that intelligent design has its own dynamic, and this dynamic is radically different to what we find in nature. Technical machines are invented; this is what distinguishes them from biological organisms. "[N]ot one product of art has the source of its own production within itself", as Aristotle put it two thousand years ago. [15] Or rather, technics do not have the capacity for self-production. Silicon does not automatically rise up into a computer. As an object, it must first be thought in the mind of a human, and then created.

Created objects and artefacts are what most readily come to mind when the word 'technology' is mentioned.[16] The domain of 'technics' is even more restricted; in general, it designates "the restricted and specified domain of tools, of instruments."[17] These objects are not a fact, but the result of human thought. In this sense, technical objects might be taken as by definition human fabrications. Humans create technics; technics do not pre-exist or constitute the human.

This understanding dominates the contemporary thinking of technics, and consequently extant histories of technical machines.[18] It is based on an opposition, an opposition as old as metaphysics. We must address this before any new theory of technical evolution can be discussed.

The aporia of origin: thought and technics

"At the beginning of history", asserts Bernard Stiegler, "philosophy separates tekhne from episteme", and to these two regions of beings two dynamics are assigned: mechanics and biology.[19] It is in the inheritance of this conflict that technical knowledge is devalued as mere supplement, and the human affirmed against the process of technicisation. Human thought (the philosophical episteme) is pitched against the sophistic tekhne (art or craft). At the time, these sophistic 'arts' were primarily mnemotechnics and writing—techniques of memory. To the ancients, they were a form of bastardised anamnesis, a mechanical incursion on thought. Human memory was "the noblest region of... personality"[20], an originary knowledge for which tekhne served as mere extension. Platonic philosophy was constituted on this opposition between human knowledge, which is transcendental, and technics, which lacks self-production. The reason it is separated is to account for the possibility of access to knowledge, or more precisely, an originary and purely human knowledge. It is the answer to an ancient aporia.

Aporia comes from the Greek aporos, "meaning, 'without issue', or 'without way'... that which thought cannotresolve or untie without forgetting the undecidability which structures the aporia."[21] It is a limit question, a question which is irreducible, and which will consequently reappear in every attempt at an answer. This particular aporia, Plato's Meno and the aporia of memory, is crucial to the history of philosophy[22] and also crucial to the history of technics.

What is human knowledge? Or more precisely, what is purely creative human knowledge? This would be the knowledge that humans draw upon to create technologies; it would not be inherent to the created object or artefact. So in a sense, it could not

be acquired by experience, as this would accord the object itself knowledge, if not agency. It would need to be uncontaminated by technics at the beginning. But this presents a problem—a problem encapsulated in an address by Meno to Socrates in his discourse on the essence. The problem is that such knowledge is impossible. The question is actually formulated in response to Socrates' attempt at founding a human value (Virtue) in the human, as opposed to something acquired in the outside world of objects and experience:

> How will you look for something when you don't know in the least what it is? How on earth are you going to set up something you don't [already] know as the object of your search?[23]

Socrates, in response, rephrases the aporia to highlight the problem:

> [A] man cannot try to discover either what he knows or what he does not know. He would not seek what he knows, for since he knows it there is no need of the inquiry, nor what he does not know, for in that case he does not even know what he is to look for.[24]

This aporia is taken up and resolved by Socrates through the myth of reminiscence.[25] Man has access to an originary knowledge, to an originary memory acquired before the fall. Man already knows what he does not know—it's just that he has forgotten it. Knowledge is an unveiling, a remembering. Human memory is transcendent.

> Thus the soul, since it is immortal and has been born many times, and has seen all things both here and in the other world, has learned everything that is.[26]

Thus, argues Stiegler, the aporia is settled in terms of an opposition. Thought has the principle of its creation, of its movement (arkhe), within itself, and this transcends the world of objects. The human being does not receive its knowledge from the outside world, from the finite world of objects, but finds it again and again within himself. The myth of reminiscence thus institutes metaphysical oppositions between soul and body, thought and technics, infinite and finite. For our argument concerning technical objects, this myth places the act of creation squarely on the shoulders of human beings who have access to an originary knowledge, uncontaminated by technics, and consequently by finitude, in the beginning. The history of a technical machine would thus be the history of pure invention, of human beings who have access to a transcendent memory.

This is precisely the divide that Stiegler, and also Derrida, problematise. Derrida argues that memory is always already contaminated by technics. The prosthetic already-there: this is what the myth of reminiscence 'forgets'. Stiegler argues that the prosthetic already-there constitutes a break with genetic evolution; and not only this, it is a break which constitutes the human. Both philosophers put the idea of pure human memory into crisis, and consequently the idea of any access to a realm of thought uncontaminated by technics.

To return to our original question: how does one write the genealogy of a machine, and where would human beings figure in this diagram? It is impossible to deny the role of human thought in the creation of technical artefacts. But where does the knowledge required to create these artefacts come from? Plato maintained that creative knowledge is transcendent, that it is uncontaminated by the world of experience (and by

extension, the technical object itself). Creative knowledge doesn't come from the world of objects. To deny a transcendent human memory is to reinstate the ancient aporia: purely human knowledge becomes impossible.

So for now, we should rephrase our question.

> It is impossible to deny the participation of human thought in the essence of machinism. But up to what point can this thought still be described as human?[27]

This, then, will be the subject of the next section. But we will approach it from a different angle, in order to question the relation of memory to technics, and also to question where these memories come from. Is it humans that remember previous generations of machines, and where are these memories stored? We will approach it from the perspective of evolution.

Epiphylogenesis and the aporia of memory

> Humans die, but their histories remain. This is what distinguishes them from animals.[28]

Death is the radical effacement of memory. It is the erasure of our personal experience, our personal histories—and it is an inevitability that we are aware of. We cannot take death away from each other, any more than we can take upon ourselves someone else's death. Death cannot be transferred, nor can we deliver ourselves from it. It is our "first and last responsibility"[29], and it is this question and this awareness which mark us as human. We are finite beings.

Our awareness of death is what drives us to create archives, technologies of retention and storage. We leave traces of ourselves and our experience in other people's memories, in the memories of our children; but also in the nonliving—in writing, in objects and artefacts, on cave walls, in woven rugs and on computer screens, in language and culture. We leave traces of our experience outside ourselves as individuals, traces that will not be lost when we die, but will remain.

> Among these traces most have in fact not been produced with a view to transmitting memories: a piece of pottery or a tool were not made to transmit memories, but they do so nevertheless, spontaneously. Which is why archaeologists are looking for them. Other traces are specifically devoted to the transmission of memory: for example, writing [and] photography.[30]

Bernard Stiegler argues that these inscriptions comprise a structure of inheritance and transmission, a structure that accumulates with each successive generation. It is a structure which exists outside our own genetic limitations, outside the finite lifetime of the individual, but which nonetheless carries in it our collective wisdom: the ideas and experiences that we have had, the techniques that we have learned, the tools and artefacts that we have created. For Eldredge, this is what we mean by the word 'culture'. Culture is but a series of memorials. In fact, it is a gift to others—the gift of death.[31]

Importantly, this structure of inheritance and transmission, the material it contains, is not inherent to us. We are not born with it; it is not a genetic memory. It is inscribed and transmitted outside our genetic programs. In other words, we are born into it, we acquire it through experience. In is in this sense that Stiegler calls the structure epigenetic—it

exists outside and in addition to the genetic, like a surrounding layer. This is a word in use by the scientific community as well, to designate "those characteristics inherited outside of genetic encoding and transmission."[32] We will be using it in the same sense, to designate that which is not coded for in our genes, but which we acquire.

To acquire something outside our genetic programming, then, this thing must exceed the biological. The epigenetic structure must pre-exist us; it must exist beyond our short lives to be subject to inheritance and transmission. We are born into it; it was here before us and it will continue after us. This is what Heidegger calls the already there, this "past that I never lived but that is nevertheless my past, without which I would never have had a past of my own."[33] Language is a perfect example. It is not genetic; it is acquired, and yet it has its own history, its own genealogy, its own memory that exceeds the individual. In entering into language, it creates a past for us, and we acquire this past, which we continue as our own. We might call this acquisition an 'event'. It becomes the interface through which we enter into relation with the world. So when we are born, we acquire something that we have not individually created but which, nevertheless, shapes our experience of the world. And unlike the plant and animal kingdom, this acquisition, this epigenetic event, is not lost when we die. In the case at hand, observes Stiegler, life conserves and accumulates these events. [34] There is history, there is culture, and there are the artefacts which carry them beyond our death—technics.

Consequently, Stiegler demarcates a third structure, the structure which stores and accumulates our individual epigeneses, which exists beyond our own central nervous systems, beyond our individual genetic and epigenetic memories. This contains what we are for the moment calling culture (past epigenetic events, lessons of experience), but also what we are calling technical artefacts. The structure is at once our own and also transcendental: it is larger than ourselves. It is a store, an accumulation, a sedimentation of successive epigeneses, a thing which evolves, which has its own historicity and dynamic.[35] Far from being lost when the individual human dies, it conserves and sediments itself. Stiegler calls this the epi-phylo-genetic structure, implying by that terminology a material genealogy proper to it.

So he distinguishes here between three types of memories out of which the human develops:

> Genetic memory; memory of the central nervous system (epigenetic memory); and techno-logical memory [epiphylogenetic memory].[36]

Stiegler locates or amalgamates 'language', 'technics', 'technique' and 'technology' within this third type of memory, epiphylogenesis. Not because they are of an essence, but because they are all forms of memory support; they are forms of inscription, transmission and ultimately, transcendence. They are larger than ourselves; they exceed our death as human beings. Technics, however is afforded a special place here; although in common parlance it designates tools and instruments, Stiegler also uses the term in the Greek sense (tekhne). In other words, it designates skill, art and craft. Technical objects are the result of the transmission of these operational chains, which are transformed in time as artefacts. Language itself is also a technique, a skill, a mode of transmission—and thus it is a form of technics.[37] Technics, for Stiegler, are always memory aids—whether they have been created explicitly so (for example, language or photography, which are mnemotechnics) or not (pottery and rugs). This is what he

means by epiphylogenesis.

Epiphylogenesis, then, designates a new relation between the human organism and its environment. It is technics, as the support of the inscription of memory, which is constitutive of transcendence. The biological human, with its genetic and epigenetic memory, dies. This is the paradox of Man: "a living being characterised in its forms of life by the nonliving"[38], by its relation to death. In other words, epiphylogenesis gives human beings access to transcendence, and thus to time. It is finitude, our constitutive finitude as biological humans (which the myth of reminiscence 'forgets') that propels man to invent himself within this structure. But at the same time, this structure transforms the human as much as it is transformed by it. In Stiegler's terms, the 'what' (technics) invents the 'who' (humans) at the same time that it is invented. Neither term holds the 'secret' of the other—neither term is originary. In this way, Stiegler develops Meno's aporia into an inextricable relation; it is our inscriptions in the nonliving, in what is dead (technics) which constitutes transcendence.

I will retain several of these concepts in my nascent theory of technical evolution. Firstly, the concept that technics is a memory aid—and that, unlike pottery or woven rugs, there are certain forms of information storage, communication and display that are also mnemotechnical systems: like the internet, or writing. That this memory aid is in itself nonliving, that it exceeds the biological, will also mean that its description must be of a different order to the biological. There will be a limit to Darwinian metaphors, as Eldredge put it. Technics constitutes its own domain, it has its own relationship to time and inheritance, its own dynamic radically different to what we find in nature.

Consequently, any genealogy of a technical machine will need to recognise that the 'intellectual capital' of the societies in which particular technologies evolve belongs properly to this dynamic. The discourses surrounding the evolution of specialised techniques and procedures (for example, computer engineering), form a part of this system; they are not 'purely' human, as they exceed the biological. They are systems which humans enter into and take on as their own, which are transformed in time as technical artefacts. Together, technics, technique and language constitute a third layer. This is what Stiegler means by epiphylogenesis.

Next, we need to ask how the passage to this 'third layer' is effected. What is the process of 'liberation' that memory pursues? And in an even more practical sense, how do particular elements of a technical system retroactivate or transfer themselves to other systems within this structure?

This emphasis on transfer and retroactivity will distinguish my theory of technical evolution from Stiegler's; Stiegler recognises these two phenomena, but subsumes them back into the logic of epiphylogenesis, the preservation in technical objects of epigenetic experience. I wish to draw them out as the dynamic which distinguishes technical phylogenesis. According to Eldredge's diagrams, the phenomena of horizontal transfer (or 'lateral exchange') and retroactivity must be the basis of any theory of technical evolution, if we wish to capture the difference between technics and biology. In the following section I will look at how Leroi-Gourhan, Guattari, Simondon, Gille and also Stiegler approach this dynamic.

The dynamics of technical evolution: tendencies and systems

To account for the passage from the genetic to the non-genetic, Stiegler draws on the work of French anthropologist Leroi-Gourhan. In his book *Gesture & Speech*, Leroi-Gourhan proposes that the evolution of man is characterised by a 'freeing of memory'—the exteriorisation of human capacities and genetic traits (what he calls 'organs') into technics. For Leroi-Gourhan, this process silently propels our evolution as a species.

> The whole of our evolution has been oriented toward placing outside ourselves what in the rest of the animal world is achieved inside by species adaptation. The most striking material fact is certainly the "freeing" of tools, but the fundamental fact is really the freeing of the word and our unique ability to transfer our memory to a social organism outside ourselves.[39]

From the appearance of Homo Sapiens, the constitution of this external social memory dominates all problems of human evolution.[40] Technology has, in this sense, created the human as a species; humanity is nothing but a process of 'exteriorisation', a process in which our access to time and culture is accomplished through external supports which transfer our memories. Tools are 'exuded' by humans in the course of their evolution; they spring, literally, from the nails and teeth of primates, and in turn give us an non-genetic advantage over other species, who are condemned to hunt without weapons, to feel the cold against their skin without clothes. As a species, we are characterised by our physical and mental non-adaptation. Our memory is transferred to books, our "strength multiplied in the ox, our fist improved in the hammer."[41] For Leroi-Gourhan, we can trace all contemporary technologies back to this process of exteriorisation. Tool and gesture are now embodied in the machine; operational memory (technique) now embodied in automatic devices; the capacity to correlate recollections in the punched-card index.[42]

Consequently, Leroi-Gourhan understands technological evolution as a relation of the human to matter, where the human exteriorises technical forms. Further to this, he contends that technics is itself in perpetual transformation; it evolves in its organisation. It is at once its own milieu, separate from that of the human animal. This evolution is parallel to the evolution of the human, but it also organises itself. We can see here the inspiration behind Stiegler's concept of epiphylogenesis; there is a systematicity to the evolution of technics, a kind of techno-logic which is not entirely human. For Leroi-Gourhan, there is an inherent dynamism to technics, itself productive of new lineages and machines. When we look at particular machines in retrospect, it would appear that they were inevitable in some sense; as if they were guided by 'archetypes'.

> Everything seems to happen as if an ideal prototype of fish or of knapped flint developed long preconceivable lines...from the fish to the amphibian, to the mammal, or to the bird, from form-undifferentiated flint to the knapped tool, to the brass knife, to the steel sword.[43]

Everything seems to point to a universal technical 'tendency'. This tendency is the essence of technics; there is a necessity proper to it as a milieu. Consequently, the evolution of technics will have its own phylogenetic limits; as in the evolution of biological animals, there are only a given number of possibilities. Differentiation, the creation and development of new machines, artefacts and tools, is silently propelled by technical tendencies down certain lines. For Leroi-Gourhan, the human inventor is always guided by archetypes. He is but a combinatory genius[44], selecting from and giving culturally specific embodiment to these archetypes. Technical continuity, its evolution as a milieu, is transcendent. This continuity, and its presence as archetypes, excludes "pure invention, ex nihilo."[45] So the human has a particular relationship to technics—that of exteriorisation—but at the same time, the technical milieu has its own dynamic which guides the process of invention itself, which exists beyond and before the inventor. The inventor is moved by technical tendencies.

The concept of allocating technics its own tendency is not new. Numerous theorists have explored technology from this perspective; among them, Guattari (1995), De Landa (1994), and even earlier, Simondon (1958), whose concept of the progressive 'concretization' of technics is important for the development of Stiegler's argument. For Simondon, the technical artefact constitutes a series of objects, a lineage or a line; at a cursory level, we can see this by the fact that machines appear across generations. At the origin of the lineage is a synthetic act of invention, constitutive of a technical essence.[46] This essence is recognised by the fact that it remains stable throughout the evolutional lineage, and not only stable, but productive of new structures and functions by progressive saturation. Machines speak to machines before they speak to man, as Guattari puts it[47], and the language is not human.

But Leroi-Gourhan's technical tendency is universal; it is transcendent. And if there is a universal logic driving the evolution of technics as a system, how can we explain technical diversity? Evolution is all about diversity; it is in fact only in the process of differentiation that the logic of evolution is discovered. Similarly, Stiegler maintains that it is only in technical differentiation that the logic of epiphylogenesis can be discovered. For Stiegler, there is no 'ghost' in the machine, no platonic essence we are striving towards. "The organizing principle of the technical object is in this object qua tendency, aim and end."[48]

Confronted with diversity, Leroi-Gourhan posits two other dynamics at work at the lower, "ethnic" level, which diffract or instantiate the technical tendency: invention and borrowing. Invention, of course, does not occur in a vacuum; it is guided by technical archetypes. The inventor is really just combining the best technical forms for its realisation. Similarly, borrowing—from other cultures, from existing technical forms—is guided by archetypes. In fact, as Stiegler points out,

> Whether this evolution occurs by invention or by borrowing is of minor importance, since this....in no way contradicts [the] systemic determinism in its essence.[49]

What is important for Leroi-Gourhan is whether or not the invention is acceptable and necessary to that group of people. Human societies have a "characteristic capacity" to "accumulate and preserve technical innovations"[50], and also to discard or forget them. This is connected with his concept of the social memory. To put it simply, technical objects are either stored or they are forgotten. In a sense (and here I am diverging from Leroi-Gourhan's thesis) society constitutes an 'adaptive pressure' on the technical lineage. An invention is either taken up or it dies.

But how far can we take this essentially zoological analogy? For at base, technical evolution marks a break with genetic evolution. At some level, and at some point, the analogy must stop. For Eldredge, as we have seen, it stops at intelligent design. So how are we to understand this dynamic - from a biological, a zoological or a social perspective? For Leroi-Gourhan, the dynamic is essentially zoological.

Stiegler wants to abandon the zoological metaphor altogether. He wants develop a theory of technological evolution which is not the 'partner' of animals, of society or of human beings. It is not the partner of any other system. For Stiegler, the technical object lays down its own laws; its logic is entirely and radically its own, and it is to be discovered only in its historical differentiations. The inventor, for Stiegler, is not even a 'combinatory' genius; if he exists at all, he is but a passive observer, reading a message that already exists in the technical object. But before we come to Stiegler's thesis, I would like to conclude this section by briefly exploring the work of Bertrand Gille.

Gille's work describes the transfer of technical functions between technical systems, and also the transfer of technical knowledge between human beings. It has a pragmatic aspect to it, and although it does not mobilise this 'tension' which exists between human beings and their memory supports as a productive logic, it is useful on a diagrammatic level. Like Leroi-Gourhan and De Landa, he accords technics its own dynamic, yet he articulates this dynamic in relation to those 'other' systems—social, economic, industrial, cultural and political. For Gille, these other systems are not mere afterthoughts, they do more than locally diffract a universal technical tendency. They at once shape, and are shaped by, the technical system itself. In fact, these 'other systems' belong properly to it.

The notion of a 'technical system' belongs to Gille—it exists in various forms in other authors' work, but it is not used explicitly.[51] So far in this essay, I have been using the term to refer to a lineage of technical artefacts. For Gille, however, a technical system does not end at the physical boundaries of a particular technology; it includes a number of interdependencies, related systems which have stabilised in a particular historical epoch, solidified around this technology. These include its related social, industrial and economic systems, and also a system of associated 'techniques'—means for the practical application of knowledge.[52] Techniques are what is transferred between technical systems. The technical system is a constellation of interdependent systems, and these move towards a progressive solidarity. The concept gives us descriptive purchase on the dialogue taking place between constitutive systems in any given historical epoch.

Integral to this concept of the system is that it will have its own limits. The limits of the system order its dynamism. Limits will take a variety of forms, and it should be possible to develop an historical schema to determine these. They can be detected in "the problem of increasing quantities, or in the impossibility of reducing production costs, on in yet another impossibility, that of diversifying production."[53] Such limits in turn can be either endogenous or exogenous to the system itself; exogenous limits can come in the form of government policy or taxation law, for example, and endogenous limits in the form of technical obsolescence within its component parts.

For Gille, technical progress consists in a successive displacement of these limits. When there are enough limits to a system, the entire system becomes 'blocked' and a major crisis ensues. A decision to evolve takes place, to move to a new technical system. "There are two essential poles of 'technical progress': the technological lineage on the one hand, and technical blockages on the other."[54] New technical systems are born from the limits of preceding systems, and hence progress is essentially (and brutally) discontinuous. Systemic shifts mean the rapid loss, and also the creation, of entire political and socio-economic structures. The technical system moves faster than the other systems, and a period of 'adjustment' ensues, which progressively stabilises. Stiegler has a problem with this last point; for him, the contemporary technical system does not appear to be stabilising. Are we not living through a period of permanent adjustment, he asks? This is the nature of modern teletechnologies.

For now, we have one last point to address: the way in which transfer and retroactivity take place within andbetween these technical systems. For both Gille and Leroi-Gourhan, this is the role of human thought, this is the role of the inventor. The inventor is not a divinely inspired genius, however; he or she is a 'combinatory' genius, selecting the best technical forms effected along limited combinatory possibilities, to embody a technical tendency. For Gille these possibilities are even further limited by economic and social systems: "the inventor has less importance than the entrepreneur who decides and establishes the junctions between families of innovations."[55]

But regardless, the combinatory act itself requires a unique perspective on the part of the inventor; the ability to see the technical phylum from a more global level. It requires a degree of foresight, an awareness of what exists and what does not exist, of what is possible at this point in time. This is what Stiegler means by the word, 'anticipation.' The inventor anticipates new technical forms from limited possibilities within a particular technical system and a particular historical epoch.

Manuel De Landa has a similar conception of the human inventor: the inventor is not a divinely inspired genius, he or she is "influenced by certain machinic paradigms that [are] prevalent at the time."[56] Such paradigms are analogous to Gille and Leroi-Gourhan's technical tendencies, though these tendencies are not transcendent as they are for Leroi-Gourhan. The machinic paradigms are immanent to the objects themselves, a concept we shall explore in the next section. They have an element of reality to them nonetheless, and the inventor literally "tracks" the machinic phylum to detect critical points which indicate potential bifurcations.

> [A] robot historian would see processes in which order emerges out of chaos as its own true ancestors, with human artisans playing the role of historically necessary 'channelers' for the machinic phylum's 'creativity.'[57]

So the human inventor has been sidelined, and technics itself has taken on its own dynamic. Human thought merely selects the best possible forms for the realisation of technical tendencies: he 'channels' them in the manner of a medium (De Landa) or "combines" in the manner of a bricoleur (Gille and Leroi-Gourhan). He anticipates technical forms.

> Between humanity and nature a techno-geographical milieu is created which only becomes possible with the help of human intelligence...an inventive function of anticipation found neither in nature nor in already constituted technical objects.[58]

To return to our original diagram, and the break from genetic evolution—retroactivity and horizontal transfer are processes that take place within human thought and human thought alone. They also take place from a privileged perspective, a perspective which is closer to the machine, which has a more 'global' view of the combinatory possibilities and the technological lineage. The engineer or the scientist, for example, is closer to the machine; they have a privileged perspective on the lineage in this sense.

Anticipation and the technical object

But does this capacity of anticipation not itself presuppose the technical object, asks Stiegler?[59] Think of the discourses describing and explaining technical processes (engineering discourse, for example)—do these not presuppose the technical object?

In fact, they not only presuppose the object itself; they presuppose its past, its current state, its limits and its possibilities. Technical objects belonging to different 'branches' of the evolutionary tree and 'dreamed-of' technical objects are part of the same evolutionary structure. The privileged perspective, in this sense, is not purely human. Anticipation is itself a technique, acquired like any other. As Guattari puts it, technico-scientific thought, the ability to use or create technical artifacts, presupposes a "certain type of mental or semiotic mechanism"[60], and this mechanism is itself inherited. For example, the invention of the first third generation computer language presupposed not only the computer

itself, but an extant machine language, an extant assembly language, an extant 'natural' language, the limits and the logic for combining these, and the technical necessity for combining them.

As Eldredge put it in an email to the author:

> One of the craftsman I have used to restore my cornets started out as an apprentice in the German company Alexander Gebr. For the first year, he got there before dawn, lit the fire, swept up and, I guess, made the coffee. He wasn't allowed to touch anything for that entire first year—and then was given the simplest of tasks. By degrees he was taught all the intricacies of how to make a trumpet from sheets of brass—and by the end of his five year apprenticeship, he was a master trumpet builder. Put another way, the best cornetist who ever lived never heard of a cornet, much less saw or played one. You have to live in a place where cornets have already been dreamt up and manufactured, and music conceived for cornetists to play [61]

Knowledge of technical objects—how to use them, how to create them, and how to 'improve' them—is itself inherited.

Stiegler takes this argument further: if it is explicitly as technical consciousness that man invents himself, and it is within this consciousness that anticipation of the technical object occurs, then the technical object is anticipated by none other than itself. This is what he means by epiphylogenesis. The epiphylogenetic structure is not engendered by the human subject in the course of its evolution, as it is for Leroi-Gourhan, it is "engendered by the object in the course of its evolution."[62] Technics has engendered its own milieu, and this milieu both describes its past and circumscribes its future.

To return to our argument from the last section: retroactivity and transfer appear as none other than anticipation itself, the process of invention within circumscribed trajectories. They are not a 'problem' for technical evolution; they are its mode of inheritance, a techno-logical maieutic. Stiegler, then, is pushing this concept further; the ability to anticipate presupposes the technical object in that anticipation is itself a discourse, an acquired technology. This calls for a new definition of technology; technology is:

> ...therefore the discourse describing and explaining the evolution of specialized procedures and techniques, arts and trades—either the discourse of certain types of procedures and techniques, or that of the totality of techniques inasmuch as they form a system: technology is in this case the discourse of the evolution of that system.[63]

The definition necessitates, in my hypothetical genealogy of a technical object, an appreciation that the discourses describing and explaining specialised techniques and procedures (engineering discourse, for example) both anticipate and mark a limit to the technical object. It also necessitates an awareness of what has already come to pass, and how this past circumscribes any future object. In our theory, we will keep the inventor's role, but it will be qua an actor listening to cues from the object itself, "reading from the text of matter."[64] The inventor will be situated between heterogeneous Gillean systems: economic and political discourse, industrial discourse; but most importantly, the inventor will be situated within the evolution of technology itself.

De Landa has a similar project: to explore the history of intelligent machines from the perspective of the machines themselves, to trace the externalisation of mental or semiotic processes which are themselves already techno-logical. This transfer will take place within an extant technical system. He posits the figure of a 'robot historian' tracking the machinic phylum for 'bifurcation' points:

> [the robot historian] would, for example, recognise that the logical structures of computer hardware were once incarnated in the human body in the form of empirical problem-solving recipes....these may then be captured into a general-purpose, 'infallible' recipe (known as an 'algorithm'). When this happens we may say that logical structures have 'migrated' from the human body to the rules that make up a logical notation (the syllogism, the class calculus) and from there to electromechanical switches and circuits.[65]

This concept of a 'traceable' migration path from humans to technical objects is quite similar to Leroi-Gourhan's concept of exteriorisation, the freeing of memory. Yet De Landa does not offer a logic for the human drive to invent ourselves in the technical; nor does he offer a specific explanation of how technical phyla are different from biological phyla. It is precisely these differences which will be of interest to us, and it is precisely these differences which have in fact given us the logic of technical remembering (epiphylogenesis).

So we have established a logic to articulate the evolution of a technical object. But one question remains—what is a technical object? For both Eldredge and Stiegler, this is a crucial question.

Defining the technical object: form, function and operational process

Niles Eldredge demarcates lineages for his trilobites on the basis of shell shape. Certain shapes emerge at certain points in time, and these shapes diverge irrevocably into different branches of the phylogenetic diagram. This technique is called comparative anatomy, and it works under the assumption that similar morphological structures in different organisms have a common evolutionary origin. Aside from comparative anatomy, there are several other ways to determine evolutionary relationships: comparative embryology, molecular, behavioural, physiological, chemical and fossil data are also used. A particularly popular technique involves DNA sequencing, which compares the precise sequence of nucleotides in two samples of DNA.

This is how biology builds the concept of a species. It locates certain recurrent and inherited characteristics that distinguish it from other species. For example, human beings have 46 chromosomes, we have an upright posture and a pronounced temporal cortex. This distinguishes us from chimpanzees, who have 48 chromosomes and a smaller brain. For certain biologists (Eldredge and Stephen Jay Gould in particular) you can hence call the resulting species an 'entity'—a large-scale system. The individual is nothing outside of its history and its inherited characteristics.

> What we're saying is that species are entities. They have histories, they have origins, they have terminations, and they may or may not give rise to descendent species. They are individuals in the sense that human beings are individuals, albeit very different kinds of individuals. They're large-scale systems that have an element of reality to them, and that's a big departure in evolutionary biology.[66]

But to regard a species as a large-scale system, biologists must necessarily assume that particular morphological or genetic characteristics constitute its unity. These characteristics are inherited by each generation, they become 'entrenched', they constitute a lineage or a line.

The analogy cannot be so easily transferred to technical machines, however. If we define technical lineages by their form (as Eldredge has done by collecting a particular kind of musical instrument based on the way the pipe is wound) then the lines become tangled. The form is simply not maintained in any sensible fashion over time—it jumps around and changes depending on the technical innovations available to it. The bell jumps from right to left, the valves change from the earlier Stolzel form to the later Perinet form. It becomes difficult to "rank them in any sensible order of ancestors and descendents."[67] The same applies to computing, for example. If we define a computer by its form—an electronic machine conveying information encoded as binary logic across silicon circuits, then the analogue computers from the late 30's and early 40's seem completely unrelated. They used neither silicon nor binary logic, and were based on brass gears, wheels and shafts that had more in common with Eldredge's cornets.

If we define a technical lineage based on function, the problem recurs. Let's return to computing as an example. At the end of the nineteenth century, the word 'computer' meant a human operating a calculator. Early in the twentieth century, these 'computers' became large group of mostly female humans performing mathematical calculations by hand or on slide rules, housed in large warehouses.[68] At the time, these groups were organised for one express purpose: to perform calculation-intensive operations for the military, primarily ballistic analysis and the creation of artillery ranging tables. The 'function' of a computer was to produce mathematical data for the military. This changed radically over the next 50 years, going through several stages I do not have time to elaborate here. The result today is that a computer has a multitude of different functions—the very least of which is the production of artillery ranging tables. For a start, computers are personal devices that manage and create our everyday working environment. They are nodes in a greater network—the internet. They are the engines of a new form of capitalism, and arguably, a new social order. The list goes on, but the fact remains: the function of the 'computer' has changed beyond recognition since the turn of the twentieth century. To trace a phylogenesis based on human function would result in a greater mess than Eldredge's retroactive cornets.

So if we can't trace a lineage based on form or function, how can we distinguish one technical system from another? As Eldredge himself discovered by applying the scientific method to technical evolution for the first time, there is an undeniable evolutionary dynamic going on. Technical machines come in generations, they transform themselves in time, they adapt and adopt characteristics. We have established that this dynamic is not genetic, that its mode of transfer in fact constitutes a break from genetic evolution. We have established that this break revolves around transfer and retroactivity. We have demarcated a 'third milieu' to which both the technical artefact and techno-logical memory belong, based on Stiegler's concept of epiphylogenesis. But the problem remains: which entity, or which group of 'characteristics' are we tracing here?

For Gilbert Simondon, we need to understand the genesis of technical objects independently of the human functionings which establish use behaviour. For if one seeks to establish a lineage based on use "no set structure corresponds to a defined use."[69] The object will invent itself independently of any fabricating intention. For example, Tim Berners-Lee invented HTML to organise the text documents of a single corporation—CERN. It is now the lingua franca of a global mnemotechnical system, the Internet,

and its uses have proliferated beyond Berners-Lee's wildest dreams. It has adapted and evolved, and it has both incorporated and engendered new functions and new material technologies in the process.

The uses and functions of a technical object can never be known, these will only be realised in the evolution of the object itself. The technical object is not concrete, it is not determined in its uses. This is why the influence of 'working prototypes' on the engineering community is so important; the fabricating intention has little relationship to the object itself, and it is the object as a working prototype that will engender new structures and functions. Technical machines, maintains Simondon, evolve by a process of functional overdetermination. After they have been given a materiality, after the "synthetic act of invention" has taken place,

> each component in the concrete object is no longer one whose essence is to correspond to the accomplishment of a function intended by the constructor, but a part of a system in which a multitude of forces operate and produce effects independently of the fabricating intention.[70]

Subsequent evolution is accomplished by a process of 'concretization,' the condensation of various functions in a single structure oriented toward efficiency: the base of a light bulb must seal it for operation within a certain range of temperatures and pressures while also fitting in standard sockets[71] But we are still left with a problem: how do we identify the lineage of machines themselves? How do we identify their family resemblance?

In evolving, the technical object constitutes a series of objects, a lineage or a line. This lineage, of which the synthetic act of invention is the ancestor, cannot be identified by a particular material form or human use. For Simondon, it can only be identified by a group of procedures or processes that remain stable throughout the evolutional lineage. It is these procedures, implemented in the most diverse domains of use, that constitute the unity of the lineage. This is why there is more real analogy between "a spring engine and a crossbow than between the latter and a steam engine."[72] Both are implementations of procedures to work with tensile forces, both are the externalisation of an originary heuristic. There will be a variety of such procedures embodied in any given object—it is not a matter of locating one. Nevertheless, that which resides in machines is certainly only "human reality, the human gesture set and crystallised into functioning structures."[73] To demarcate a technical object or family of objects, one must first locate these procedures and processes.

So where does this leave us in our prolegomena to the history of a machine? After Eldredge, we have established that technical objects transform themselves in time, they engage in horizontal transfer and retroactivity. After Stiegler, we have established that this dynamic constitutes a break from genetic evolution, and that this break in turn constitutes its own milieu. We have defined the technical object based on a group of techniques or processes that have remained stable throughout its evolutional lineage. And after Leroi-Gourhan and De Landa, we have suggested that these techniques originate in human processes, human processes which are themselves already technological. The family resemblance will only be seen in the workings of the technical object itself, and not its intended human function. However, any technique, once externalised into technical artifact, will engender new structures and new techniques. If a technique may be defined as itself a technical being, then its incarnation qua material artefact may be seen as "the being passing out of step with itself"[74], a becoming individualised.

What remains to be created is a practical example of this theory, the story or the diagram of a particular technical machine. This story has yet to be written.

Notes

1. Guattari, Felix. *Chaosmosis: an Ethico-Aesthetic Paradigm*, trans. P. Bains & J. Pefanis, Sydney: Power Publications, 1995, p. 42.

2. Guattari 1995, p. 40.

3. Stiegler, Bernard. *Technics and Time, 1: The Fault of Epimetheus,* Stanford, California: Stanford University Press, 1998, p. ix.

4. Stiegler 1998, p. 134.

5. Walker, Gabrielle. "The Collector," *New Scientist*, 26 July 2003, p. 38.

6. Walker, p. 38.

7. Walker, p. 38.

8. Walker, p. 40.

9. Walker, p. 41.

10. Stiegler 1998, p. 31.

11. Sutton, John. *Philosophy and Memory Traces*, Cambridge: Cambridge University Press, 1998, p. 4.

12. Eldredge, cited in Walker, p. 41.

13. Derrida, Jacques. *Archive Fever: a Freudian Impression*, trans. E. Prenowitz, Chicago: The University of Chicago Press, 1996, p. 11.

14. Stiegler 1998, p. 152.

15. Cited in Stiegler 1998, p. 1.

16. Mitcham, Carl. *Thinking Through Technology: The Path Between Engineering and Philosoph,* Chicago: The University of Chicago Press, 1994. p. 161.

17. Stiegler 1998, p. 93.

18. Stiegler 1998, p. 14.

19. Stiegler 1998, p. 2.

20. Plato, cited in Darren Tofts Tofts, *Memory: Trade, a Prehistory of Cyberculture* Singapore: Stamford Press, 1998, p. 58.

21. Beardsworth, Richard. "Towards a Critical Culture of the Image—J. Derrida and B. Stiegler, Echographies de la télévision," in *Tekhnema 4* Available online at: http://tekhnema.free.fr/4Beardsworth.html, 1988.

22. Stiegler 1998, p. 98.

23. Meno to Socrates, cited in Stiegler 1998, p. 97.

24. Socrates, cited in Stiegler 1998, p. 98.

25. Beardsworth.

26. Socrates, cited in Stiegler 1998, p. 99.

27. Guattari 1995, 36.

28. Stiegler, Bernard. "Our Ailing Educational Institutions" in *Culture Machine 5*, Available online at: http://culturemachine.tees.ac.uk, 2000.

29. Derrida, Jacques. *The Gift of Death*, Chicago: University of Chicago Press, 1995. p. 44.

30. Stiegler 2000.

31. Derrida 1995.

32. Cohen, Philip, "You Are What Your Mother Ate," *New Scientist*, Issue 04, August 2003, p. 14.

33. Stiegler 1998, p. 140.

34. Stiegler 1998, p. 177.

35. Stiegler 1998, p. 140.

36. Stiegler 1998, p. 177.

37. Stiegler 1998, p. 94.

38. Stiegler 1998, p. 50.
39. Leroi-Gourhan, *Gesture and Speech*, trans. A. Bostock Berger, Cambridge: MIT Press, 1993. p. 236.
40. Leroi-Gourhan,, p. 229.
41. Leroi-Gourhan, p. 246.
42. Leroi-Gourhan, p. 264.
43. Leroi-Gourhan, cited in Stiegler 1998, p. 45.
44. Stiegler 1998, p. 36.
45. Leroi-Gourhan, cited in Stiegler 1998, p. 61.
46. Stiegler, 1998, p. 77.
47. Guattari, p. 40.
48. Stiegler 1998, p. 79.
49. Stiegler 1998, p. 52.
50. Leroi-Gourhan, p. 10.
51. Stiegler 1998, p. 26.
52. Mitcham, p. 235.
53. Gille, cited in Stiegler 1998, p. 32.
54. Gille, Bertrand, *History of Techniques*. New York : Gordon and Breach Science Publishers, 1986, p. 30.
55. Gille, p. 70.
56. De Landa, Manuel, *War in the Age of Intelligent Machines* New York: Zone Books, 1994, p. 3.
57. De Landa, p. 8.
58. Simondon, cited in Stiegler 1998, p. 81.
59. Stiegler 1998, p. 81.
60. Guattari, p. 36.
61. Eldredge, interview with the author 2004.
62. Stiegler 1998, p. 78, my emphasis.
63. Stiegler 1998, p. 94.
64. Stiegler 1998, p. 75
65. De Landa, p. 4.
66. Eldredge, Niles, "A Battle of Words" in *The Third Culture*, ed., Brockman, New York: Simon & Schuster, 1996, p. 121.
67. Eldredge, cited in Walker. p. 41.
68. Ceruzzi, p. 2.
69. Simondon, cited in Stiegler 1998, p. 69.
70. Simondon, cited in Stiegler 1998, p. 75.
71. Feenberg, Andrew, "Heidegger, Habermas, and the Essence of Technology," talk given at the International Institute for Advanced Study, Kyoto 1996, Available online at: http://www-rohan.sdsu.edu/faculty/feenberg/kyoto.html
72. Simondon, cited in Stiegler 1998, p. 70.
73. Simondon, cited in Stiegler 1998, 67.
74. Simondon, Gilbert. "The Genesis of the Individual" in eds., Crary & Kwinter, *Incorporations,* New York: Zone Books, 1992, p. 314.

POSTHUMANISM IN THE WIRES

POST-CYBORG

CLONED AND (IN)FAMOUS

PROFESSOR DVD

WHAT IS COOL?

BEYOND POSTMODERNISM

HYPER-HEIDEGGER

MYRON KRUEGER LIVE

POSTHUMANISM IN THE WIRES

Arthur and Marilouise Kroker

Posthumanism in the Wires tells the story of what happens to the body in the biotech century, and, more importantly, what is the human response to its sudden, deep immersion in a techno-future that includes cloning, transplants, stem cell therapy, genetic engineering and pharmacology.

The Posthuman Body is Remix

When cyberculture is no longer limited to computer codes, digital animation and data archives, but actually begins to grow a new type of body equipped for fast travel in chip society then we know that we are transitioning between the end of the human species and the beginning of something dramatically new: the culture of posthumanism.

Here, first glimpses are to be had of cyber-bodies for posthuman living: prosthetic implants, iPod hearing, digital eyes, genetically improved IQs, eating biogen food, medicated by biogen pharmaproducts, dreaming of the inhabitants of the biogen future—clones, transplants, hybrids and transgenics. But also first knowledge of the darker side of cyber-bodies: Mad Cow, SARS, Avian Flu, sterile fields, Norwalk virus, West Nile virus, viral terrorism. The greater the tech, the more the contagions.

Such at least is the future which is being imposed on us by the accelerated motion of the technological imperative. It is a future in which we are compelled to shed the body, putting on instead the skin of the posthuman body. Dwellling in a cyberculture that blurs the edges, the posthuman body has quickly taken to remix culture as the homepage of its identity. In essence, the posthuman body is remix. But remix what? The seduction of technotopia or tech which crashes and burns the human species?

Crash and Burn? Putting on the Skin of the Posthuman Body

Steve Mann ("The Post-Cyborg Path to Deconism") and Jason Lubyk ("Lifestyles of the Cloned and (In)Famous") use wit, satire and theatre to illustrate issues associated with cloning and surveillance. They ask in common: What are the consequences of an unchallenged biotech future? What happens when surveillance systems turn an eye inwards? As Mann states: "We become the specimens of an experiment perpetrated from afar, without our knowledge or consent."

Indeed, if Paul Virilio can highlight Mann as a hero of the "revolution in transmission," it is because Mann's experimental deployment of technology has already migrated his thought beyond the limits of the earth-bound human species, becoming the engineer/artist who has relentlessly explored the spectral dimensions of the post-cyborg body. Famous for his invention of the wearable computer while a graduate student at MIT and

for his translation of the myth of the cyborg into practical how-to-do-it classes at MIT and the University of Toronto on actually becoming a cyborg (complete with plugins and AI vision), Mann is a courageous and brilliant explorer of the dark side of network culture, namely the transformation of the utopian dreams of cyberspace into the hyper-1984 reality of the Total Surveillance Society. Perhaps not content with his role as a hero in the "revolution in transmission," Mann's artistic work focuses critically on the "revolution in transplants." Specifically, at an annual Toronto performance art event called Deconism, Mann brings together artists, theoreticians, and leading thinkers of our times to decontexualize, deconstruct, decontaminate, and deconfigure the tendencies to domination inherent in cyber-space. Of course, in a wired culture where futurist theory almost immediately flips into grisly political reality, a recent Deconism event which focused on mass decontamination, was a eerie prelude to the announcement by the Bush Administration that, under the pretext of the never-ending war on terrorism, each American family should prepare for terrorist strikes against the 'homeland' of iconic surburbia with plastic sheeting and duct tape for windows in addition to a three day supply of food and water. In Virilio's scenario of war where the state, first and foremost, declares war on its own population, Mann's vision of mass decontamination procedures as the inevitable prelude to a society of total domination may be deeply prophetic.

Learning & Remixing Posthuman

Taking remix culture as their starting-point, Nick Rombes ("Professor DVD") and Jeff Rice ("What is Cool? Notes on Intellectualism, Popular Culture, and Writing') present media analysis of life in the digital matrix.

Co-founder of the program *in Electronic Critique* at the University of Detroit Mercy, Rombes argues in the face of the digital implosion that all mystery is lost with the appearance of the DVD in film studies. Not a nostalgic position, Rombes writes about the transformed quality of film interpretation under the sign of Professor DVD. Here, the traditional guild nature of film education is replaced by DVDs with all the possibilities that entails for directors to deconstruct their own films, and for students to watch different versions of the same film, to view films which film the film, and to "unmask…the generic narrative conventions of the slasher films…". With "Professor DVD," we are suddenly in McLuhan's "university without walls:" digital education that instantly dethrones the authority of the film professor and perhaps the archiving of film theory. As Rombes states: "The first step is to recognize that DVDs are more than a simple technical advancement—that they signal the emergence of a new and more complex sensibility on the part of may viewers. In a strange way, because film studies has triumphed as the dominant discourse, it is now threatened with its own obsolescene. There's nothing more dangerous than victory."

To the same extent that Rombes explores the impact upon the cool medium of the DVD upon education, Jeff Rice investigates the cultural history of cool itself. Debunking *Wired* and *Rolling Stone's* attempts to enumerate 'cool sites,' Rice speaks about cool as a remix medium:

> To construct cool discourse, sampling must be mixed. Otherwise, the commutative moments remains distinct and isolated; they continue to function as cultural markers with no evident substance…The mixer, the electronic device used to juxtapose disparate sounds, determines production in cool writing by completing the commutation process…"The mix gets inside us," Erik Davis writes, "and changes the way the world arises before us."

Theorizing the Posthuman

> "One day the day will come when the day will not come."
>
> Paul Virilio, *Open Sky*

> "Nihilism is the world-historical movement of the peoples of the earth who have been drawn into the power realm of the modern age."
>
> Martin Heidegger, "The Word of Nietzsche"

Posthumanism in Wires concludes with two theorizations of the digital future: John Armitage's "Beyond Postmodernism? Paul Virilio's Hypermodern Cultural Theory" and Arthur Kroker's "Hyper-Heidegger." Virilio and Heidegger, then, as double signs of the posthuman future, both representing critical reflections on the "question of technology" and both seeking to understand technology in a language that stretches from antiquity to cyberculture.

Writing from different historical and intellectual standpoints—Heidegger is a German philosopher of the ruins of modernity and Virilio a French theorist of technological dystopia—Virilio and Heidegger have important insights concerning the migration of the body into its posthuman skin. Approaching modernity through the prism of technology, Virilio has developed literally decades of brilliant writings on the dark side of modernity. Fascinated by the logic of technology (consider the titles of his books: *Pure War, Speed and Politics, The Aesthetics of Disappearance, The Information Bomb, Polar Inertia, The Politics of the Very Worst, Strategy of Deception)*—Virilio's thought has imprinted itself on the global brain as a dominant code for interpreting posthuman culture. Refusing the nostalgia of modernism and too much a Catholic humanist to ever make his peace with postmodern theory, Virilio's thought emerges directly from the spectre of posthumanism. In the same way that Heidegger could say that Nietzsche was the "philosopher of completed nihilism," so too Virilio is the theorist of *completed posthumanism.* Virilio's writings represent a critical diagnosis, often years in advance, of the technological future and a desperate attempt to inject a trace of humanism into the cyber-constructs of posthuman culture. Following Hannah Arendt's injunction to think between past and future, Virilio is one theorist of technological society who insists on recovering the critical insights of traditional humanism as an antidote against the nihilism of the cybernetic future. More than is customary, Virilio's thought illuminates the radically altered realities of a technoculture where even the grounding referents of space and time have been transformed into "light-time" and "light-space," and where the human body has literally been "boarded" and "pirated" by its technological prosthetics. For Virilio "we are falling upwards" into an uncertain future of fast bodies metabolized by the crushing weight of the technological dynamo.

It's the very same with Martin Heidegger. Long fascinated by the story of technology as destiny, all of Heidegger's thought represents a sustained attempt to think, deeply and ethically, about the question of technology. Dismissing the notion that technology is a specifically contemporary concern, Heidegger argues that western identity has been burnished in the fire of technological willing. For example, reprising in his writings the Greek philosophers of classical antiquity, Heidegger notes that the origins of technology are to be found in the doubled language of craftsmanship (techne) and art (poeisis). In his explorations of the unfolding of the technological dynamo—a "destining" which arcs from Greeks of the classical age to posthumanism—Heidegger offers the brilliant insight that in the present era the twin poles of the story of technology are split apart, at

war with one another. In the 21st century, the "question of technology" is dominated by the language of instrumentalism (craftsmanship) and the suppression of poetic reflection. For Heidegger, without art, poetry and thought, the technological dynamo is unleashed to exercize its will upon a human species that is blindsided to the worst effects of uncontrolled technological willing. The result: the disappearance of an ethic of technology by which to consider the impact of biotechnology; and the triumph of a vast technological experiment in remaking human, animal, organic and non-organic nature. In Heidegger's thought we are only beginning the history of completed nihilism. But, of course, if technology is an "uncanny sign," this would also mean that where there is danger there exists also a "saving-power." Only by studying intently the question of technology for what it has to tell us about the ambivalent story of technology can we learn to live wisely within the drift of events precipitated by technology as posthuman destiny. In ways complex, subtle and interrelated, the contributions of *Posthumanism in the Wires* can be viewed as responses to Heidegger's challenge. Not necessarily consciously, but certainly in terms of the cumulative importance of such articles as "The Post-Cyborg Path to Deconism," "Professor DVD," "Lifestyles of the Cloned and (In)Famous," and "What is Cool" in exploring what Heidegger describes as the 'uncanny sign' of the question of technology. Could it be that the future of posthumanism will be experienced in the shadow of Heidegger? If this is so, then in the writings of Virilio and Heidegger we are witness to a flash of critical theory tracing a parallel path across the darkening sky. Consequently, this meeting in the pages of *Life in the Wires* of the 'hyper-modern' Virilio and "Hyper-Heidegger" may represent the beginning of an ethics of technology commensurate with the culture of *Posthumanism in the Wires*.

Uncanny theory as a way of understanding the uncanny history of technology.

It is perfectly appropriate that *Posthumanism in the Wires* concludes with the Myron Krueger interview. As one of the pioneers of virtual reality and interactive art, Krueger's thought prototypes the future of technoculture. Krueger argues:

> We should celebrate these new realities, express them and be confident that the worlds that we create are every bit as valid as the one we started in.

Noting further that "The virtual will alwas be with us. The issue will not be escaping to it, but escaping from it," Krueger's thought illuminates the how and why of living in a society where technology is increasingly the "essence of humanity." Refusing the solitude of the "two cultures" of engineer and artist, Krueger offers a different way of actually being posthuman in the wires:

> I always believed that it [technology] was already there and that I merely dissolved it. Rebutting C.P. Snow's idea of the two cultures was one of the sources of the passion that I put into my earlier work. I felt that virtual reality and interactive art could help heal the rift. The spectacular increase in the number of artists now using technology is evidence that this is happening.

THE POST-CYBORG PATH TO DECONISM

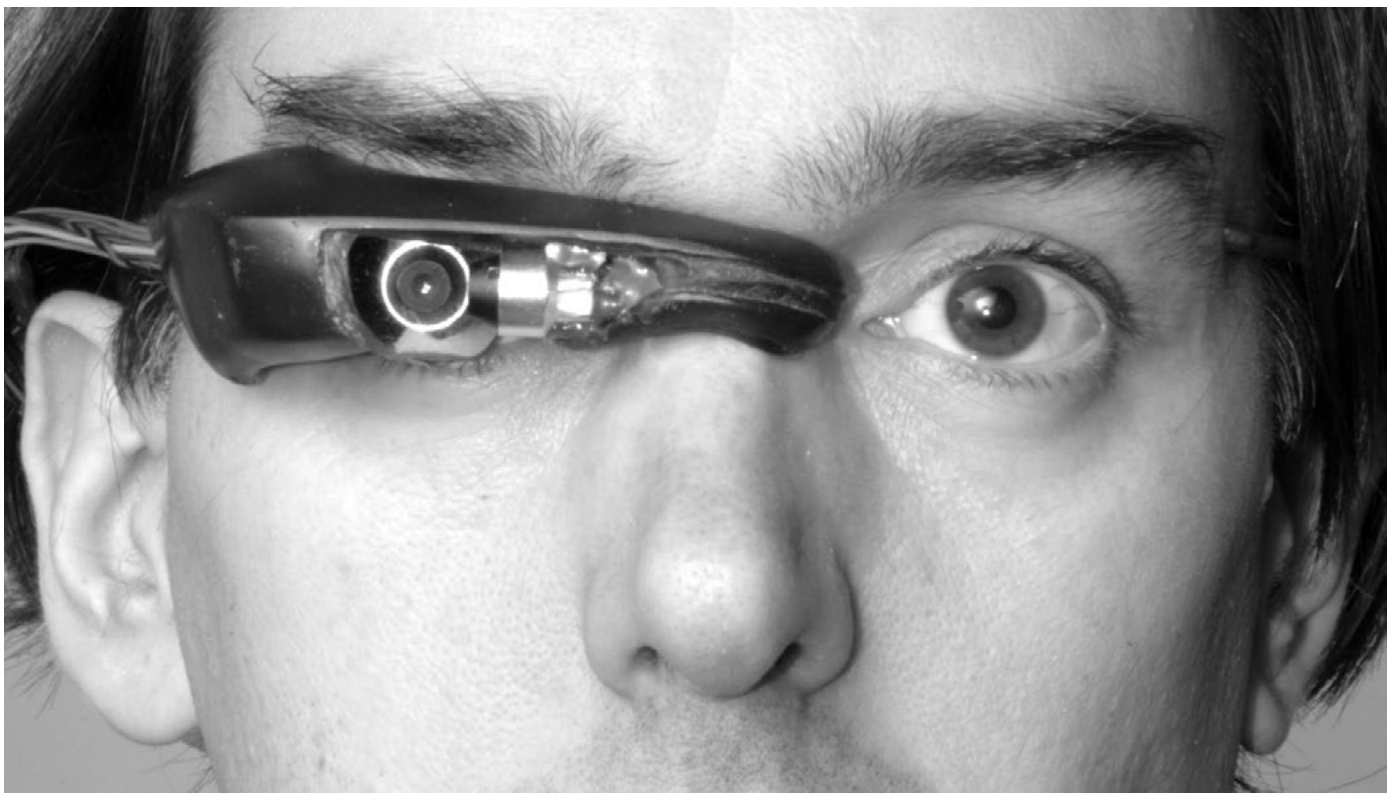
Steve Mann

> Three revolutions in speed divide three centuries, from the nineteenth to the twenty-first. The first, from the nineteenth century well into the twentieth century, is the revolution in transportation. Its heroes could be Jules Verne and Howard Hughes, each in his own way. **The second is the revolution in transmission, whose hero could be Steve Mann or Jaron Lanier.** And the revolution in transplants, of course, is the third: that's Professor Warwick... (who)had a microchip sewn into himself to avoid wearing a badge while walking around this laboratory and this university... So you see, we have three characters and three revolutions.
>
> Paul Virilio, *Crepuscular Dawn*

If Paul Virilio can highlight Steve Mann as a hero of the "revolution in transmission," it's because Mann's experimental deployment of technology has already migrated his thought beyond the limits of the earth bound human species, becoming the engineer/artist who has relentlessly explored the spectral dimensions of the post-cyborg body. Famous both for his invention of the wearable computer while a graduate student at MIT and for his translation of the myth of the cyborg into practical how-to-do-it classes at MIT and the University of Toronto on actually becoming a cyborg (complete with flesh plug-ins and Neuromancer vision), Mann is a courageous and brilliant explorer of the dark side of network culture, namely the transformation of the utopian dreams of cyberspace into the hyper-1984 reality of the Total Surveillance Society. Perhaps not content with his role as a hero in the "revolution of transmission," Mann's artistic work focuses critically on the "revolution in transplants." Specifically, at an annual Toronto performance art event called Deconism, Mann brings together artists, theoreticians and leading thinkers of our times to decontextualize, deconstruct, decontaminate and deconfigure the tendencies to domination inherent in the age of bio-politics. Of course, in a wired culture where futurist theory almost immediately flips into grisly political reality, Deconism 2002 which focused on the politics of mass decontamination was an

eerie prelude to the recent announcement by the Bush Administration that, under the pretext of the never-ending war on terrorism, each American family should prepare for terrorist strikes against the homeland of the iconic suburban house, with plastic sheeting and duct tape for windows in addition to a three day supply of food and water. In Virilio's scenario of war where the state first and foremost declares war on its own population, Mann's vision of mass decontamination procedures as the inevitable prelude to the society of total domination is deeply prophetic.

A&M Kroker, Editors



Steve Mann wearing an EyeTap device[1]

The Post-Cyborg

Loosely speaking, the cyborg-age of yesterday is connected with ideas of postmodernism, deconstructionism, and posthumanism (itself, somewhat related to the ideas of cyborgism). But these ideas, along with culture jamming, as well as my own sur/sousveillance situationist street theatre, have become ineffective in the contemporary age of Terror.

All Ads Are Culture Jamming

Although the rise of dot commerce, and with it, the growth of spam, certainly destroyed the distinction between culture jamming and culture spamming, Terrorism, and perhaps, more significantly, the response to terrorism, have given birth to a new impotency of inverse culture.

Whether terrorism is the work of a lone miscreant, a foreign government, or an "inside-job" by one's own government (or some mixture of these, such as a "blowback" response from injustices we inflict on others), it is the aftermath of war's equation or inequality that often has the widest felt impact. Virilio refers to "images" as giving us a new era of war. In this sense, TeleVision is a weapon of mass destruction/distraction/distrust, as we are assaulted by a blitzkrieg of graphic repetition that reaches into the innermost spaces of every home.

Before the World Trade Center was destroyed, I had begun to wonder, in the post-modern age that we then lived, if we could distinguish between high culture and low culture, between Derrida and Disney, or between Coke's satire of the Pepsi Generation and *Adbusters'* use and promotion of Adobe Photoshop (TM). At the height of the spam-era, it seemed as if, perhaps, all advertisers were Culture Jammers. As our inboxes filled with digital detritus, we began to lose our ability to distinguish Jam from Spam. *Gaptivism* had already brought us an era in which advertising was mimetic with activist forces.

But the same filters that eliminate annoyance-based repetition advertising (whether our own human ability to ignore things—**ignor**ance being necessary to survive the New Deconomy—or our prosthetic technology-based **ignor**ance-enhancers) have made us equally deaf to Jam.

Not Jam or Spam but *Gaptivism*

I recently received some Spam from a group called "Culture Jammers Network", calling for me to visit their web site to donate money to a "Culture Jamming" network to fight consumerism and advertising. But I could not visit their website because, instead of buying all the software that would be necessary to access their website, I assembled an old computer system from items salvaged from dumpsters, and from curbside trash. Then instead of buying software, I had built on top of much of the GNU Linux FreeSource. Because I was not willing to support consumerism and software *swatshops*, my computer system does not run Macintosh, Microsoft, Macromedia (MacMicMac), Flashism, etc.. Because I was not willing to support the consumerism and advertising, I was not able to properly respond to their Spam.

Consequently, one wonders if there is a distinction between *Granolafied Gaptivism* and Culture Spamming/Jamming that appeals to us to use corporate-owned software systems to participate in supporting the selling of a colour glossy magazine, or the purchase of advertising space for inverse ads, because all ads are inverse ads. All advertising is aimed at "hacking" our human capacity to ignore ads. Thus all advertising is, to some degree, culture jamming.

Although detournment (a la *Situationist Internationale*) may re-situate the tools of an oppressive monoculture regime in a disturbing and disorienting fashion, to call into question the values of that regime, the "regime" itself sooner or later re-re-situates those same tools. I call this detournment^2 (detournement squared, i.e. detournement of the detournement). For example, some of the great reality-hacking of French artist Magritte has been incorporated into much of our advertising "culture".

Then, of course, we can hack the hackers of the hackers, by re-situating the tools of modern advertising to call into question the monoculture that calls into question the non-monoculture. This I call detournment^3 (detournement cubed, i.e. detournement of the detournement of the detournement). See for example, http://wearcam.org/easel.htm.

As this low-intensity *peacefare* is waged between culture and its counter, the exponent continues to grow, detournmentn (detournement to the nth degree).

As we blur the lines between culture and counterculture, it becomes more difficult to tell whether the exponent is even or odd, or even if it's an integer—an odd feeling of confusion.

The equation of double detournement that seemed so clear yesterday, seems confusing in the aftermath of the terrorist inequalities.

Derrida = √Disney

money = √evil

Jamming = √Spamming

So Magritte's "high culture" has alternately oscillated down to "low culture" and back up, back and forth, cycling in simple harmonic motion, but eventually fading out to the point where we can no longer tell up from down.

Antonin Artaud coined the phrase "Virtual Reality" in the 1930s to describe theatre ("la realité virtuelle" translated in "The Theater and Its Double", 1958).

Thus Virtual Reality was once a form of "high culture" that has now been co-opted by advertising giants.

Ironic, indeed, that the epitome of simulacra is theatre. But now all the world's a stage. And there's no longer a difference between theatre and shadow.

Thus, at least in some sense, satire is no longer possible because the classical Greek Theatre's Proscenium has been smashed to pieces, in the sense that we can no longer distinguish between the audience and the players.

At first glance, one might be inclined to regard DECONference as a Greek Tragedy. The shower (which every attendee was required to take, after being searched and stripped) calls to mind cleansing. DECONtrabanding is for purity. DECONtamination is a catharsis of contamination. Fear and pity for and among the "victims" of the bio-terror attack that DECONference initially simulates with the script of an anthrax scare.

But it is also an Inverse Brechtian Theatre, where the audience is distanced from the actors—emotionally detached—and separated by the walls of a biohazard containment suit. It is Inverse Theatre (Inverse Epic), because the attendees are really the actors (whether they know it or not), and the DECONtamination facility staff (the decon officers off in some distant darkened room, staring at surveillance monitors) are the audience. There's nothing quite so Inverse Brechtian as being required to strip naked in front of an audience fully dressed in biohazard suits.

The DECONism gallery / museum space was a stage, where the actors went through the ritual cleansing before receiving a white paper jumpsuit and being sent to the "upper room" (actually the roof of the gallery).

The Anthrax Theatre we see on television is more real than reality.

By reversing the roles of audience and actor, we challenge the directionality of the Proscenium, and thus, its very existence. Theatre has consumed itself. Artaud's theatre of "Virtual Reality" is no longer an oxymoron—it's the everyday world in which we live. And in the same manner in which theatre has consumed itself, postmodernism, to some extent has also consumed itself, and certainly deconstructionism has deconstructed itself. The fact that students in theatre school think that they can change the world with theatre seems so closely aligned with Baudrillard's observation that the hair and fingernails of a corpse continue to grow after it is dead. If freedom's not dead, at least theatre is. It was once said that New York's Times Square was the world's stage. But Baudrillard's *Requiem for the Twin Towers* should also spell a Requiem for Theatre.

Perhaps, satire is no longer possible because the division between audience and players has been disrupted. Like a free-flowing acid, satire eats through the flesh of the machine.

And what of biological terrorism? We're constantly bombarded with images of people being stripped naked and hosed down in parking lots outside buildings where white powder spilled on a table. Table salt spilled on a table. Or maybe icing sugar.

ARMED VISION

Jordan Crandall's depiction of the military's desire "to both violate and shield ... erotic charge of combat... **analyze/violate/protect**" is perhaps best captured in defense against bioterror (irrespective of whether the bioterror be real, imagined, or merely an "inside job").

Military computer vision systems are now turned back toward us where the hidden cameras in the public baths transform our world from Baywatch to Bathwatch. Hidden underwater cameras in municipal swimming baths. For example, there is a network of underwater cameras at North Toronto Community Center, connected to a sophisticated network of Internet connected computers. From Baywatch (the many watching the few) to Poolwatch (the few watching the many), we become the specimens of an experiment, perpetrated from afar, without our knowledge or consent. Is it a swim meet, or a swim meat? Perhaps by now television cameras have outnumbered television receivers. Even in places where we're not fully clothed.

Lifeguard *Rescyou*. To surf and protect from afar.

I was recently asked to give a presentation for Toronto artist Doug Back's exhibit "Shadow Grappling". In one of his works, we see the magnified image of a fingernail—the voyeuristic sustained gaze focused upon what might have been bitten off—a nail-biting frenzy of fear—fear from the feeling of not being protected. It hangs at waist-height, as if to suggest being of the belly, being born of terror, or saliva to the abdomen. And we can only see it on TV. TV is the new reality in the age of anthrax angst. Mediated like Jacob Wrestling with a Digital Angel. Television, *Terrorvision*. Or the campground. Strong Angel. (Shower hours)

Foucault once said "Authority loves the plague". Today he might have said "Government loves anthrax". Or "*Covernment* loves terrorism". Queue up like cattle to be stripped, scrubbed, shielded, protected, and saved. *Rescyou in the resqueue*.

Quenching our own fire

Today we train for war by falling comatose to commonsense

Training for submission to the bioterror state. Fighting fire with water. Showers of lead and sparks. From muzzle to nozzle.

In the past we trained for war by waking up in the middle of the night and quickly dressing to fight. Now we train for war by falling comatose to commonsense and getting undressed in the middle of the day to submit. We cannot bear the thought of firepower. We have instead been taught waterpower. We are taught not to fire, but to quench our own fire. But not to quench our own anger, for that would put an end to the war. Our anger is fueled by state sponsored media, so that

the state can continue to fund the war on terror, so that we can continue in our training for war. Not so we can learn to fight, but so that we can be trained to submit to authority.

Showers of lead and sparks have dissolved into soap showers. Or bleach showers. Gunpowder has been replaced with a solution of nine parts water, and one part household

bleach. Submission drills are like fire drills. In the past we learned how to get out of buildings. Now we learn how to get out of our clothes. As a nation declares war on its own people, it must ensure its people don't fight back. It must strip its people. **Terror control agents.** Pepper spray, or agent orange? Or chemical agent provocateur. Or *provacateurrorists*.

Soap down the unruly unwashed masses. Soap is the solution for the great unwashed. Stop terror with suds.

The fundamental lesson we've yet to learn is that lacking any fundamental rooting we may be washed away like topsoil that lacks age-old vegetation, leaving behind only those who are more deeply rooted than ourselves.

Decon is about people, places, things, or shall we say, people, **dis**placed, without their things.

Three steps: (1) Strip=Violate, (2) Wash=Rape, (3) Cover=Protect

(1) All attendees are required to remove all clothing, jewelry, and personal effects and check these items at the baggage counter prior to being allowed into the museum space. (2) They are then required to go through decontamination. (3) Finally they are to line up to get their bodies scanned by a computer, in order to automate the issuing of uniforms, so they can receive a paper jumpsuit that has no pockets in which to conceal contraband. Now the attendees are safely protected from themselves and each other, so that they can attend DECONference 2002.

AXES OF EVIL

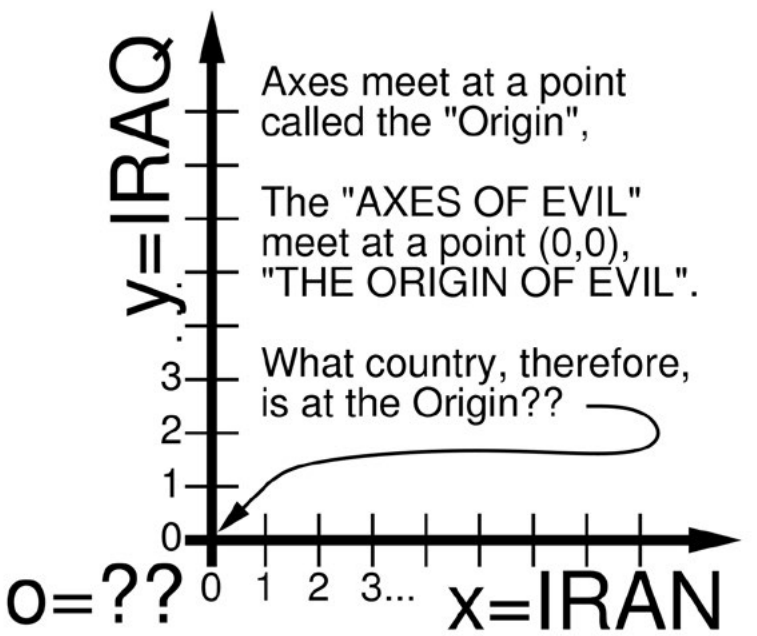
Most importantly, perhaps DECONference raised questions such as "is there really an inverse"? Is there really an inverse to surveillance? Is there really an inverse to constructionism? Is there really an inverse to evil?

Origin of Evil

"Axes", typically denoted (x,y), meet at a point called the "Origin," typically denoted (0,0).

We have been told that IRAN and IRAQ are the "Axes of evil."

But we have not been told what country is at the "Origin of evil".



But, if the enemy is within—within our own hearts, and within our collective selves, we must equally consider questions like "What if terrorists infiltrated positions of high authority or power?" and "How can we defend our nation against terrorists operating from within the military?".

In the spirit of questioning the direction of the "Axes," DECONference 2002 called into question the distinction between Left and Right, in the sense that it also blurred the line between *covernments* and *gorporations*.

Further reference

- DECONference 2000 (DECON1)
- DECONference 2001 (DECON2=Deconstructing Decon)
- DECONference 2002 (DECON3=Decontextualizing and Decontaminating Deconstructionism)
- Paul Virilio and Sylvere Lotringer. *Crepuscular Dawn.* New York: Semiotext(e), 2002.

Notes

1. EyeTap devices <http://eyetap.org> are electric seeing aids (electric "eyeglass") in which correction for vision or for visual memory is done computationally. The EyeTap invention is described in detail in the textbook, "Intelligent Image Processing" published by John Wiley and Sons <http://wearcam.org/textbook.htm>.

LIFESTYLES OF THE CLONED AND (IN) FAMOUS

Jason Lubyk

Cloning is the world wide web of the biotech age, where crazy and perverse desires are able to find expression.

For money, to gain or maintain power, to right past wrongs, or to promote ideology, plans are being made, dreamed, to bring historical figures out of non-existence so their flesh can dress ideas.

Due to the recent rapid advances in cloning procedures, these fantasies, whose barrier to manifestation in reality is the presence of one who is dead, will soon be able to be fulfilled.

Clone Hitler

One would think this effort would come from neo-nazis with a *Boys of Brazil* DVD sitting proudly on their shelves next to *Birth of a Nation*, but surprisingly (or maybe not) it is the UFO cult the Raelians that want to clone Der Fuhrer. Their goal is not the reestablishment of the Reich, but to make Hitler stand trial for war crimes. According to an article from Glasgow's *Daily Record* reprinted at *Intellnet.org* <Intellnet.org>, the Raelians approached the Moscow archive that possesses Hitler's skull and teeth in order to get a DNA sample. Though the Russians refused the request, some western diplomats feared that corrupt officials could smuggle out the Nazi DNA. I wonder if the Raelians ever think that the ethically dubious logic that would permit a clone to stand trial for the crimes of the original might be applied to them in the future. Think of an arthritic and deformed clone that was produced by the Raelian labs before the cloning procedure is perfected charging and suing one of the clones of Rael in the future, the clones of bioethicists Fukuyama and Rifkin summoned to provide expert testimony at one of the largest, and certainly most spectacular, trials of the 21st century.

Clone Diana

Randolfe Wicker, cloning activist and the head of the *Clone Rights United Front* <www.clonerights.com> in an admitted publicity stunt tried to hijack the spectacle of Diana's death in order to promote his own pro-cloning agenda. Wicker distributed commemorative booklets at a Diana memorial service with pictures of her laughing, surrounded by hearts, and the following words:

> No longer does death have to mean a total loss,
> Accepting the obliteration of
> "Going Quietly Into the Good Night."
> Certainly Diana, the "Queen of Hearts"
> Would make this world's shortest list of
> "Those Worthy of Being cloned."

One can imagine, if cloning Diana went beyond an attempt to mimetically infect mainstream culture with a fringe idea, and an actual clone was made the child would be treated like a reincarnated Buddhist lama, shown a People magazine and told, "This is who you are." Considering that Diana died in a head-on collision with media surveillance aggressively trying to project her image into the ether, cloning her seems perverse due to the incredible amount of media attention that the clone would generate. Or maybe not. Cloned Diana, born and grown-up on TV/online, would be media; a cybernetic being of image and flesh who, if the media ever abandoned her to transmit another, could end up being killed chasing cameramen, desperately trying to regain the wholeness of her now-dismembered sense of self.

Clone Lenin

Professor Waleri Bykow's statement that it was hypothetically possible to clone Lenin was responded to enthusiastically by Russian Young Communists. An AFP wire report reproduced at the now-defunct *Tabloid.net* <www.tabloid.net> stated that the Young Communists want to clone Lenin "to help the country out of its crisis." The Young Communists probably hope that the Lenin clone will round up all the gangsters, oligarchs, and capitalist reformers and send them off to some remote Siberian gulag. Unless the new Lenin rebels against the plans his creators have for him, and like his modern successors, becomes enamored of the wealth of capitalism and decides to cash in. Maybe the clone would host a Springeresque talk show on Russian TV where the fiery orator berates the screwed up behavior of lumpenproletariat downtrodden by the collapse of the Soviet empire.

Clone Dracula

A group of businessmen plan to dig up the body of and clone the 14th century Hungarian Prince, Vlad the Impaler, who was the inspiration for Bram Stoker's novel *Dracula*. A May 2001 *Ananova* <www.ananova.com> article states that the group of US businessmen had approached the Rosalin Institute (where Dolly the sheep was cloned) to do the cloning. In a follow up article, Dr. Harry Griffin from the institute denies that they ever met with the US businessmen and that their plan to clone Dracula "sucks." If the US men are successful the Dracula clone would at the very least be able to find work at the Romanian Dracula Land theme park where he can wear a cheap tux, cape and plastic fangs, and smoke behind the reconstruction of Dracula's castle on his fifteen minute coffee break.

U Can't Clone This?

Either to buy time to construct the ethical, social, political, legal, economic and medical structures in order to prevent the spasm of the social body as it is injected with a novel element, to perfect the scientific/medical procedure itself, or to prevent the fragmentation of the psychological, philosophical or religious belief in self as essence, most EU and North American nations have banned or are about to ban the cloning of humans. But as comforting as that may be to cloning's opponents, the global flows of information, capital and bodies guarantee that cloning will spread to nations with differing laws and ethics where it will be tolerated or even welcomed. Considering at the time of this writing there are supposedly women pregnant with cloned embryos (some have even come to term, if you dare to believe the Raelians) the problem of the possibility of the above scenarios occurring is merely a temporal one. Clones of the dead rich and (in)famous will be born with the help of those who will downplay or ignore the potential social and medical chaos that will follow. Either this will be one of the greatest crimes of the 21st century or mere fodder of the next top rated reality show World Historical Survivor.

PROFESSOR DVD

Nicholas Rombes

In his 1959 essay "A Call for a New Generation of Film-Makers," Jonas Mekas, founder of the journal *Film Culture,* identified an emerging cadre of filmmakers who "seek to free themselves from the over professionalism and over technicality that usually handicap the inspiration and spontaneity of the official cinema."[1] He went on to say that "Obviously, this is not what the 'professionals' want. These filmmakers will be severely criticized and, perhaps, even accused of betraying cinema. However, they come closer to the truth with their nakedness than the 'professionals' with their pretentious expensiveness."

What has come to pass in cinema—radical experiments ranging from French New Wave to New American Cinema to the Dogma movement to the digital experiments such as *Time Code* (2000) and *Tape* has not come to pass in university-based film studies, which, as Robert Ray suggests in his book *The Avant-Garde Finds Andy Hardy*, is an academic field that has inadequately responded to the dynamic changes of the films it studies: "[T]here is now an increasingly widespread sense that after twenty years of exhilarating work, film studies has stagnated."[2]

Film studies professors pride themselves about how their work 'demystifies' and 'denaturalizes' the (usually oppressive) ideologies that govern films, especially Hollywood films. And rightly so. Work by Laura Mulvey, Robert Ray, bell hooks, Christian Metz, and others has shown, in sometimes breathtaking and exciting ways, how films operate as strong agents of ideology in culture.

But here is what they don't want to admit: that DVDs threaten to supplant their authority in fundamental ways. If part of the film professors' job—especially in introductory classes—was to supply students with historical, technical, and sociological information regarding the film (in other words, to situate the film) then DVDs do much of this for them. Indeed, professorial authority in fact depended on a special kind of mystification, on their ability to introduce students not only to the technical vocabulary of film studies (*mise-en-scène,* long take, dissolve, jump cut, etc.,) but also to screenplays, storyboards, interviews with directors, and other production material. Tracking down an interview where Arthur Penn talked about the ending sequence to *Bonnie and Clyde* required some

work and produced a bit of magic when presented in class: here is the scene from the movie/here is the director talking about how it was staged and edited. Good teaching always depends on maintaining some aura of mystique, and for film professors this mystique has traditionally emerged from the ability to marshal diverse sources (film clips, screenplays, interviews) not readily accessible to students.

In the same way that punk showed how it was possible to make music without the experts, so too DVD shows us how to learn about film without the expert professors, whose role it was to guide students into cine-literacy by investigating the technical, narrative, and ideological ingredients of a film. One obvious place where this happens is in the Director's Commentary, which is now a standard feature on many DVDs. But it also happens in other supplementary features of the DVD, which in fact functions like a transportable, easily accessible archive.

If part of the job of film studies was to introduce students to the film discourse—the key terms, concepts, and theories that govern filmmaking—then much of that information is now available on DVDs. Consider the classic introductory film textbook, *Film Art*, by David Bordwell and Kristin Thompson. Here the authors are writing about narrative theory and identification: "When a shot's framing prompts us to take it as a character's vision, we call it an optically subjective shot, or a point-of-view shot."[3] Here, by way of comparison, is director Julie Taymor in her director's commentary on the *Titus* DVD, speaking about the boy in the film, Lucius's grandson: "It is from his perspective. Now we're not always looking through him, but it's through his eyes that the entire story of extraordinary human violence is seen."

Here again are Bordwell and Thompson on the concept of montage:

> In other cases it is necessary to show a large-scale process or a lengthy period—a city waking up in the morning, a war, a child growing up, the rise of a singing star. Here classical continuity uses another device for temporal ellipsis: the montage sequence. ... Brief portions of a process, informative titles (for example, "1865" or "San Francisco"), stereotyped images (e.g., the Eiffel Tower), newsreel footage, newspaper headlines, and the like, can be swiftly joined by dissolves and music to compress a lengthy series of actions into a few moments.[3]

Compare this to Wes Anderson in his director's commentary on the *Rushmore* DVD:

> This montage, I liked the idea of showing all these different clubs that he's [Max] doing and telling this kind of key fact about him which is that he does all these things in a way that doesn't have any dialogue. It's just music, and pictures, and then I also liked this idea of putting words on the screen.

Beyond the directors' voiceovers, the supplementary features on many new DVDs 'deconstruct' a film's narrative in immediate, visceral ways. For instance, the DVD for *Following* (the feature debut of *Memento* director Christopher Nolan, 1999)—a film rich with flashbacks and forwards—offers as part of its bonus materials the "Ability to Restructure the Story Chronologically," allowing viewers the aesthetic opportunity of reassembling and resequencing the film. And *Time Code* (Mike Figgis, 1999) offers two complete versions of the film; the theatrical release version (number 15) and an alternate version (number 1), as well as the ability to manipulate the sound of the film, highlighting different quadrants of the screen. In effect, features like these allow the

viewer to actively take apart and reshape the narrative experience in ways that were traditionally the domain of the film professor, whose job it was to expose a film's narrative skeleton.

Indeed, on some DVDs the extras threaten to undermine the film itself, burying it in so much context that it becomes practically lost in the network of supplementary material, links to web sites, etc. *Star Wars—Episode One, The Phantom Menace* (1999) contains—in addition to the 133 minute film—hours of supplementary material, including commentaries not only by George Lucas, but by the film's producer, editor, animation director, and three visual effects supervisors. It also includes a deleted-scenes documentary with seven new sequences, an hour-long documentary on the film's production and another twelve-part web documentary, as well as a multi-angle storyboard, and multiple other features. The actual film *Phantom Menace*—bundled in so much archival context—actually occupies a relatively small portion of the DVD.

This technological and viewing revolution threatens to marginalize film professors and puts them in a curious sort of bind. Since the 1960s—when film scholarship shifted from a formalist to a cultural studies model of criticism—professors have (with very few exceptions) privileged the unofficial, subversive reading of film against the dominant, official forces of its production (Hollywood, marketers, global capitalists, etc.). In other words, most film scholarship implicitly (and more often than not explicitly) endorses the democratic and subversive against the bureaucratic and official. Yet now—when faced with a technological shift coupled with an increasingly cine-literate population of students—professors are understandably reluctant to admit their increasing obsolescence; they find themselves as conservative gatekeepers struggling to find ways to stay relevant when much of their traditional authority has been supplanted by DVD. Recent articles have already begun to call for "DVD studies," suggesting that film and media professors need to 'deconstruct' and 'interrogate' the packaging and bonus materials on DVD. But the question they don't want to ask is this: do today's students require the same kind of guidance and tutelage as in the pre-DVD past?

Consider, for instance, the DVD-ROM version of James Monaco's classic textbook *How to Read a Film*, which the publishers (Harbor Electronic Publishing) promote as "an entire film course—the history of film, the origins of film technology, discussion of films, filmmakers, traditions and genres." The multimedia edition of the book includes features such as over 130 film clips, audio interviews with Hollywood "movers and shakers" (there's a hint of desperation in that phrase), and Virtual Reality tours of Hollywood studios. In other words, a glorified DVD. Why, one might ask, should students purchase this when they can rent or buy the DVD of Julie Taymor's *Titus*, which includes commentaries by Taymor, as well as articles from *American Cinematographer*, and a question and answer session with film students from Columbia University, where Taymor discusses narrative structure, identification, etc.?

Blame it on *Scream* (1996), which ushered into the mainstream a popularized form of film theory. In contemporary film theory, the articulation of the rules of classical cinema (suturing, shot-reverse-shots, continuity editing, cause-and-effect narrative development, etc.) has become a genre of academic writing in itself, providing a reproducible teaching and research model. But the open mockery of the slasher film's rules in *Scream* threatened to dethrone film professors, who found in their students an audience which shared with *Scream* an ironic understanding of the redundant archetypes that underlie genre films. *Scream's* demystification of its own rules—even as it adhered to them—spawned a series of films, such as *Scream 2* (1997) and *Scream 3* (2000), *Scary Movie* (2000),

Urban Legend (1998), *Not Another Teen Movie* (2001), and *Jeepers Creepers* (2001)—that depended upon audiences' meta-ironic position of superiority towards the exhausted genres on the screen. Film studies has traded for too long in its own theories, even as those theories gradually became absorbed into the mainstream. Attempts to ply them now are read—as is everything—as parody. On the DVD for *Scary Movie* (2000) for instance, among the bonus features is "*Scary Movie: Guide for the Culturally Challenged Pop Up:* descriptions that explain cultural references and inside jokes as you are watching the film." In the reproduction and skewering of its own dependence on broader cultural forms, *Scary Movie* offers its own parodic version of a very serious form of film scholarship, which aims to contextualize and historicize films. For instance, a routine exercise in introductory film studies classes asks students to investigate the historical and cultural events during the period of a particular film's making (i.e., "what Cold War events occurred during the era of the making of *Kiss Me Deadly* 1955 and in what ways do you think the film is a product of those events?").

Although the *Scream* sequence is well known, it bears repeating. In the sequence, kids are sitting around drinking beer, watching John Carpenter's *Holloween* (1978) when one of the guys pauses the movie, and proceeds to give a little 'lecture' to his audience about the generic conventions of slasher films:

> That's why she [Jamie Lee Curtis] outsmarted the killer in the long chase scene at the end. Only virgins can do that. Don't you know the rules? There are certain rules that one must abide by in order to successfully survive a horror movie. For instance, Number One, you can never have sex. Big no-no. Big no-no. Sex equals death. Okay, Number Two, you can never drink, or do drugs. The sin factor. It's a sin, it's an extension of Number One. And Number Three, never, ever, ever, under any circumstances say, 'I'll be right back,' because you won't be back.

This unmasking of the generic narrative conventions of the slasher film—so familiar in academic readings, such as Carol Clover's *Men, Women, and Chainsaws*—threatens to undermine the relevance of film theory by co-opting it (or, like punk, by doing it better, faster, and more energetically). Or—more scary yet—it serves as a parody of film theory.

This erasure, whereby the film itself is only but one of many options on DVD, embeds the film in language that, until recently, was the province of film professors and theorists, whose authority depended upon limited access to such materials. Indeed, it was precisely because such information was largely unavailable to lay audiences that professors derived their aura and authority. Hunting down obscure film clips, decoding intertextual references, finding interviews with directors and screenwriters, unearthing storyboards—all these activities constituted the professor's realm of uncontested authority. Yet now we have the specter of directors providing detailed commentaries on their films as they unfold, offering theoretical discussions of representation, historical and cultural perspective, and pragmatic, technical discussions of practice.

Just as the rise of literate populations in Europe and the United States in the seventeenth and eighteenth centuries undermined the authority of priests, clerics, and political leaders, so too the emergence of a cine-literate population speaks to the coming obsolescence of the film professor as the gatekeeper of official, legitimate understanding and interpretation. Over thirty years ago, Pauline Kael was among the first to note this gap between how 'officials' (teachers especially) want us to respond

to movies and how we choose to respond to them on our own, unaided by the discourse of academia. In her 1969 essay "Trash, Art, and the Movies," Kael wrote that "Far from supervision and official culture, in the darkness at the movies where nothing is asked of us and we are left alone, the liberation from duty and constraint allows us to develop our own aesthetic responses."[4]

Today—when many of the strategies of film studies itself have been absorbed into the supplementary, archival features of the DVD—the question confronting film professors is no longer "how can I get my students to 'see through' the movies?" but rather "what do I do now that my students have already learned to see through the movies?" The first step is to recognize that DVDs are more than a simple technical advancement—that they signal the emergence of a new and more complex sensibility on the parts of many viewers. In a strange way, because film studies has triumphed as the dominant discourse, it is now threatened with its own obsolescence. There's nothing more dangerous than victory.

Notes

1. Jonas Mekas, "A Call for a New Generation of Film-Makers," *Film Culture Reader*, ed. P. Adams Sitney, New York: Cooper Square Press, 2000, p. 74.

2. Robert Ray, *The Avant-Garde Finds Andy Hardy*, Cambridge: Harvard University Press, 1995, p. 5.

3. David Bordwell and Kristin Thompson, *Film Art: An Introduction*, New York: McGraw-Hill Companies, 1996, p. 221.

4. Pauline Kael, "Trash, Art, and the Movies," *Going Steady*, Boston: Little, Brown, and Co., 1970, p. 104.

WHAT IS COOL?

NOTES ON INTELLECTUALISM, POPULAR CULTURE, AND WRITING

Jeff Rice

The November 2001 issue of *Wired* magazine ran a "special advertising section" called "The Phenomenon of Cool." The section highlights cool as a revolutionary force in the history of cultural and technological production. "Attempting to capture cool is a trap," the section begins. "Cool has emerged as a series of movements, an unwavering stance of individuality, and more recently, a flash of red-hot radiation." Even though cool supposedly can't be named, the pages that follow map an ideal that includes items as distinct as James Dean, television, cocktails, and Miles Davis' *Birth of the Cool*. The advertisement concludes with a homage to technology.

> Media multiplied. Technology shifted gears. Cool could be beamed into 100 million homes, tracked and data-processed. Downloaded from across an ocean. Or bounced off a satellite on your wrist.
>
> Cool became remote, the opposite of mass. It morphed into the gadget, car, person, or party available to few but coveted by many.
>
> The 21st century, long a sci-fi daydream, is here. Its slogan is simple: If your neighbors are in on it, it can't be cool.[1]

Somehow, at some point, if we are to believe the unnamed writers of this section, cool evolved from James Dean's rebellious image in *Rebel Without a Cause* to satellite TV. The question "What is Cool?" (offered by writer Marlene Connor in her book of the same name) escapes answer as *Wired* implicitly suggests it means everything and nothing at once. It incorporates popular images with technological breakthroughs.

Even more allusive than *Wired's* definition of cool, however, is the advertisement's audience, purpose, and product for sale. The oddly positioned section (in the magazine's expensive opening pages) with no indication of what it promotes prompts a number of questions regarding language employment in 21st century digital culture.

What has happened to the throwaway term cool, a word once used merely to describe an individual's cultural status (he/she is cool) or an object's worth (these shoes are cool)? How does the mere placement of a series of cool images convey a message, as *Wired's* spread attempts? Granted, its presence in an advertising section reinforces Thomas Frank's conclusion in *The Conquest of Cool* that popular culture meanings, like the anti-establishment attitude associated with cool, eventually serve corporate interests in ways originally unintended. But how can the word mean rebellion and digital production, commercialism and individuality, all at once? What is cool and what do we mean by its usage?

Lest we not label the *Wired* issue an aberration, the April 11, 2002 *Rolling Stone* takes as its subtitle "The Cool Issue." More in depth than *Wired* for its coverage, *Rolling Stone* translates cool into a series of lists. Indeed, this is the form of cool most palatable to consumer audiences who often ask: what is cool and how can I purchase it? Pre-empting the issue's 60 pages devoted to the subject of cool, John Weir writes: "What's cool? It came out of mystery and is still mysterious. Some have it and some don't. Like the Supreme Court on pornography, we know it when we see it. Turn the page and see it." [2]

What appears in the magazine's following pages includes a hodgepodge of its selective choice of cool; the rationale for labeling these items cool seems as mysterious as the listed items' supposed make-up. Nestled amid the larger categories of Cool SUV, Cool Babe, and Cool TV, are the subtle micro-sections entitled Permanent Cool (Sullen Stares, Muddy Waters, and *On the Road*), Pissed-Off Cool (Piercings, *Adbusters*, and Sniffing Glue), and Senior Cool (Jack Nicholson, IBM Selectric, and Never Reuniting). *Rolling Stone's* point also is that cool is allusive and indefinable, its meanings perpetually shifting. Yet even so, the magazine feels a need to list a who's who of popular acceptability.

Rolling Stone reflects the listing phenomenon associated with cool. The desire to acknowledge all cool things transforms over into electronic culture where web portals like Yahoo or Netscape construct lengthy lists of hyperlinks worth visiting and label them "cool sites." The intellectual version of the cool list turns up in Alan Liu's Voice of the Shuttle: Laws of Cool, a website devoted to presenting cool not as out of the ordinary, eclectic websites (as Yahoo and Netscape propose), but as an anti-intellectual movement embedded in a global, information economy void of content and meaning. Even while listing cool sites, Liu critiques cool not for rebelling against the institutional order, but for supporting it. Indeed, when we consider *Wired* and *Rolling Stone's* transformation from anti-establishment publications to mainstream industry standards, Liu's position holds merit. His point is further raised by *Adbusters* founder Kalle Lasn whose *Culture Jam: The Uncooling of America* situates cool as the leading factor transforming American culture into nothing more than capitalism gone wild, a place where consumerism has not only become a lifestyle, but a language. Cool, Lasn writes, is "a heavily manipulative corporate ethos" motivating American culture.

> Cool is indispensable-- and readily, endlessly, dispensed. You can get it on every corner (for the right price), though it's highly addictive and its effects are short-lived. If you're here for cool today, you'll almost certainly be back for more tomorrow. [3]

In this sense, the places where electronic culture (the Web), intellectualism (Voice of the Shuttle), and consumer culture represented as the generic term popular culture (*Wired* and *Rolling Stone*) merge are where cool dominates our daily lives in ways we have yet to thoughtfully consider.

Cool is Discourse

Then is cool a language? Borrowing from Marshall McLuhan's characterization of cool media (media low in definition which require high viewer participation to make sense of), Jean Baudrillard theorizes cool as an electronic discourse. In *Symbolic Exchange and Death*, Baudrillard proposes that electronic communication replaces signification with commutation as the basis of contemporary discursive practices. Baudrillard claims that the electronic age leads to the replacement of symbolic exchange with commutability. "From now on, signs are exchanged against each other rather than against the real;" signs have become "totally indeterminate, in the structural or combinatory play which succeeds the previous rule of determinate equivalence." Signs have become reversible, commutable, and exchangeable without dependence on referents. Determinate meanings yield to indeterminacy. "There has been an extermination (in the literal sense of the word) of the real of production and the real of signification." Baudrillard calls this form of expression cool; it represents "the pure play of the values of discourse and the commutations of writing."[4]

> It is the ease and aloofness of what now only really plays with codes, signs, and words, the omnipotence of operational simulation. To whatever extent affects of systems of reference remain, they remain hot. Any "message" keeps us in the hot. We enter the cool era when the medium becomes the message. [5]

Wired and *Rolling Stone's* interest in cool, therefore, makes sense when read as cool discourse. It's not that all of the items the magazines identify as cool are, in fact, cool. It's the conveyance of a commutable system of exchange, what these magazines perform by listing, that is cool. In this process, any item can be exchanged with any other, and we still have cool. Cool, then, signifies a type of writing practice.

Sample This Sample That

For digital culture, cool as commutation sets up an alternative conception of writing. When Kenneth Anger commutated the iconic imagery of Marlon Brando, *Li'l Abner*, and Jesus in his 1963 film *Scorpio Rising*, he practiced cool as a commutative writing system. When Grandmaster Flash spins "The Adventures of Grandmaster Flash and the Wheels of Steel," and the cut and break sampled lines of Blondie's "Rapture" call out: "Flash is Fast/ Flash is cool," we hear commutative writing. Anger and Grandmaster Flash mark distinct moments in the history of cool writing, bookends of the sampling process. Anger's sampled iconography of popular culture, cut and pasted as a critique of 1950s and 1960s attitudes regarding sexuality, acts as an early attempt to transgress the limitations imposed by print culture's adherence to representation. Anger pushes technology (film) to new levels through the practice of commutation and sampling. The film industry took note of Anger's samples, but quickly returned to linear narrative and Hollywood-based continuity protocols. Sampling, highlighted by early DJs like Grandmaster Flash, however, unleashes cool as writing where film failed.

Sampling, as Kodwo Eshun writes, is a digital writing system exemplified as skratchadelia, a commutating machine challenging discursive structures.

> Skratchadelia phaseshifts music into a new phonoplastic alloy. Voices are molecularized into chattering, gibbering textures, into globules of pitch that grumble and shift along the spectrum of Technics speed, plashed and panned by the transformer switch. [6]

Sampling constructs cool writing through cuts and breaks. Breaks are determined by how DJs produce cuts in previously recorded music. "The cut is a command, a technical and conceptual operation which cuts the lines of association." [7] Or as Tricia Rose writes in *Black Noise*, "Break beats are points of rupture in their former contexts, points at which the thematic elements of a musical piece are suspended and the underlying rhythms brought center stage. In the early stages of rap, these break beats formed the core of rap DJs' mixing strategies." [8] The cut establishes a form of critique originally conceptualized by William S. Burroughs who instructed early samplers to "Cut word lines." [9] Cutting breaks cultural associations and redirects attention to alternative communicative strategies.

Through sampling, the DJ represents the new, cool writer. While DJs and hip hop artists have adopted cool as moniker (i.e. Kool Herc, Kool Keith, Kool Moe D, DJ Kool, L.L Cool J, Coolio), as song lyric (Digable Planets' "Cool Like Dat"), or because of taste (this record sounds cool), seldom has sampling been equated with cool for its *writing* methodology. Indeed, the electronic turntablism DJs employ to create what Rose calls a "post-literate" composition, marks the moment where cool elevates from empty signifier to generalizeable practice. Sampling produces what DJ Spooky (Paul Miller) calls "copy culture," a "mixed tape culture" of "infinite multiples" where meanings are exchanged in a variety of ways and through a variety of approaches. [10] Sampling, therefore, is Baudrillard's cool writing. Baudrillard's notion of a communicative system based on commutation in place of referentiality has earned little commentary for its self-named status as cool, even though Baudrillard uses the term. Where popular culture meets academic study, we find cool. What, then, is cool, and what does it mean to intellectual production?

Cool as Intellectualism

Can intellectualism be cool? Not to return to the definitions of cool raised by *Wired* or *Rolling Stone* or even Liu, but can we imagine a state of intellectualism centered on the notion of commutation, or, in its electronic form, as sampling? Can we "cut" associations tied to the institutional apparatus and "break" to a cool discursive practice? In *The University in Ruins*, Bill Readings hypothesizes the university as "non-referential" and argues that the university "no longer refers to a specific set of things or ideas." [11] Like Baudrillard's cool, therefore, the university has been commutated; its meanings are displaced as cultural markers sampled, cut and pasted in various fashions as a reflection on any number of corporate or political activities Readings feels the university has become occupied by. Readings aligns this sense of dereferentialization with so-called subversive writing styles cool often draws upon, such as Burroughs and Situationist sampling practices. Readings "tries to make dereferentialization the occasion for détournements and radical lateral shifts." [12] Framed in Readings' notion of academic work, cool dereferentializes.

This is the cool *Wired* and *Rolling Stone* inadvertently attempt to construct when they present the term as a list. In fact, the jumbled selections the magazines present of video games, models, rock bands, dead actors, and even food function as cultural samples. Unlike DJ sampling, however, these magazines leave out the mix. To construct cool discourse, sampling must be mixed. Otherwise, the commutative moments remain distinct and isolated; they continue to function as cultural markers with no evident substance, much as Liu envisions cool. The mixer, the electronic device used to juxtapose disparate sounds, determines production in cool writing by completing the commutation process.

Signification yields to meaning shifts. And as these shifts occur, new knowledge is produced. "The mix gets inside us," Erik Davis writes, "and changes the way the world arises before us."

> From turntables to samplers, technology helped bring this "mix mind" into being. But the mix also prepares us for the world of technology, a world where everything is interconnected, where every sound, image, and word imaginable can be translated into the universal lingo of the bit- and then spliced anew. [13]

Cool writing, performed as sampling, produces meaning through interlinking existing discursive practices with new insight. As Ulf Poschardt claims, "The remixer isn't concerned with salvaging authenticity, but with creating a new authenticity." [14] This new authenticity surfaces in Readings' call for a dereferentialized university.

The mix, consequently, is the lesson for future intellectual work. To be cool writers, we employ the mix as academic practice and thus become engaged with electronic culture in ways the university has yet to fathom. In this sense, the cool intellectual differs greatly from the intellectual/scholar Wayne Booth polemically described in "The Scholar in Society" over twenty years ago:

> What makes a scholar a scholar is the willingness to sit alone, for long periods, trying to learn something that cannot be learned "in society," something that cannot be learned except through sustained private inquiry. [15]

Instead of this traditional vision of intellectual work as private and individual, I consider cool intellectualism as a mix. Whereas Gerald Graff suggests that popular culture (like cool) consists of "nonacademic interests" which "harbor hidden intellectualisms," I consider cool itself an intellectual practice.[16] In fact, cool is not hidden, but rather it is visible as the basis of digital writing. Cool mixes discourse with discourse, practice with discipline, theory with work. The cool methods I outline here in these notes require further definition, and only through discussion and practice will they eventually be established in the university setting. Rather than imagine our intellectual work as the product of print and linear processing, we must sample and mix our reinvention of the university's studies, rhetoric, and structure. By drawing on samples to construct discourse, the highly participatory cool medium McLuhan described becomes actualized. Discourse commutates into an ever interlinking chain connecting the university's ruins, as Readings identifies them, as samples mixed down in our writing. [17]

Notes

1. "A Special Advertising Section." *Wired*. November 2001. ix-xv.p. ix.

2. John Weir, "The Beautiful American Word 'Cool.'" *Rolling Stone*. April 2001, p. 67.

3. Kalle Lasn, *Culture Jam*: *The Uncooling of America*. New York: Eagle Brook, 1999, pp.xiii-xiv.

4. Jean Baudrillard, *Symbolic Exchange and Death*. trans. Iain Hamilton Grant, London: Sage, 1993, p. 7.

5. *Ibid*, p. 22.

6. Kodowo Eshun, *More Brilliant than The Sun: Adventures in Sonic Fiction*. London: Quartet, 1999, p.15.

7. *Ibid*, p. 16.

8. Tricia Rose, *Black Noise: Black Music and Black Culture in Contemporary America*. Hanover: Wesleyan University Press, 1994, pp. 73-74.

9. William S. Burroughs, *Nova Express*. New York: Grove Press, 1992 (1964), p. 62.

10. DJ Spooky, "Sound Unbound," Hybrid Discourse, Available online at: http://www.i-dat.org/projects/hybrid/discourse.html

11. Bill Readings, *The University in Ruins*, Cambridge: Harvard University Press, 1996, p. 17.

12. Ibid, pp. 167-168.

13. Erik Davis, "The Future Mix," 10 Jan. 2002, Available online at: http://www.techgnosis.com/futuremix.html

14. Ulf Poschardt, *DJ Culture*, London: Quartet, 1998, p. 34.

15. Wayne Booth, *"The Scholar in Society," Introduction to Scholarship in Modern Languages and Literatures,* ed. Joseph Gibaldi, New York: The Modern Language Association of America, 1981, p. 117.

16. Gerald Graff, *Clueless in Academe: How Schooling Obscures the Life of the Mind*, New Haven and London: Yale University Press, 2003, p. 255.

17. I thank Bradley Dilger and Denise Cummings for their suggestions on an earlier version of this essay.

BEYOND POSTMODERNISM?

PAUL VIRILIO'S HYPERMODERN CULTURAL THEORY

John Armitage

Paul Virilio is one of the most significant French cultural theorists writing today.[1] Increasingly hailed as the inventor of concepts such as 'dromology' (the 'science' of speed), Virilio is renowned for his declaration that the logic of acceleration lies at the heart of the organization and transformation of the modern world. However, Virilio's thought remains much misunderstood by many postmodern cultural theorists. In this article, and supporting the ground-breaking work of Arthur and Marilouise Kroker, I shall evaluate the contribution of Virilio's writings by suggesting that they exist *beyond* the terms of postmodernism and that they should be conceived of as a contribution to the emerging debate over 'hypermodernism.' Consequently, the article details Virilio's biography and the theoretical context of his work before outlining the essential contributions Virilio has made to contemporary cultural theory. In later sections an appraisal of Virilio's hypermodernism, together with a short evaluation of the controversies surrounding Virilio's work, will be provided before the conclusion.

The World According To Paul Virilio

Born in Paris in 1932 to a Breton mother and an Italian Communist father, Virilio was evacuated in 1939 to the port of Nantes, where he was traumatised by the spectacle of Hitler's *Blitzkrieg* during World War II. After training at the Ecole des Metiers d'Art in Paris, Virilio became an artist in stained glass and worked alongside Matisse in various churches in the French capital. In 1950, he converted to Christianity in the company of 'worker-priests' and, following military conscription into the colonial army during the Algerian war of independence (1954-1962), Virilio studied phenomenology with Merleau-Ponty at the Sorbonne. Captivated by the military, spatial, and organizational features of urban territory, Virilio's early writings began to appear while he was acting as a self-styled 'urbanist,' in *Architecture Principe*,[2] the group and review of the same name he established with the architect Claude Parent in 1963. Although

Virilio produced numerous short pieces and architectural drawings in the 1960s, his first major work was a photographic and philosophical study of the architecture of war entitled *Bunker Archeology*.[3] The creator of concepts such as 'military space,' 'dromology,' and the 'aesthetics of disappearance,' Virilio's phenomenologically grounded and controversial cultural theory draws on the writings of Husserl, Heidegger, and, above all, Merleau Ponty.[4] After participating in the *événements* of May 1968 in Paris, Virilio was nominated Professor by the students at the Ecole Speciale d'Architecture, and he later helped Jacques Derrida and others to found the International College of Philosophy. An untrained architect, Virilio has never felt compelled to restrict his concerns to the spatial arts. Indeed, like his philosopher companions, the late Michel Foucault, Gilles Deleuze, Felix Guattari and Jean-Francois Lyotard, Virilio, like his current sympathetic adversary, Jean Baudrillard, has written numerous texts on a variety of cultural topics. Commencing with *Speed & Politics: An Essay on Dromology* before moving on to *The Aesthetics of Disappearance*, *War and Cinema: The Logistics of Perception, Politics of the Very Worst*, *Polar Inertia*, *The Information Bomb*, *Strategy of Deception*, *Ground Zero, Art and Fear, Unknown Quantity* and, most recently, *Ville panique,* the power of Virilio's cultural theory has only recently begun to be felt in the English-speaking world. [5] This situation is probably due in no small part to the fact that, despite receiving several international speaking invitations weekly, he rarely leaves La Rochelle, his recently adopted hometown on the west coast of France and seldom converses in public outside of France. Virilio retired from teaching in 1998. He currently devotes himself to writing critical accounts of contemporary art and the city, such as *Art and Fear* and *Ville panique*, mounting art exhibitions like his *Unknown Quantity* show at the *Fondation Cartier pour l'art contemporain* in Paris in 2003, and working with private organizations concerned with housing the homeless.

The importance of Virilio's theoretical work stems from his central claim that, in a culture dominated by war, the military-industrial complex is of crucial significance in debates over the creation of the city and the spatial organization of cultural life. In *Speed & Politics*, for example, Virilio offers a credible 'war model' of the growth of the modern city and the development of human society. Thus, according to Virilio, the fortified city of the feudal period was a stationary and generally unassailable 'war machine' coupled to an attempt to modulate the circulation and the momentum of the movements of the urban masses. Therefore, the fortified city was a political space of habitable inertia, the political configuration, and the physical underpinning of the feudal era. Nevertheless, for Virilio, the essential question is: why did the fortified city disappear? His rather unconventional answer is that it did so due to the advent of ever increasingly transportable and accelerated weapons systems. For such innovations 'exposed'the fortified city and transformed siege warfare into a war of *movement*. Additionally, they undermined the efforts of the authorities to govern the flow of the urban citizenry and therefore heralded the arrival of what Virilio calls the 'habitable circulation' of the masses.[6] Unlike Marx, then, Virilio postulates that the transition from feudalism to capitalism was not an economic transformation but a military, spatial, political, and technological metamorphosis. Broadly speaking, where Marx wrote of the materialist conception of history, Virilio writes of the military conception of history.

Beginning in 1958 with a phenomenological inquiry into military space and the organization of territory, particularly concerning the 'Atlantic Wall'—the 15,000 Nazi bunkers built during World War II along the coastline of France to repel any Allied assault—Virilio deepened his explorations within the *Architecture Principe* group. An absolutely crucial but somewhat overlooked aspect of Virilio's work from the beginning

is his continuing allegiance to a psychologically based *gestalt* theory of perception.[7] This theory was not only chiefly responsible for Virilio and Parent's development of the concept of the 'oblique function' but also for their construction of the 'bunker church' in Nevers in 1966 and the Thomson-Houston aerospace research centre in Villacoubly in 1969.[8] Later, Virilio broadened his theoretical sweep, arguing in the 1970s, for example, that the relentless militarization of the contemporary cityscape was prompting what Deleuze and Guattari call the 'deterritorialization' of capitalist urban space and what Virilio terms the arrival of speed or *chronopolitics*.[9] Reviewing the frightening dromological fall-out from the communications technology revolution in information transmission, Virilio investigated the prospects for 'revolutionary resistance' to 'pure power' and began probing the connections between military technologies and the organization of cultural space. Consequently, during the 1980s, Virilio cultivated the next significant phase of his theoretical work through aesthetically derived notions of 'disappearance,' the 'fractalization' of physical space, war, cinema, logistics, and perception. Further, as Arthur Kroker has suggested, throughout the late 1980s and early 1990s, Virilio critically examined the cultural repercussions of the use of remote-controlled and cybernetic technologies in the rapidly accelerating urban environment of 'techno' or 'crash' culture.[10] Tracking the 'third age of military weaponry' in the shape of new information and communications technologies such as the Internet, Virilio's post-Einsteinian cultural theory is presently focused on the idea of 'polar inertia,' the 'third,' or, 'transplant revolution,' Stelarc's cybernetic performance art, and the Persian Gulf and Kosovo wars.[11] Nonetheless, a significant strand of his current thinking is also centred on Virilio's critical conception of 'endo-colonization,' 'cyberfeminism,' 'technological fundamentalism' and 'the information bomb.' Presently, however, Virilio's analytical gaze is focused upon the political aftermath of the United States led war on Kosovo in 1999 and the terror attacks on the World Trade Center in New York City and the Pentagon in Washington D.C. on September 11 2001. With his characteristic flamboyance, Virilio not only condemns the military architects of the 'strategy of deception' in the 'orbital spaces' of the Kosovo war but also the terrorists who created 'ground zero'. Pointing to the emergence of a global secret state operating within the 'panic cities' of our globalized and networked world, Virilio's current writings are then an electrifying analysis of what he calls the 'unknown quantity' of privatized war and terror in an era in which the hypermodernization of the metropolis amounts to nothing less than the militarization or 'total mobilization' of all our mentalities.[12]

Although there can be no doubt that Virilio has made a significant contribution to the Krokers' initial development of 'hypermodern' cultural theory, it is important to stress that, as his *Art and Fear* and *Unknown Quantity* demonstrate, Virilio characterizes himself as a 'critic of the art of technology' and not as a cultural or social theorist.[13] In fact, for the most part, Virilio abhors cultural theory and sociology in particular. Still, let us consider his theoretical writings by looking first at Virilio's contribution to our understanding of the oblique function, dromology, and the 'integral accident.'

Virilio's Contribution To Cultural Theory

Virilio's early work focused on the oblique function—a proposed new urban order based on 'the end of the vertical as an axis of elevation, the end of the horizontal as permanent plane, in favour of the oblique axis and the inclined plane'.[14] Such writings also foreshadowed Virilio's military and political critiques of deterritorialization and the revolution in information transmission that surfaced in *Bunker Archeology*, his as

yet untranslated *L'Insecurite du territoire* and *Speed & Politics*.[15] Moreover, it is these themes that make Virilio's current writings of interest to contemporary postmodern cultural theorists like Bauman and 'global information culture' theorists such as Lash.[16]

Virilio's doubts about the political economy of wealth are primarily driven by his 'dromocratic' conception of power. Considering Von Clausewitz's *On War* to be outmoded, Virilio is decisively influenced by Sun Tzu's ancient Chinese text, *The Art of War*.[17] Debating with himself about war, the 'positive' (Fascist) and 'negative' (anti-Fascist) aspects of Marinetti's artistic theory of Futurism, Virilio suggests that political economy cannot be subsumed under the political economy of wealth, with a comprehension of the management of the economy of the state being its general aim. Indeed, for him, the histories of socio-political institutions such as the military and artistic movements like Futurism show that war and the need for speed, rather than commerce and the urge for wealth, were the foundations of human society. It is important to state that Virilio is not arguing that the political economy of wealth has been superseded by the political economy of speed, rather, he suggests that 'in addition to the political economy of wealth, there has to be a political economy of speed'.[18] Hence, in *Popular Defense & Ecological Struggles* and *Pure War*, Virilio developed his dromological investigation to include considerations on pure power—the enforcement of surrender without engagement—and revolutionary resistance—Virilio's case against the militarization of urban space.[19] The 'rationale' of pure war might be encapsulated as the logic of militarized technoscience in the epoch of 'Infowar.' For Virilio, the epoch of Infowar is an era in which unspecified civilian 'enemies' are invoked by the state in order to justify increased spending on the third age of military weaponry and, in particular, in the form of new information and communications technologies such as the Internet. Thus, for Virilio, in the post-Cold War age, the importance of the military-industrial complex—or what he calls the 'military-**scientific** complex' is not decreasing but increasing.[20] For the weapons of the military-scientific complex are not merely responsible for integral accidents like the 1987 world stock market crash, accidents brought about by the failure of automated program trading, but also for the fact that, 'in the very near future' it '**will no longer be war that is the continuation of politics by other means, it will be the integral accident that is the continuation of politics by other means**'.[21]

In *The Aesthetics of Disappearance* and *The Lost Dimension*, Virilio, a devotee of Mandelbrot's geometry of fractals, argues that cultural theory must take account of interruptions in the rhythm of human consciousness and 'morphological irruptions' in the physical dimension.[22] Using his concept of 'picnolepsy' (frequent interruption) and Einstein's General Relativity Theory, he suggests that modern vision and the contemporary city are both the products of military power and time-based cinematic technologies of disappearance. Furthermore, although there are political and cinematic aspects to our visual consciousness of the cityscape, what is indispensable to them is their ability to designate the technological disappearance of Lyotard's grand aesthetic and spatial narratives and the advent of micro narratives.[23] In Virilio's terms, Mandelbrot's geometry of fractals reveals the appearance of the 'overexposed'city—as when the morphological irruption between space and time splinters into a countless number of visual interpretations, and 'the crisis of whole dimensions'.[24] Important here is that Virilio's concerns about the aesthetics of disappearance and the crises of the physical dimension are not exercised by the textual construction of totalizing intellectual 'explanations.' Rather, they are exercised by the strategic positioning of productive interruptions and the creative dynamics of what he, following Churchill, calls the 'tendency'.[25] As Virilio maintains in *The Lost Dimension*, the rule in the overexposed city is the disappearance of aesthetics

and whole dimensions into a militarized and cinematographic field of retinal persistence, interruption, and 'technological space-time.' Speaking recently about the overexposed city within the context of the 'totally bogus' court cases surrounding O. J. Simpson and the death of Princess Diana, Virilio suggested that, today, "**all** cities are overexposed." London, for example, "was overexposed at the time of Diana's burial' while 'New York was overexposed at the time of Clinton's confessions concerning Monica Lewinsky".[26]

In *War and Cinema*, Virilio applies the idea of 'substitution' when discussing the different kinds of reality that have appeared since the beginning of time. Bearing a remarkable similarity to Baudrillard's concept of 'simulation,' Virilio's chief concern is with the connection between war, cinematic substitution and what he calls the 'logistics of perception'—the supplying of cinematic images and information on film to the front line.[27] The importance of the concept of the logistics of perception can be seen in the context of 'post' and 'hyper' modern wars like the Persian Gulf War of 1991 and the Kosovo War of 1998-9. For in these kinds of conflicts not only do settled topographical features 'disappear' in the midst of battle but so too does the architecture of war. Indeed, the military high command has only two choices. It can entomb itself in subterranean bunkers with the aim of evading what one of Coppola's helicopters in the film *Apocalypse Now* announced as 'Death from Above.' Or, alternatively, it can take to the skies with the intention of invading what Virilio has dubbed in the *CTHEORY* interview, 'orbital space.' Conceptualising a logistics of perception where 'the world disappears in war, and war as a phenomenon disappears from the eyes of the world,' Virilio has thus been analysing the relationship between war, substitution, human and synthetic perception since the 1980s, particularly in texts such as *Desert Screen: War at the Speed of Light*.[28] Virilio's interests in war, cinema and the logistics of perception are primarily fuelled by his contention that military perception in warfare is comparable to civilian perception and, specifically, to the art of filmmaking. According to Virilio, therefore, cinematic substitution results in a 'war of images,' or, Infowar. Infowar is not traditional war, where the images produced are images of actual battles. Rather, it is a war where the disparity between the images of battles and the actual battles is 'derealized.' To be sure, for Virilio, wars are 'no longer about confrontation' but about movement—the movement of 'electro-magnetic waves'.[29] Similar to Baudrillard's infamous claim that the Gulf War did not take place, Virilio's assertion that war and cinema are virtually indistinguishable is open to dispute.[30] Yet Virilio's stance on the appearance of Infowar is consistent with his view that the only way to monitor cultural developments in the war machine is to adopt a critical theoretical position with regard to the various parallels that exist between war, cinema, and the logistics of perception. It is a view he developed in his trenchant critique of *The Vision Machine*.[31]

In Virilio's universe, therefore, people 'no longer believe their eyes.' For him, 'their **faith in perception**' has become 'slave to the faith in the technical **sightline**,' a situation in which contemporary substitution has reduced the 'visual field'to the 'line of a sighting device.'[32] Viewed from this angle, *The Vision Machine* is a survey of what I have called 'pure perception.'[33] For, today, the military-scientific complex has developed ominous technological substitutions and potentialities such as Virtual Reality and the Internet. In Virilio's terms, 'the main aim' of pure perception is '**to register the waning of reality**.' The aesthetics of disappearance is a form of aesthetics that is derived from 'the unprecedented limits imposed on subjective vision by the instrumental splitting of modes of perception and representation.'[34] Hence, Virilio conceives of vision machines as the accelerated products of what he calls 'sightless vision'—vision

without looking—that 'is itself merely the reproduction of an intense blindness that will become the latest and last form of industrialisation: **the industrialisation of the non-gaze**.[35] Virilio further details the far-reaching cultural relationships between vision and remote-controlled technologies in *Polar Inertia*.

In *Polar Inertia*, Virilio examines pure perception, speed, and human stasis. In 'Indirect Light,' for example, Virilio considers the difference between the video screens recently adopted by the Paris Metro system and 'real' perceptual objects such as mirrors from a theoretical perspective that broadly conforms to what Foucault called 'surveillance societies' and Deleuze labelled 'control societies.'[36] In contrast, other articles note the discrepancy between technologically generated inertia and biologically induced human movement. Discussing the introduction of 'wave machines' in Japanese swimming pools, the effacement of a variety of 'local times' around the world and their gradual replacement by a single 'global time,' Virilio notes the disparity between 'classical optical communication' and 'electro-optical commutation.' In the era of pure perception, though, Virilio argues that it is not the creation of acceleration and deceleration that becomes important but the creation of 'Polar Inertia.' Here, Virilio proposes that in the early modern era of mobility, in his terms the era of emancipation, inertia did not exist. The idea of polar inertia thus excludes what would have been alternate aspects of the speed equation—simple acceleration or deceleration—in the industrial age. Yet, as Virilio has been arguing since the 1980s, in the post-industrial age of the absolute speed of light, real time has now superseded real space. In such circumstances, the geographical difference between 'here' and 'there' is obliterated by the speed of light as history itself 'crashes into the wall of time.'[37] Additionally, in its terminal mode, as exemplified by reclusive billionaires such as the late Howard Hughes, polar inertia becomes a kind of Foucauldian incarceration. Holed up in a single room in the Desert Inn hotel in Las Vegas for fifteen years, endlessly watching Sturges' *Ice Station Zebra*, Hughes, Virilio's 'technological monk,' was not only polar inertia incarnate but, more importantly, the first inhabitant of a 'mass phenomenon.' Equally significantly, for Virilio, this phenomenon has stretched far beyond domestic cinema and TV audiences and on into the global war zone. In fact, according to him, in recent conflicts such as the one in Kosovo, the army now 'watches the battle from the barracks.' As he puts it, "today, **the army only occupies the territory once the war is over**."[38] At the broadest level, then, Virilio's writings on polar inertia seek to show that large tracts of civilian and military physical geographical spaces no longer have significant human content. Therefore, in *The Art of the Motor*, Virilio turned his attention to the relationship between the spaces of the human body and technology.[39]

At the beginning of the twenty-first century, then, Virilio's cultural theory is concerned with what he calls the third, or, the *transplant revolution*—the almost total collapse of the *distinction between the human body and technology*. Intimately linked to the technological enhancement and substitution of body-parts through the miniaturisation of technological objects, the third revolution is a revolution conducted by militarized technoscience against the human body through the promotion of what the Virilio calls 'neo-eugenics.' Such developments range across Virilio's criticisms of the work of Stelarc, the Australian cybernetic performance artist, to his concerns about the eventual fate of the jet-pilots in the Kosovo war.[40] This is because, for Virilio, both Stelarc and the jet-pilot represent much the same thing: "the last man before automation takes command."[41] Nevertheless, it should be stressed that Virilio's criticisms of automation are closely connected to the development of his concept of endo-colonization—what

takes place when a political power like the state turns against its own people, or, as in the case of militarized technoscience, the human body.

As a result, in *Open Sky*, *Politics of the Very Worst*, and *The Information Bomb*, Virilio has elaborated a critique of cyberfeminism that Plant, following Haraway's 'manifesto for cyborgs,' describes as a revolution on the part of cybernetic technology and feminists against the rule of patriarchy.[42] Nonetheless, Virilio has little time for cyberfeminism or 'cybersex'; notions that he criticises, likening cybersex, for example, to the technological replacement of the emotions.[43] For Virilio, it is imperative to reject cybernetic sexuality, refocus theoretical attention on the human subject, and resist the domination of both men and women by technology. According to Virilio, cyberfeminism is merely one more form of technological fundamentalism—the religion of all those who believe in the absolute power of technology.[44] Having departed from the religious sensibility required in order to understand the contemporary Gods of ubiquity, instantaneity, and immediacy of new information and communications technologies, cyberfeminists, along with numerous other cultural groups, have thus capitulated to the raptures of cyberspace.

Virilio's newest single authored work, though, is *Strategy of Deception*. Focusing on the Kosovo War, Virilio argues that while the war was a failure both for Europe and for NATO it was a success for the United States (US). In the world according to Virilio, this is because the US conducted an 'experiment' on Kosovo using the informational and cybernetic tools of the Pentagon's much-hyped 'Revolution in Military Affairs' (RMA). The RMA is thus a revolution that Virilio perceives to be analogous to his conception of 'the information bomb' and cyberwar as well as his contention that the present aim of the US is to seek what its military chiefs term Global Information Dominance (GID).

Currently, though, as *Strategy of Deception and Ground Zero* reveal, Virilio is preoccupied with developing a dual analysis of the hi-tech fantasies proposed by the US *military-scientific complex* and contemporary conceptions of so-called technological progress. In these texts, therefore, Virilio offers a powerful critical assessment of the Kosovo war, which took place not in *territorial space* but in *orbital space*, and the US led post-September 11th 'War on Terrorism' that is currently unfolding across the strategic cities of the world from New York and Baghdad to Madrid and beyond. Thus, as the military-scientific complex abandons geopolitics for chronopolitics, what might be termed the 'medical-scientific complex' is set to discard the information bomb for what Virilio calls the 'genetic bomb' or the transformation of the human embryo into nothing more than a product to be bought and sold. In refusing such strategies of deception, particularly in the aftermath of September 11th, Virilio highlights the fact that for all the technology available to the US military-scientific complex, the only technological progress humanity has made in recent times is into a sort of *infinite global war* founded on chronopolitics. Furthermore, in Virilio's estimation, the detonation of the genetic bomb by the medical-scientific complex is merely one more illustration of the reduction of genuine human life to the status of an object. In short, human beings are becoming things or technological entities that are the world over subject to a kind of Heideggerian 'enframing' wherein everything, inclusive of human life, becomes the raw material for technological processes of postindustrial production. The hypermodern era of high-tech military dreams, technological and urban development, as Virilio also shows in *Art and Fear*, *Unknown Quantity* and *Ville panique* with regard to contemporary art and the city, is then a time of human desolation in which humanity has forgotten the true nature of being.

The Question of Hypermodernism

Virilio's exegesis of military space and the social organization of territory is an important contribution to critical cultural theory because it diverges from the increasingly sterile current debate over the differentiation of modernism and postmodernism. It is, for instance, quite wrong of critical cultural theorists such as Harvey, Waite, and positivist physicists like Sokal and Bricmont to characterise Virilio's thought as postmodern cultural theory.[45] Indeed, such characterisations are so far wide of the mark it is difficult to know where to begin. I will explain.

For one thing, although the concept of postmodernism, like Virilio, came to prominence in architectural criticism in the 1960s, Virilio's thought is neither a reaction against the International Style nor a reaction against modernism. Postmodernism, Virilio proposes, has been a 'catastrophe' in architecture, and has nothing to do with his phenomenologically grounded writings.[46] This is because Virilio's work draws on the modernist tradition in the arts and sciences. As I have noted elsewhere, in *The Information Bomb*, Virilio routinely references modernist writers such as Kafka and relishes the latter's declaration that 'the cinema involves putting the eye into uniform.' The same could be said of Virilio's combative relationship to both Marinetti's modernist Futurism and the Chapman brothers' postmodern or 'terminal' contemporary art practices.[47] Virilio's philosophical reference points are Husserl and Merleau-Ponty, phenomenologists and modernists. Furthermore, he regularly cites Einstein's writings on General Relativity Theory, instances of Virilio's commitment to the theory of scientific modernism established in 1915.

For another, Virilio sees no connection between his thought and that of deconstructionist and poststructuralist theorists like Derrida.[48] Virilio has, for example, never shown any interest in de Saussure's structural linguistics, preferring to this day the world of phenomenology and existentialism. As an anti-Marxist (and anti-Sartrean), committed 'anarcho-Christian' and thinker who has 'absolutely no confidence in psychoanalysis' Virilio has little in common with the pioneers of structuralism such as the semiologist Barthes, the Marxist philosopher Althusser, the psychoanalyst Lacan, and the anthropologist Levi-Strauss.[49] Virilio's theoretical connections with Foucault's *Discipline and Punish* and Deleuze and Guattari's *A Thousand Plateaus* also need to be treated with care. This is because, unlike most poststructuralist theorists, Virilio is a *humanist* and a practising Christian. His work is vehemently opposed to the viewpoint of anti-humanism and to the philosophy of Foucault's and Deleuze and Guattari's messiah, Nietzsche. As Virilio recently exclaimed, while he admires the '*operatic part of Nietzsche' he 'cannot stand'his 'underlying philosophy*.' Indeed, for Virilio, it's 'physically repulsive!'[50] Thus, there are only indeterminate and convergent relationships between Virilio's thought and Foucault and Deleuze and Guattari's poststructuralist theories, something that Virilio has pointed out before.[51] For Virilio, the crucial pointers on all his cultural theory have been World War II, military strategy, and spatial planning.[52]

Moreover, in contrast to many postmodern cultural theorists, Virilio does not wholly condemn modernity. Instead, he views his work as a 'critical analysis of modernity, but through a perception of technology which is largely ... catastroph**ic**, not catastroph**ist**.' Arguing that 'we are not out of modernity yet, by far,' it is, then, 'the drama of total war' that lies at the core of Virilio's cultural theory.[53] Concentrating his thought on the varying speeds of modernity, Virilio's texts thus concern themselves with its important characteristics such as technoscience, surveillance, urbanism, and alienation. In addition, and despite his reputation as a Cassandra, Virilio often insists that his conception of modernity, as distinct from the theorists of postmodernism, is essentially optimistic.[54]

Furthermore, Virilio is not wholly antipathetic to reason, even if he is critical of aspects of the 'Enlightenment project.' Yet, he certainly is inimical to Hegelian and Marxist theories of knowledge and ideology. In this respect, Virilio can be considered as a kind of 'left Heideggerian.'[55] Virilio's critical relationship to modernity is, then, somewhat removed from the description of it given by postmodern cultural theorists like Waite although a useful recent discussion of Virilio's ideas about the Enlightenment, technological objects, modernity and rationality can be found in Lash's work, *Critique of Information*.[56]

Lastly, Virilio's thought has almost nothing to do with that of advocates of postmodernism like Lyotard or Baudrillard. Unlike Lyotard's writings, for instance, Virilio's work remains true to the principle of hope with regard to making sense of history—even as it crashes headlong into the wall of real time. Actually, nearly the entirety of Virilio's work is a sustained attempt to make sense of his own history and, through it, ours too. Nor does Virilio accept the demise of all the 'metanarratives,' insisting in interviews, for example, 'that the narrative of justice is beyond deconstruction.'[57] Likewise, Virilio's hostility to Marxism, semiotics, and Nietzschean 'nihilism' explains his antagonism toward Baudrillard's concept of simulation. Again, and while Genosko may well be correct that Virilio's hypotheses on speed are 'consonant with McLuhan's' the truth is that, unlike many postmodern cultural theorists, Virilio does *not* share Baudrillard's admiration for McLuhan's 'drooling' over new media technologies.[58] Genosko, for instance, argues that the 'differences between Virilio and McLuhan are profound,' particularly with respect to their 'representations of the drive toward automation.'[59] 'The war machine of Virilio and the love machine of McLuhan,' Genosko rightly concludes, 'create quite different kinds of worlds: contest or contact.' Virilio's war machine is therefore neither concerned with Baudrillard's conception of 'hyperreality' and 'irony' or with McLuhan's love machine.[60] In fact, Virilio's thought is more concerned with the historical, socio-cultural, technoscientific and military realities of everyday life.

It is therefore very difficult to appraise the important advances of Virilio's thought in terms of postmodern cultural theory. It is also why I believe it is preferable to interpret it as the work of a cultural theorist whose thinking addresses what might be called the question of *hypermodernism, or, the cultural logic of contemporary militarism*. All the same, hypermodernism remains a tentative term and an embryonic tendency in cultural theory today. Arguably, it began with the publication of Kroker's *The Possessed Individual*. Nevertheless, in the present period, I want to suggest that, along with Virilio, it is necessary to move away from the polarised assumptions of modernism and postmodernism. Why? Because it is imperative to shift toward an understanding of Virilio's work on acceleration through the 'excessive' intensities and displacements inherent within hypermodern cultural thought about the military-scientific complex.[61]

A Brief Critique Of Virilio

Virilio's cultural theory and numerous activities have courted controversy since the 1960s. When Virilio and Parent built their 'bunker church,'—and which has to be seen to be believed—the bishop who consecrated it was, according to Virilio, muttering to himself the following words: 'what a ghastly thing! Amen! What a ghastly thing! Amen!' As Virilio tells the story: 'the priest turned towards the bishop and said: "Monsignor, this is not an exorcism! It is a consecration!"'[62] Religious criticisms of Virilio and Parent's architecture aside, there have also been a number of recent academic critiques of Virilio's ideas concerning the state, technology, and speed. Deleuze

and Guattari, for instance, attempted what Crogan calls a problematic effort to 'subsume' Virilio's thought into their own poststructuralist approach to cultural theory.[63] But, as Crogan suggests, Deleuze and Guattari's 'static, ahistorical model' of the state and technology cannot easily be combined with Virilio's writings without undoing 'its own coherency in the process.' In turn, Virilio's *The Aesthetics of Disappearance* has outraged the neo-Marxian geographer Harvey.[64] For Harvey, Virilio's 'response' to what the former recently called the 'theme of time-space compression' 'has been to try and ride the tiger of time-space compression through construction of a language and an imagery that can mirror and hopefully command it.' Harvey places the 'frenetic writings' of Virilio (and Baudrillard) in this category because 'they seem hell-bent on fusing with time-space compression and replicating it in their own flamboyant rhetoric.' Harvey, of course, has 'seen this response before, most specifically in Nietzsche's extraordinary evocations in *The Will To Power*.' Yet, in *The Aesthetics of Disappearance*, Virilio's unfolding and wholly intentional reactions to the emergence of the dromocratic condition are actually concerned with 'the importance of interruption, of accident, of things that are stopped as *productive*.'[65] As Virilio told Lotringer: 'It's entirely different from what Gilles Deleuze does in *Milles Plateaux*. He progresses by snatches, whereas I handle breaks and absences. The fact of stopping and saying, "let's go somewhere else" is very important for me.'[66] What Virilio's 'frenetic writings' actually substantiate throughout the 1980s are the material and, crucially, the *immaterial* consequences of dromological changes in aesthetics, military power, space, cinema, politics, and technology. In an era increasingly eclipsed by the technologically produced disappearance of cultural life, war, matter, and human perception, this is a very significant achievement. In the contemporary era, though, the limitations of Virilio's cultural theory are likely to rest not—as Harvey suggests—with his similarities but with his *differences* from Nietzsche. As Waite, quoting the American performance artist Laurie Anderson, has argued:

> Virilio still desperately holds on to a modicum of modernist *critique* of postmodern military tactics, strategies, and technologies, whereas Nietzsche basically would have been impatient with mere critique, moving quickly to *appropriate* them for his own *use*, at least conceptually and rhetorically, as metaphors and techniques of persuasion to preserve power for elites over corpses—'now that the living outnumber the dead.'[67]

Conclusion

Although there are many controversial questions connected to Virilio's cultural theory, his hypermodern critique of military tactics, strategies, and technologies is beginning to collide with the thought of a growing number of other cultural theorists such as the Krokers.'[68] The reason for such collisions is that Virilio's texts like *The Politics of the Very Worst*, *Polar Inertia*, *The Information Bomb*, and *Strategy of Deception* address some of the most disturbing and significant contemporary cultural developments of our time. Moreover, such developments are often designed to preserve the power of the increasingly virtual 'global kinetic elites' over the creation of the actual local corpses of what I call 'the (s)lower classes.' A child of Hitler's *Blitzkrieg*, Virilio has theorised the cultural logic of contemporary militarism. This is the most important aspect of his thought. Revealing the dromological and political conditions of the twenty-first century, Virilio interprets modernity in terms of a military conception of history and the endo-colonization of the human body by militarised technoscience. As I have indicated, the concept of hypermodernism needs to be uppermost in any understanding of Virilio's particular contribution to cultural theory.

Virilio is, therefore, one of the most important and thought-provoking cultural theorists on the contemporary intellectual battlefield. Just the same, unlike Lyotard's or Baudrillard's postmodernism, Virilio's hypermodernism does not articulate itself as a divergence from modernism and modernity but as a critical analysis of modernism and modernity through a catastrophic perception of technology. It is for these and other reasons that Virilio defines his general position as a critic of the art of technology. Virilio's theoretical position and cultural sensibilities concerning technology thus remain *beyond* the realm of even critical cultural theory. He does not depend on intellectual 'explanations' but on 'the obvious quality of the implicit.'[69] On the one hand, therefore, Virilio is a cultural theorist who movingly considers the tendencies of the present period. On the other, he is a cultural theorist who utterly rejects cultural theory.

Hence, it is debatable whether there is much to be gained from cultural theorists attempting to establish the 'truth' or otherwise of Virilio's thought. For Virilio's critical responses to the military, chronopolitics, cinema, art, and technology are actually ethical and emotional responses to the arrival of technological culture. However, it is crucial to remember that Virilio's responses are not the passive responses of the armchair critic. As he emphasises in the CTHEORY interview, '[r]esistance is *always* possible! But we must engage in resistance first of all by developing the idea of a *technological culture*.' Virilio is of course also aware that his work is 'often dismissed in terms of scandalous charges!' As he has noted, in France '[t]here's no tolerance' for 'irony, for wordplay, for argument that takes things to the limit and to excess.'[70] Hence, to raise the question of Virilio's cultural theory is to raise the question of whether, outside France, his work should be dismissed in terms of scandalous charges, received in terms suffused with praise, or a mixture of both? In short, it is to raise the question of how much tolerance there is in the English-speaking world for irony, for wordplay, and for arguments that take things to excess? Attempting to answer such complex questions will ensure that Virilio's hypermodern cultural theory continues to elicit theoretical argument and social debate for many years to come.

Notes

1. This article is a substantially revised version of an earlier conference paper of the same title presented at the *3rd International Crossroads in Cultural Studies Conference*, Birmingham, 21-25 June 2000, UK.

2. Paul Virilio and Claude Parent, *Architecture Principe, 1966 et 1996*, trans. George Collins, eds. Paul Virilio and Claude Parent, Besancon: L' imprimeur, 1996.

3. Paul Virilio, *Bunker Archeology*, trans. George Collins, Princeton: Princeton Architectural Press, 1994.

4. For a useful and accessible overview of the works of all three thinkers see Richard Kearney, *Modern Movements in European Philosophy*, Manchester: Manchester University Press, 1986.

5. Paul Virilio, *Speed & Politics: An Essay on Dromology*, trans. Mark Polizzotti, New York: Semiotext(e), 1986; Paul Virilio, *The Aesthetics of Disappearance*, trans. Philip Beitchman, New York: Semiotext(e), 1991; Paul Virilio, *War and Cinema: The Logistics of Perception*, trans. Patrick Camiller, London: Verso, 1984; Paul Virilio, *Politics of the Very Worst*, trans. Michael Cavaliere, ed. Sylvère Lotringer, New York: Semiotext(e), 1999; Paul Virilio, *Polar Inertia*, trans. Patrick Camiller, London: Sage, 1999; Paul Virilio, *The Information Bomb*, trans. Chris Turner, London: Verso, 2000; Paul Virilio, *Strategy of Deception*, trans. Chris Turner, London: Verso, 2000; Paul Virilio, *Ground Zero*, trans. Chris Turner, London: Verso, 2002; Paul Virilio, *Art and Fear*, trans. Julie Rose, London: Continuum, 2003; Paul Virilio (ed) *Unknown Quantity*, trans. Chris Turner, London: Thames and Hudson, 2003; and Paul Virilio, *Ville panique: Ailleurs commence ici*, Paris: Galilée, 2004.

6. Paul Virilio, 'Habitable Circulation' in Paul Virilio and Claude Parent, *Architecture Principe, 1966 et 1996*, trans. George Collins, eds. Paul Virilio and Claude Parent, Besancon: L' imprimeur, 1996, p. xv.

7. 7 Gestalt psychology originated in Germany at the start of the twentieth century. Founded by Wertheimer, Kohler and Koffka, 'gestaltists' believe that mental phenomena are extended 'events,' or 'gestalts.' For Gestaltists, cognitive processes cannot be comprehended in terms of their individual components. Instead, for them, when some new piece of information is acquired, an individual's entire perceptual field is changed forever. Virilio's own particular influence is Paul Guillaume, *La Psychologie de la forme*, Paris: Flammarion, 1937.

8. Pamela Johnson, *The Function of the Oblique: The Architecture of Claude Parent and Paul Virilio*, London: Architectural Association, 1996.

9. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi, London: The Athlone Press, 1988, p.453.

10. Arthur Kroker, 'Paul Virilio: The Postmodern Body as War Machine' in *The Possessed Individual: Technology and Postmodernity*, Basingstoke: Macmillan, 1992, p. 20-50.

11. Virilio considers the Internet to be a constituent feature of the 'third age of military weaponry' or what he sometimes calls *The Information Bomb*, trans. Chris Turner, London: Verso, 2000.

12. On the hypermodernization and militarization of the city see John Armitage and Joanne Roberts, 'From the Hypermodern City to the Gray Zone of Total Mobilization in the Philippines', eds. Ryan Bishop, John Phillips and Wei Wei Yeo, *Postcolonial Urbanism: Southeast Asian Cities and Global Processes*, New York: Routledge, 2003, p. 87-104.

13. Arthur Kroker and Marilouise Kroker, *Digital Delirium*, eds., Montreal: New World Perspectives, 1997; John Armitage, 'Dissecting the Data Body: An Interview with Arthur and Marilouise Kroker,' in John Armitage, ed. Special issue on: *Machinic Modulations: new cultural theory & technopolitics*. *Angelaki: journal of the theoretical humanities*. Volume. 4, Number. 2, September, 1999; Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.172.

14. Paul Virilio and Claude Parent, *Architecture Principe, 1966 et 1996*, trans. George Collins, eds. Paul Virilio and Claude Parent, Besancon: L' imprimeur, 1996, p. v.

15. Paul Virilio, *L' insecurite du territoire*. Paris: Stock, 1976.

16. Zygmunt Bauman, *In Search of Politics*, Cambridge: Polity Press, 1999, p. 120; Scott Lash, *Critique of Information*, London: Sage, 2002, p. 49-64.

17. Carl von Clausewitz, *On War*, Ware: Wordsworth Editions, 1997; Sun Tzu, *The Art of War*. Ware: Wordsworth Editions, 1993.

18. Nicholas Zurbrugg, 'Not Words But Visions!: An Interview with Paul Virilio,' trans. Nicholas Zurbrugg, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p. 161.

19. Paul Virilio, *Popular Defense & Ecological Struggles*, trans. Mark Polizzotti, New York: Semiotext(e), 1990; Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986.

20. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.168, original emphasis.

21. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*. London: Sage, 2001, p.172, original emphasis.

22. Paul Virilio, *The Aesthetics of Disappearance*, trans. Philip Beitchman, New York: Semiotext(e), 1991; Paul Virilio, *The Lost Dimension*, trans. Daniel Moshenberg, New York: Semiotext(e), 1991; Beniot Mandelbrot, *The Fractal Geometry of Nature*, New York: Freeman, 1977.

23. Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge*, trans. Geoff Bennington and Brian Massumi, Minneapolis and Manchester: Minnesota Press and Manchester University Press, 1984.

24. Paul Virilio, 'The Overexposed City,' trans. Daniel Moshenberg, Paul Virilio, *The Lost Dimension*, New York: Semiotext(e), 1991, p. 9-28.

25. Paul Virilio, *War and Cinema: The Logistics of Perception*, trans Patrick Camiller, London: Verso, 1984, p. 80.

26. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.188, original emphasis.

27. Jean Baudrillard, *Simulations*, trans. Paul Foss, Paul Patton and Philip Beitchman, New York: Semiotext(e), 1983.

28. Paul Virilio, *War and Cinema: The Logistics of Perception*, trans. Patrick Camiller, London: Verso, 1984, p. 66; Paul Virilio, *Desert Screen: War at the Speed of Light*, trans. Michael Degener, London: Athlone, 2002.

29. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.188, original emphasis.

30. Jean Baudrillard, *The Gulf War Did Not Take Place*, trans. Paul Patton, Bloomington and Indianapolis: Indiana University Press, 1995.

31. Paul Virilio, *The Vision Machine*, trans. Julie Rose, London: British Film Institute, 1994.

32. Paul Virilio, *The Vision Machine*, trans. Julie Rose, London: British Film Institute, 1994, p. 13, original emphasis.

33. John Armitage, 'Paul Virilio: An Introduction,' ed. John Armitage, *Paul Virilio: From Modernism to Hypermodernism and Beyond*, London: Sage, 2000, p. 3.

34. Paul Virilio, *The Vision Machine*, trans. Julie Rose, London: British Film Institute, 1994, p. 49, original emphasis.

35. Paul Virilio, *The Vision Machine*, trans. Julie Rose, London: British Film Institute, 1994, p. 73, original emphasis.

36. Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. Alan Sheridan, Harmondsworth: Penguin, 1977; Gilles Deleuze, 'Postscript on Control Societies,' trans. Martin Joughin, ed. Gilles Deleuze, *Negotiations: 1972-1990*, New York: Columbia University Press, 1995, p.177-182.

37. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.185.

38. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.192.

39. Paul Virilio, *The Art of the Motor*, trans. Julie Rose, Minneapolis: University of Minnesota Press, 1995.

40. Paul Virilio, *The Art of the Motor*, trans. Julie Rose, Minneapolis: University of Minnesota Press, 1995, p. 109-112; John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.189.

41. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.189.

42. Paul Virilio, *Open Sky*, trans. Julie Rose, London: Verso, 1997; Paul Virilio, *Politics of the Very Worst*, trans. Michael Cavaliere, ed. Sylvère Lotringer, New York: Semiotext(e), 1999; Paul Virilio, *The Information Bomb*, trans. Chris Turner, London: Verso, 2000; Sadie Plant, *Zeros + Ones: Digital Women + The New Technoculture*, London: Fourth Estate, 1997; Donna Haraway, 'A Manifesto for Cyborgs: Science, Technology and Socialist Feminism in the 1980s,' in *Socialist Review* Volume 80 Number 2, 1985, p. 65-108.

43. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.15-47.

44. Friedrich A. Kittler, 'The Information Bomb: A Conversation,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.97-112.

45. David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*, Oxford: Blackwell, 1989, p.351; Geoff Waite, *Nietzshe's Corps/e: Aesthetics, Politics, Prophecy, or the Spectacular Technoculture of Everyday Life*, Durham and London: Duke University Press, 1996, p. 116; Alan Sokal and Jean Bricmont, *Intellectual Impostures: Postmodern Philosophers' Abuse of Science*. London: Profile Books, 1998, p. 159-166.

46. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.15-16.

47. John Armitage, 'The Theorist of Speed,' *New Left Review* 2 (Second Series) March/April 2000, 146; John Armitage, 'The Uncertainty Principle: Paul Virilio's *The Information Bomb,'* in Graham Redden and Sean Aylward, eds. *M/C-A Journal of Media and Culture*, Issue 3, Volume 3, 'Speed.' (Electronic journal: http://www.api-network.com/mc/), unpaginated.

48. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.25.

49. Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.39.

50. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.25.

51. Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.44-5.

52. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.16.

53. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.16.

54. Nicholas Zurbrugg, 'Not Words But Visions!: An Interview with Paul Virilio' trans. Nicholas Zurbrugg, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p. 155.

55. Douglas Kellner, 'Virilio, War, and Technology: Some Critical Reflections,' ed. John Armitage, *Paul Virilio: From Modernism to Hypermodernism and Beyond*, London: Sage, 2000, p103-126.

56. Scott Lash, *Critique of Information*, London: Sage, 2002.

57. John Armitage, 'From Modernism to Hypermodernism and Beyond: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.30.

58. Gary Genosko, *McLuhan and Baudrillard: The Masters of Implosion*, London: Routledge, 1999, p. 96; Marshall McLuhan, *Understanding Media: The Extensions of Man*, Cambridge, Mass: MIT Press, 1994; Paul Virilio, *The Art of the Motor*, trans. Julie Rose, Minneapolis: University of Minnesota Press, 1995, p. 10.

59. Gary Genosko, *McLuhan and Baudrillard: The Masters of Implosion*, London: Routledge, 1999, p. 97.

60. Gary Genosko, *McLuhan and Baudrillard: The Masters of Implosion*, London: Routledge, 1999, p. 97.

61. John Armitage, 'Paul Virilio: An Introduction,' ed. John Armitage, *Paul Virilio: From Modernism to Hypermodernism and Beyond*, London: Sage, 2000.

62. John Armitage, 'The Kosovo W@r Did Take Place: An Interview with Paul Virilio,' trans. Patrice Riemens, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p.175.

63. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi, London: The Athlone Press, 1988, p.351-423; Patrick Crogan, 'Theory of State: Deleuze, Guattari and Virilio on the State, Technology, and Speed,' John Armitage, ed. Special issue on: *Machinic Modulations: new cultural theory & technopolitics*. *Angelaki: journal of the theoretical humanities*. Volume. 4, Number 2, September, 1999, p. 137-148.

64. David Harvey, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*, Oxford: Blackwell, 1989, p. 293, 299 and 351; David Harvey, 'Reinventing Geography' in *New Left Review* 4 (Second Series) July/August, 2000, p. 75-97.

65. Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.44, original emphasis.

66. Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.45.

67. Geoff Waite, *Nietzshe's Corps/e: Aesthetics, Politics, Prophecy, or the Spectacular Technoculture of Everyday Life*, Durham and London: Duke University Press, 1996, p. 381-2.

68. Arthur Kroker and Marilouise Kroker, *Digital Delirium*, eds., Montreal: New World Perspectives, 1997.

69. Paul Virilio and Sylvère Lotringer, *Pure War: Revised Edition*, trans. Mark Polizzotti, New York: Semiotext(e), 1986, p.44.

70. Nicholas Zurbrugg, 'Not Words But Visions!: An Interview with Paul Virilio,' trans. Nicholas Zurbrugg, ed. John Armitage, *Virilio Live: Selected Interviews*, London: Sage, 2001, p. 162.

HYPER-HEIDEGGER

Arthur Kroker

Uncanny Thinking

Martin Heidegger is the theorist par excellence of the digital future.

Probably because Heidegger's was a deeply embittered vision of the ruins of modernity to the extent that he wrote in a spirit of desolation about the "gods having abandoned the earth," retreating back into an impenetrable shroud of "forgetfulness," Heidegger was the one thinker who did not shrink from thinking through to its deepest depths the unfolding horizon of a culture of "pure technicity." While Heidegger began his writing with a deconstruction of conventional ontology in *Being and Time*, his lasting gift to the tradition of critical metaphysics was to perform in advance an intense, unforgiving and unremitting deconstruction of his own life in *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*.[1] After the latter book, having nowhere to go other than to wander in the shadowland between a reflection on Being that in its retreat into forgetfulness was admittedly impossible to concretely realize and a future driven forward by the "will to technicity," Heidegger was the one thinker who literally deconstructed his own project to a point of self-nihilation. With nothing to save, no hope to dispense, and no critique that did not fall immediately into the dry ashes of cultural cynicism, Heidegger's fate was to make of his own life of thought a simulacrum of the will to technology. More than Marx who remained wedded to the biblical dream of proletarian redemption and more so than Nietzsche who countered the nihilism of the "will to power" with the possibilities of reclaimed human subjects as their own "dancing stars," Heidegger was the one thinker without hope in the dispensations of history.

Not broken by the vicissitudes of history, Heidegger was and is the contemporary historical moment. In his thought, the new century is already "overcome" at the very moment of its inception. Not overcome in the sense of abandonment, but overcome to the extent that Heidegger summons up in his thinking the anxieties, fears, and methods of the will to technicity. A futurist without faith, a metaphysician without the will to believe, a philosopher opposed to reason, Heidegger is the perfect representative of the technological trajectory at the outer edge of its parabolic curvature through the dark spaces of the post-human future.

If it be objected that we should not read Heidegger because of his political complicity with German fascism, I would enter the dissent that Heidegger's momentary harmony, but harmony nonetheless, with the politics of fascism makes of him a representative guide to the next phase of fascism—virtual fascism. More than liberal critics who fault Heidegger for taking advantage of the fascist upsurge in pre-War Germany to gain a University rectorship as well as to betray his philosophical mentor—Husserl—I would go further, noting that in breaking with National Socialism, Heidegger did not refuse fascism on the grounds of an oppositional political ethics, but because its strictly **political determination** in the historically specific form of National Socialism in the Germany of the 1930s and 40s was not a sufficiently "pure" type to fully represent the metaphysical possibility that was the German "folk."[2] For Heidegger, National Socialists were not sufficiently self-conscious metaphysically, too trapped in the particularities of politics, to be capable finally of realizing the ontology of the fascist moment: delivering the metaphysical possibilities of (German) folk-community into concrete historical realization. To the tribal consciousness of fascism, Heidegger remained a metaphysician of dasein. Ironically, his prescience concerning the fading away of second-order (National Socialist) fascism before the coming to be of first-order (virtual) fascism ultimately made of his thought a historical incommensurability: too metaphysically pure for the direct action, "hand to mouth" politics of German fascism; and yet too radically deconstructive of the claims of technological rationality to find its home in liberalism. "Homeless thought."

An idealist in the tradition of German nationalism, Heidegger's fate was to be that of the faithless thinker, ultimately disloyal to German fascism because it was not sufficiently metaphysical, yet unable to reconcile himself to western liberalism because it was, in his estimation, the political self-consciousness of technicity. For this reason, Heidegger ended the war digging ditches, having been ousted by German university authorities acting at the behest of state fascism as the University of Freiburg's "most dispensable Professor." It is also for this reason that Heidegger in the post-war period was, except for a brief period before retirement, expelled from university teaching. Always a metaphysician, always in transition to the next historical stage of the "will," always in rebellion against the impurities of compromised philosophical vision, Heidegger's mind was fully attuned to the restless stirrings of the will as its broke from its twin moorings in ethnic fundamentalism and industrial capitalism and began to project itself into world-history in the pure metaphysical form of the "will to will."[3] Beyond time and space, breaking through the skin of human culture, respecting no national borders, an "overcoming" that first and foremost overcomes its own nostalgic yearnings for a final appearance in the theatre of representation, the **will to will,** what Heidegger would come to call the culture of "pure technicity," was the gleam on the post-human horizon, and Heidegger was its most faithful reporter. In Heidegger's writings, the main historical trends of the 21st century have their prophet and doomsayer.

Heidegger's mind lies between past and future.

Technology as a "Danger" and a "Saving Power"

If Heidegger could write so eloquently and think so mystically about that which in the present era is so unmentionable—Being –, if Heidegger could say that Being "comes into presence" in the mode of "enframing," the animating impulse of technology, if

he could speak of Being as containing both a "danger" and a "saving power" and speak evocatively of the "turning" so necessary to transform the danger into the saving power, perhaps that is because Heidegger's thought is itself a "turning," a "lightning-flash" which illuminates human beings to themselves, and which does so not by surrendering to calculative thinking or by retreating to spurious forms of idealism, but by looking deeply and meditatively into the danger of technology, by "thinking" technology to its roots in metaphysics.

Hyper-Heidegger, then, a thinker who makes of himself both a "danger" and a "saving-power," who makes of the effort of reading Heidegger both a form of "uncon-cealedness" and "openness." If Heidegger could dismiss as illusory thinking the pretension that "man has mastery of technology," claiming instead the opposite that **human beings are set in place as a condition of possibility for the development of technology**,[4] if Heidegger could only speak of the human essence in terms of its deep entanglement with the question of technology, that is because Heidegger's thought is the "clearing" that he thought he was only prophesying. To read Heidegger is not so much a matter of meditating on the "question of technology," but the much more dangerous possibility of becoming entangled with the **question of Heidegger**. Not Heidegger as a historically proximate philosopher with a certain biography as a determinately local German thinker projecting the "pathways" of the Black Forest onto the "world picture", but Heidegger as that "glancing" taking us immediately into the dangerous mysteries, not of Being, but of hyper-being, into the impossible metaphysical claims of a form of being that only exists in the language of fatal oppositions: calculation versus meditation, world versus earth, ordering versus revealing, business versus art. Refusing the safety of a strictly monistic determination of the question of being, Heidegger was always a hyper-metaphysician, making of being an enigmatic sign, a crossing-over, a "solitude" between the identify of "world" and the difference of "earth." For him, *incommensurability* is the essence of technology, and hyper-being the song-line of the deeply conflicting impulses that animate technological destining.

The question of Heidegger necessarily speaks to the human essence. If Heidegger is correct, the discourse, first of capitalism, then of capitalism in its hyper-phase as virtuality, is the story of the presencing of **hyper-being**, with ourselves as both its active participants and necessary conditions. This is not a story of fatalism or catastrophe, far from it since Heidegger claims that the latter are themselves no more than the "historiographical" representations of technological consciousness, but the story of "destining", of learning a certain "comportment towards technology" that draws the saving-power out of the danger of technology. In the strange labyrinth of history, could it be that the question of Heidegger is also a "turning," a way of looking deeply into the danger as the first tentative steps towards the presencing of another destiny of technology. Heidegger went to his death with the constant admonition that we are "uninterpreted signs."[5] Could it be that interpreting Heidegger is the necessary encryption of the codes of technology, that until now neglected interpretation of the "uninterpreted sign" that is digital being? But, if that is so, if Heidegger is the necessary interpretation of technological destining, then wouldn't that also make Heidegger's thought a form of "valuing," a will to power projecting itself across the world picture in the language of thought? Wouldn't Heidegger's destiny, then, be an **artistic** one: simultaneously fully implicated in the question of technology while different from it, an artist of the "yes and no?"

Out of place in his time, a thinker sensitive to the loss of the autochthonous in the culture of technicity, Heidegger transformed the language of "rootlessness"[6] into a central premise of the strife in modern subjectivity. For him, the challenge and impossibility of

the modern technical project was its starting-point in "being held out into the nothing." Camus' **absurd.** The gods have retreated into the shadows. The meaning of technicity lies close at hand, yet remains concealed in the shroud of calculative forgetfulness. No certain past, no actual present, only a future-time split open by the animating energy of the will to technology: cultural "rootlessness" as the central feature of modern technical being. Indeed, if contemporary subjectivity can move with such volatility between the "malice of rage" and the solace of healing, then this would only indicate that strife is the modern language of rootlessness. This, then, is the modern fate: "being held out into the nothing" with no clear way of returning to oneself as an abode or dwelling in proximity to the ancient language of the "holy."[7] And yet if we cannot think of the self as an abode or dwelling, then what remains is only the desolation of homelessness and its certain result—the "malice of rage". For Heidegger, as earlier for Nietzsche who in *On the Genealogy of Morals*, spoke evocatively of modern being rubbing itself raw on the bars of "civilized" culture, the "malice of rage" is the true malignancy of technological culture. That this malignancy can sometimes be distracted, even to the point of forgetfulness, in the form of technological exteriorizations of the human sensorium and, at other times, temporarily appeased in the sacrificial language of ethnic scapegoating, does not dispense with the sense of strife central to technical being. If we are an "uninterpreted sign" projected into the future and concealed from the past, then the malignancy at the core of technicity might itself, if intensified by thinking, be compelled to reveal its essence. Which is, of course, the value of contemplating Heidegger: a thinker so proximate to the contemporary technical condition that his thought is itself a field of strife, motivated from within by a malice of rage directed against his own expulsion from the polity of conventional political opinion and yet, who in the bitterness of this exile and undoubtedly against his own preference for the rootedness of the "German folk", became a vehicle by which the forgotten language of metaphysics -- the homeward-bound language of the pre-Socratics -- speaks again to beings held out into the nothing.

In contemplating Heidegger, we also return to ourselves as "uninterpreted signs." His writing is the future of the past.

Philosophy of Technology

All that is merely technological never arrives at the essence of technology. It cannot even recognize its outer precincts.[8]

Make no mistake. Heidegger does not "think" technology within its own terms. Quite the contrary. Repeatedly he insists that technology cannot be understood technologically because, in opening ourselves up to the question of technology, we are suddenly brought into the presence of that which has always been allowed to lie silent because it is the overshadowing **default condition** of our technical existence. Heidegger is relentless in making visible that which would prefer to remain in the shadows as the regulating architecture of contemporary existence. For example, Heidegger notes that today, we can only think technology from the midst of the howling center of the technological vortex, that while we can note that the dominant tendency of technology is towards the "objectification of earth" and the "objectification of (technical) consciousness,"[9] we can never be confident that in thinking the consequences of technologies of objectification that our thought itself has not already been set in place as a necessary "turning" of the technological spiral. And while Heidegger will note that the key ethical consequence of the relentless objectification of earth and sky and water and flesh is "injurious neglect of the thing,"[10] he always makes the parallel claim

that thought itself always has about it a form of neglect, that thought, however critical, always conceals and unconceals, that "injurious neglect of the thing" in the mode of order of willing and doing may also have about it the doubled language of human destining. Thinking Heidegger from the virtual present, from the perspective of the "shadow cast ahead by the advent of this turning,"[11] that he could only intimate who cannot be fully ambivalent on the ultimate meaning of technology as "injurious neglect of the thing." *Who, that is, cannot brush thought against that doubled possibility of injurious neglect, that such injurious neglect may be, in equal parts, a brutalizing consequence of the dynamic language of (technical) ordering and willing and the deepest seduction of technology?* In this case, if the price to be paid for the unfolding of (our) technological destiny is "injurious neglect of the thing" to the point of gutting human subjectivity of its silences, its most essential elements of individual reflection, of thoughtfulness, then is it not now manifest that such injurious neglect **of oneself** is the deepest fascination and most charismatic promotional feature of virtual capitalism? **The virtual self, therefore, as a wireless game with accelerated technical consciousness moving at the speed of injurious neglect.**

Consequently, Heidegger's specific contribution to understanding technology consists of a unique, evocative and comprehensive description of technological experience as a single human process originating in the metaphysics of "enframing," driven forward by the animating energy of the "will to will," resulting in a culture of "profound boredom,"[12] and possessing art as its possible "turning." Folding together future and past, Heidegger's theory of technology assumes the form of a general theory of civilization which, beginning with the basic assumption that technology cannot be understood solely in the language of the technological, traces the genealogy of "planetary technicity" to its ancient roots in a **way of being** that**,** expanding from its origins in the mythic legacy of the west, comes to represent human destiny. As human destiny, technology can neither be refused nor simply affirmed because of its inextricably ambivalent nature. Left unquestioned, technological experience reduces life to a "standing-reserve," in the "unconditional service" of the will to technique. And yet if the "question of technology" cannot be asked without a fundamental inquiry into the mythic roots of technology as destiny, then it must also be said that the (hyper)reality of technology cannot be denied without a fateful loss of that which is fundamental to humans qua humans. For better and for worse, in boredom as well as in anxiety, the question of technology as destiny means that it is only by intensifying technology, by "thinking" technique to its roots in ancient mythology and, thereupon, to its future in the expanding empire of "planetary technicity" that we can hope to elucidate the dangers and possibilities of **being human** in the dawning age of the post-human. Heidegger's "question of technology" is also a way of coming home to the neglected question of the meaning of life in the technodrome.

The Politics of the "Standing-Reserve"

Heidegger's famous essay, "The Question Concerning Technology," can only be read now in terms of philosophical anthropology. Against its own intentions which were focused on stripping away history from the question of technology and, thereupon, grounding the question of technology in the language of its founding metaphysics, this essay has in the forty years since its authorship been reclaimed by the riddle of history. Reclaimed, that is, not in the sense of obsolescence—a theory of technology now superceded by accelerating developments in the present age of wireless and bio-genetic invention—but reclaimed in the deeply anthropological sense that Heidegger's analysis of the question of technology is an uncannily accurate diagnosis of the present human situation.

Writing from the perspective of a mid-twentieth century historical period bracketed by the rise to dominance of mechanical technologies of extraction and the overpowering presence of atomic weapons, Heidegger's view of technology, while focused on mechanical culture, only finds real theoretical and ethical purchase with the advent of electronic and, thereupon, digital culture. In a way that foreshadows contemporary theories of technology, from Virilio's vision of cybernetic technology as a "war machine" operating in the language of the control of "eyeball culture" and McLuhan's grim vision of the "externalization" of the central nervous system in electronic culture to Baudrillard's theorisation of the mass simulation of human desire, Heidegger does that which is most difficult. Almost as a precession of his own theory, his analysis *presences* technology, drawing out the animating impulses of techno-culture in such a way as to compel the "world picture" of technology to fully reveal itself. Refusing to think technology separately from the question of human destiny, Heidegger's thought always hovers around two conflicting impulses in the technological world picture: first, the tendency towards "enframing" by which the dominating impulse of contemporary technology pirates the human sensorium on behalf of a globally hegemonic technical apparatus; and, second, the tendency toward "poeisis" by which an art of technology, variously expressed in language, poetry, the visual arts, speed writing, an aesthetics of digital dirt, and new media art could draw out of the world picture of technology as destining a different future for techne, a future in which technology once again has something to say, to "unconceal," about the relationship between technology and alethia (truth).[13]

Indeed, what is so inspiring about Heidegger's doubled vision of technology is its uniqueness in simultaneously running parallel to the cutting edge of new digital technologies and doing so in such a way as to plunge the "question concerning technology" back into its classical origins as a essential expression of being itself. While other theorists have "thought" technology within and against the modernist and now, postmodern, epistemes, Heidegger's special gift to those intent on deciphering the question of technology is a dramatic double refusal: refusing, at first, to think technology within strictly contemporary terms by insisting that the language of technique is derivative from another, more hidden, "presencing" of being that hides itself in the shadows of thought; and refusing to think technology as technology, insisting that technology is at its inception never strictly technological but metaphysical.

Consequently, the curiosity: Heidegger's "The Question Concerning Technology" makes of the dynamic drive to planetary technicity a probe for unconcealing a more fundamental "mode of being," a mode of being which, until now, may have purposively retreated into the shadows in the spectral form of "oblivion of being," but which under the artistic "revealing" that is Heidegger's method is finally forced to confess its ancient secrets. In Heidegger's vision of technology, we are always standing midway between the unfolding future of the drive to technological domination and the revelation of the classical genealogy of the question of technology. Both genealogist and futurist—artist and craftsman—Heidegger's probe of the "world picture of technology" is always enunciated in the doubled language of that which he seeks to expose—the twin words of provocation and revelation, "challenging-forth" and "poeisis." He is instructive to meditate upon not simply for his dramatic political and cultural conclusions concerning the destiny of technology, but, more decisively, for the deep method of his thought. Always equal to the object of his writing—planetary technicity—,Heidegger not only claimed that technological experience was, above all, a *method,* but in his own writing paralleled the world picture of technology as method

by making of his own thought a method of technological revelation. In meditating upon Heidegger, we are suddenly brought (technically) close to that which is (metaphysically) distant. His mind splits the atom of technology. His thought sequences the DNA of the question of technology.

In Heidegger's thought, the twin elements composing the atom of technology in its classical origins and which, until now have wandered the "desolation of the earth" separate and at war, these twin elements of provocation and poeting, calculation and meditation, space and time, are finally reunited in a new experimental moment of fusion. The Heideggerian method solves the riddle that it sought only to reveal and, in doing so, provides an **ethics of technology**, an ethics that has something fundamental to say about the unfolding future of planetary technicity because the Heideggerian project **is** technology. Beyond the specific historical details populating each of Heidegger's writings on technology, from the atomic weaponry of "The Question Concerning Technology" and the theoretical physics of "What is Metaphysics?" to the bio-genetics of *The Fundamental Concepts of Metaphysics*, Heidegger brings to the project of thinking technology a mode of expression simultaneously ancient and post-human, equally at home in the question of being and not-being. And if at the end of his life, Heidegger abandons the comfortable illusions of existentialism that are the condition of possibility of *Being and Time*, that is only because faithful to the method of "challenging-forth into the ordering of the standing-reserve"[14] that is the hallmark of the technological surgery upon the human condition, Heidegger does not, in the end, spare his own thought from the bitter lessons of his diagnosis. This is one thinker with the courage to make of his own theory of technology a model of technicity with such intensity and determination that his thought challenges technology to the death. Challenges, that is, the world picture of technology to circle back on itself, to engage the conflicting impulses towards "harvesting" and "poiesis" in their most primary expression of being in Heidegger's "way of thinking." Without exaggeration, the *alethia*—the truth—of Heidegger is, at once, the *alethia* of technology. Resolving the limits and creative intensities of Heidegger's vision of technology is much more than another perspective external to technology. To **think** Heidegger is also to presence the interior limits of a mode of (technical) being that seduces by its radical impossibility: revelation without actualization, calculation by abandoning justice to the oblivion of being.

The question of Heidegger is proximate to understanding the twenty-first century.

Notes

1. Heidegger, *The Fundamental Concepts of Metaphysics: World, Finitude, Solitude*. In this text, Heidegger provides the theory of completed nihilism: its fundamental attunement—"profound boredom;" its method—the disciplinary practices of bio-genetics; its dominant cultural sign—terminal drifting towards generalized "indifference."

2. See in particular, Heidegger's reflections on the historical destiny of the German "folk," in his *Die Selbstbehauptung der deutschen Universitat*, "Rektoratsrede," Breslau: W.G. Korn, 1933.

3. Martin Heidegger, *The Question Concerning Technology*, "The Word of Nietzsche," p.102. "In the willing of this will, however, there comes upon man the condition that he concomitantly will the conditions, the requirements, of such a willing. That means: to posit values and to ascribe worth to everything in keeping with values. In such a manner does value determine all that is in its Being."

4. Martin Heidegger, *Nietzsche*, "The Will to Power." p.197. Beyond the question of technology, Heidegger argues that the will to will that is the essence of technological destining always

requires that human and non-human nature be reduced to the function of "standing-reserve." Thus, for example, in Nietzsche, Heidegger describes the essential movement of the will to power as gathering into itself means for the "preservation" of power. "Therefore, enhancement of power is at the same time in itself the preservation of power." In is in this sense that Heidegger describes the technical condition of human subjectivity as "standing-reserve" in *The Question Concerning Technology and Other Essays*, p. 23. In his essay, "On the Question of Being," Heidegger notes: "The reduction that can be ascertained within beings rests on the production of being, namely, on the unfolding of the will to power into the unconditional will to will," *Pathmarks*, p. 312.

5. Martin Heidegger, *Basic Writings*, "The Origin of the Work of Art," pp. 140-212. For Heidegger, the importance of art in the technological milieu was precisely to open the question of technology to a different form of interpretation, not only the logic of "calculability" but also the revelation of poetry.

6. Martin Heidegger, *Pathways*, p.258. "Homelessness so understood consists in the abandonment of beings by being. Homelessness is the symptom of the oblivion of being. Because of it the truth of being remains unthought."

7. Ibid; "What is Metaphysics," p.93. "Being held out into the nothing—as Dasein is—on the ground of concealed anxiety makes the human being a lieutenant of the nothing."

8. Martin Heidegger, *The Question Concerning Technology and Other Essays*, p.44.

9. Ibid., p.100. In "The Word of Nietzsche," Heidegger draws the conclusion from technological objectification as destiny: "Man, within the subjectness belonging to whatever is, rises up into the subjectivity of his essence. Man enters into insurrection. The world changes into object. In this revolutionary objectifying of everything that is, the earth, that which first of all must be put at the disposal of representing and setting forth, moves into the midst of human positing and analyzing. The earth can show itself only as an object of assault, an assault that, in human willing, establishes itself as unconditional objectification."

10. Ibid., p.48.

11. Martin Heidegger, "The Turning," in *The Question Concerning Technology and Other Essays*, p.41.

12. Martin Heidegger, *The Fundamental Concepts of Metaphysics*, p.162. "Profound boredom, its being left empty, means being delivered over to beings' telling refusal of themselves as a whole. It is thus emptiness as a whole." Intensifying Nietzsche's admonition that man has grown tired of himself, Heidegger asks: "Has man in the end become boring to himself?—as the question in which we ready ourselves for a fundamental attunement of our Dasein." (FCM, p. 161.)

13. Writing of the "grounding-attunement," Heidegger states: "In the first beginning: deep wonder. In another beginning: deep foreboding." Martin Heidegger, *Contributions to Philosophy (From Enowning)*, translated by Parvis Emad and Kenneth Maly, Bloomington and Indianapolis: Indiana University Press, 1999. (p.15).

14. Heidegger, "The Question Concerning Technology," p.20.

MYRON KRUEGER LIVE

Myron Krueger in conversation with Jeremy Turner

Myron Krueger is one of the original pioneers of virtual reality and interactive art. Beginning in 1969, Krueger developed the prototypes for what would eventually be called Virtual Reality.

These "responsive environments" reacted to the movement and gesture of the viewer through an elaborate system of sensing floors, graphic tables, and video cameras. Audience members could directly interact with the video projections of others interacted with a shared environment. Krueger also pioneered the development of unencumbered, full-body participation in computer-created telecommunication experiences and coined the term "Artificial Reality" in 1973 to describe the ultimate expression of this concept.

CTHEORY: Critics of VR often state that virtualization initially seduces the body through its promise of (immersive) escapism but eventually degrades the physical integrity of "meatspace" by retreating into a "false" and "secondary" reality. Others argue that virtual experience is as legitimate as real experience. What is your position?

MYRON KRUEGER: Your question touches on several issues which I will address separately: seduction of incomplete reality, rejection of the corporeal, escape from reality, and the status of virtual experience. *Virtual reality is incomplete.*It is true that today's virtual reality provides very limited tactile feedback, almost no proprioceptive feedback (as would be provided by walking on a sandy beach or on rough terrain), rare opportunities to smell, and little mobility. However, it is just getting started. Criticizing a new idea because it is not yet fully realized seems unreasonably impatient. On that basis, the caves at Lascaux would never have been painted because we did not have a full palette and could not animate in three dimensions. Give us a few centuries and then revisit this complaint. *Is immersion a rejection of the physical?* Humankind has always inhabited a conceptual universe that is every bit as important to it as the physical world. Language, symbols, myths, beliefs, philosophy, mathematics, scientific theories, organizations, games, sports, and money are completely abstract dimensions but as much a part of our humanity as rocks and trees. Originally, our conceptual world had no physical or perceptual representation. Later it got worse, reading and writing forced us to immobilize our bodies and to engage only our eyes and brain, rendering the intellect sedentary long before television arrived. Today, computer graphics allow us to make this kind of information perceptual. Virtual reality goes a step further by engaging the machinery we use to operate in the physical world. Rather than denying the body, virtual reality reconnects

it to the life of the mind. I have always pointed to physical participation as the key distinction of virtual reality. *Is immersive VR going to seduce us away from reality?* The flight from reality is not exactly a new issue. My parents were once worried that I was being seduced—by the world of books. Certainly, movies, videos, video games, and the internet have already successfully seduced us from the real world. However, there are no instances of anyone being seduced by current immersion technology. It is not good enough yet. *Is Seduction a Bad Thing?* As we have strived to control Nature, we have also endeavored to compose experience. Music takes us away from the sounds of nature, but it is hardly a pale approximation of the real thing. Whereas everyday experience is jumbled and disconnected, the narrative arts can impose structure and meaning. Since real experience often teaches the wrong lessons, the military is convinced that artificial experience is the best teacher. Only the Taliban would argue that those who have never had artificial experiences are superior to those who have. Virtual reality not only offers a new dimension in artificial experience, it improves on reality in very important ways. One theme of modern life is the desire to maintain human relationships over distance. From the letters of John and Abigail Adams, to the endless phone calls of my youth, to the electronic chat of today, we strive to feel we are together when we are not. One of my key contributions was the idea that virtual reality provides a context in which we can interact physically as well as verbally with distant companions. Clearly, it is the relationship that is real, the physical ambience at either end is secondary—as it should be, because it is not shared. In the future, our ability to communicate in virtual reality will be so good that we will choose to use it when we are together. It will be better than being there. One of my first writings included the following sentence: "The result is an artificial reality, a whole new realm of human experience in which the laws of cause and effect are composed by the artist." From the beginning, I cautioned about the "trap of realism" which would limit virtual reality to merely imitating life when it offered the possibility of something completely new. We should celebrate these new realities, explore them, and be confident that the worlds that we create are every bit as valid as the one we started in. Ultimately, reality is whatever we say it is. We should not be intimidated by those who want to restrict us to the missionary position of the meat world when the Kama Sutra of virtual reality awaits. For us to do less than we can is to be less than we are.

CTHEORY: Today, many new realities being built by developing and speculative technologies are being confused with having exclusively immersive properties. However, all along, you conceived of virtual reality (which you then called "Artificial Reality") as being primarily composed of external and not immersive properties. You also discussed the possibility that extroverted realities could be harmonized with the "real" rather than harvesting it. One could walk in physical space and experience a prototype to what Michael Heim now calls "Exo-Virtuality" (EVR). Are we then seeing a gradual return to your original idea?

MYRON KRUEGER: In 1970, I considered HMDs (Head Mounted Displays) and rejected them because I thought whatever benefit they provided in visual immersion was offset by the encumbering paraphernalia which I felt would distance participants from the world they were supposed to feel immersed in. When I pondered what the ultimate experience would feel like, I decided that it should be indistinguishable from real experience. It would not be separated from reality by a process of suiting up, wearing gear, and being tethered to a computer by unseen wires. Instead of an alien planet accessed through an airlock, it would be like a doorway to a fantasy world that you

could enter simply by attending to it. Rather than limiting your participation to a single hand-held 3D pointing device, your image would appear in the world and every action of your body could be responded to instantaneously. Whereas the HMD folks thought that 3D scenery was the essence of reality, I felt that the degree of physical involvement was the measure of immersion. Instead of being concerned about the stagecraft, I focussed on the play. Since I was arguing for convenience, naturalness, and obviousness, my concepts were well positioned for technological advances as they unfolded. Since 99% of applications are 2D and 99% of 3D applications are driven by 2D interfaces, there has been very little immediate interest in HMD immersion systems in the general office environment. Furthermore, given that people spend much of their time communicating with their colleagues, there is little tolerance for a technology that makes users look foolish or cuts them off from their peers. I postulated an external virtual world in which the computer perceives users visually, listens to what is said, and answers through synthesized speech as well as projected graphics. This "Point and Talk" interface was seen as fanciful by academic researchers, but today, even Bill Gates speaks of "gesture interfaces." Three decades after my first demonstration, this approach is considered mainstream research and is being pursued at most major academic and industrial research labs. There are two display trends that are fueling the progression towards external realities. The first is the arrival of low cost projectors driven by individual chips. The second is the possibility of inexpensive large scale displays based on organic LEDs that could be built into every available surface. One way or another, we will be surrounded by computer-generated displays that respond to verbal commands and body movements. The virtual will always be with us. The issue will not be escaping to it, but escaping from it. HMDs are very promising but they will be used only when they provide significant advantages over other display modalities. If HMDs fit into regular eye glasses, do not change the wearers' appearance, and do not cut them off from their colleagues, they will be the least encumbering and cheapest possible displays for mobile applications such as portable computers, cell phones, augmented reality, and entertainment systems. Providing traditional text and graphic information on see-through eyeglass displays to people as they move around their daily lives will completely change our relationship to information. Augmented reality applications are certainly interesting but will take longer to develop and deploy. The real world can be annotated with driving instructions, virtual billboards, the name of the individual you are speaking to, and the name of the plant or bug you are looking at as you walk through the woods. People you are telecommunicating with will appear as 3D beings in your real space. Thus, virtuality will be applied to the real world that skeptics are afraid we are withdrawing from. It will make that world much richer with information. Being without this virtual capability will be like taking off your eyeglasses if you are nearsighted—possible but not comfortable.

CTHEORY: Has "immersion" become synonymous with "evolution"?

MYRON KRUEGER: Certainly, virtual reality is part of an evolutionary process that will profoundly blur the boundaries between humans and machines. Biotechnology will do the same because it allows us to understand ourselves as mechanistic expressions of coded (and therefore editable) information. But let me answer in terms of another evolutionary process present in virtual reality at this moment. I started my graduate work with an interest in Artificial Intelligence. For some reason, AI has been out of favor for decades and no one speaks with the optimism that characterized early efforts. This is puzzling because we are starting to confront simulated characters that can perceive us, understand speech, and respond with speech of their own. In their early stages we will

be able to quibble about whether these artificial entities are really intelligent. However in time, we will be no more likely to administer the Turing test to them than we are to scrutinize most of the people we interact with. If they had bodies and body language, we would soon cease to think about them. But convincing robots are not on the immediate horizon. We are still stuck with the same mechanical vocabulary that we have been using for the last century. Polymer muscles are being experimented with but we are at the beginning of their development. In the meantime, artificial intelligence can evolve by building on the concept of a microworld, one of its most successful strategies. In this technique, the knowledge required to reason about a limited domain is built into a program and sure enough the program can act like it understands what is going on inside that domain, even though its ignorance of everything outside that domain is total. Most computer applications resemble microworlds and both immersive and external versions of virtual reality certainly do. VR allows people to enter the microworld and enables the computer to perceive their body movements in the context of that world. By finessing the problem of visual perception of the real world, the AI program can focus on the relationships that exist among human participants, synthetic avatars, and the objects and spaces of the virtual world. In this context, real incremental progress in AI can be made. In fact, the office and the home are also microworlds, inhabited by a small number of people, having a limited number of tasks that the computer can perform for them, and engaging in a limited number of stereotypical activities that could be understood with current or immediately foreseeable computer vision technology. That the cognitive and language skills are minimal does not matter, we are quite adept at communicating with children, with immigrants whose English skills are poor, and with people whose roles allow us to interact with them in restricted ways. This development is inevitable and its result will be an artificial entity that is considered as much a part of the household as a dog or a maid. Once the foot is in the door, there will be a continuing appetite for ever greater intelligence and personality until the result rivals and exceeds our own.

CTHEORY: Do you still see your original "Artificial Reality" (AR) installation as "Artificial"? In the near future, what will become the definition of "real"? Is it safe to just call the new technologically-driven realities as "Transposed Realities" (TR)?

MYRON KRUEGER: I saw virtual reality as a metaphor for what was happening throughout our society. My term "artificial reality" referred to this metaphor as much as to any particular means of implementing it. I deliberately made the term provocative and liked the fact that it was an oxymoron. When I started, the term was more loaded than it is now. Then, the artistic and intellectual default position was outright hostility towards technology and "dehumanizing" was assumed to always precede "technology." My own bias is exactly the opposite. I view technology as the essence of our humanity. An empty hand signals that our anatomy is incomplete until we pick up a tool. In addition, I consider technology an inevitable consequence of the laws of physics and therefore as natural as the birds and the bees. In fact, when I look at plants and animals, I see incredibly sophisticated technology, not something spiritually different from our own creations. Rather than thinking of myself as inventing technology, I have always believed that it was already there and that I merely discovered it. Rebutting C.P. Snow's idea of two cultures was one of the sources of the passion that I put into my early work. I felt that virtual reality and interactive art could help heal the rift. The spectacular increase in the number of artists now using technology is evidence that this is happening.

CTHEORY: Have you given much thought to the ways in which your original "Artificial Reality" installation has influenced contemporary multimedia installation practices? Are there current artists whose work references your early experiments?

MYRON KRUEGER: I was one of the first few artists to commit themselves to computer-based interactivity on a long term basis. I was the first to write extensively about the medium in my 1974 dissertation which was published as Artificial Reality in 1983. I not only laid out the medium but also described many ideas for interactive pieces that I wanted to create. Since I anticipated much of what has followed in my writings and in my work, it is natural that I see what seem to be obvious influences everywhere I look. When I started, there was no concept of an interactive medium. I reasoned that to permit the participant to move around and to dominate his senses, I needed an authoritative but highly composable display. My decision was to use a video projector to display computer images, which I do not believe had been done before and certainly not for interactive experiences. When Dan Sandin visited my first video projection installation in 1970, we both saw the obvious desirability of surrounding the participant with projected images—hence the CAVE. To maximize interactivity, I reasoned that my work also needed to perceive participants' movements. I built several sensory floors and started on a fifteen year development of specialized computers that would allow me to analyze participants' video images instantaneously. Combining live video images and computer graphics was another novel element that offered a rich set of interactive relationships. Placing geographically remote individuals in the same visual telecommunication space has provided another convention that has proved useful. These decisions have proved powerful and today there are a number of artists and scientists working in identical frameworks or variations on these themes.

CTHEORY: Have you visited any OnLive worlds as an avatar? ActiveWorlds.com, for example, is a constantly growing and organically evolving cybergeography. If your early prototype for virtual worlds kept on growing in size since its inception in the 60s and the current idea of VR never came to fruition, what kind of physical and political infrastructure would you imagine having to be in place in order to economically, socially and environmentally sustain the potentially limitless geographical expansion of AR (versus VR) into the limited physical environment?

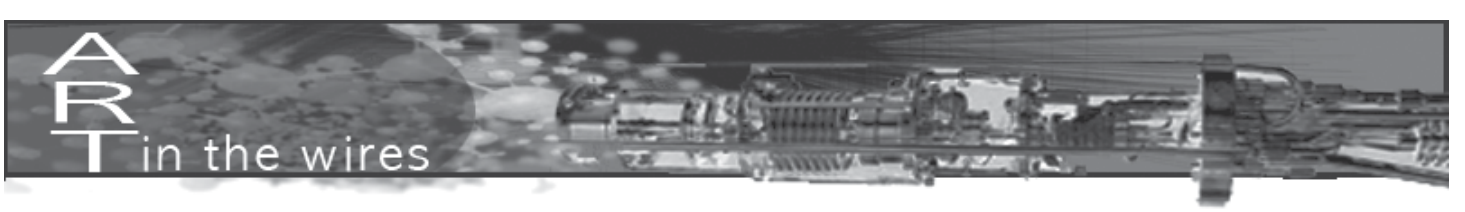
MYRON KRUEGER: Actually, I have not done that much with Internet-based interactivity. I live in an electronic ghetto with only a 56Kb connection which is too slow for the kinds of interactivity that I like to work with. In fact, I suspect that if I had DSL or cable access, I would still find the lag between my input and the system's response too slow for my taste. Finally, I gave up interacting with traditional computer interfaces long ago. I find video game controls stultifying and am shocked that the players' input vocabulary has not improved much since Atari. Actually, the infrastructure required to scale up VIDEOPLACE is not that different from what is needed for other forms of virtual reality. High bandwidth, infinite computing power, and low cost wireless technology would all be useful. However, guaranteed bandwidth and low latency are actually more important than high bandwidth for good interactivity. Today, packet switched voice over internet is just starting to be deployed. It will take years for a generalized packet switched network to evolve with each kind of data given a different priority and therefore a different level of service so completely new kinds of services to be easily cobbled together. Today's assumption that everything will be based on the internet places another kind of barrier in the way. Like the PC, the internet is an expression of

the software community's lust for overhead—for features and generality over performance. For virtual worlds based on centralized web sites accessed through PCs, it is hard to imagine a performance increase that will not be completely consumed in software complexity before the virtual reality simulations are run. Thus, unacceptable lags seem inevitable. Human interaction is like flying. It is not enough to taxi down the runway, you have to do it fast enough to take off. In general, computer scientists have exempted themselves from speed constraints. It is as if aeronautical engineers did not think gravity was interesting. Oddly, if ISDN had been deployed with enthusiasm by the phone companies ten years ago, it would have been possible to do high speed interactive worlds with speech as well as gesture communication. This service was not promoted aggressively for fear it would cannibalize T1 sales. The common wisdom is that the internet and telecom worlds collapsed because too much money was spent on them. In fact, not enough was spent to complete the job. Now, it is as if an asteroid hit the earth and killed the mammals instead of the dinosaurs. The surviving companies are not the ones I would have chosen to pin my hopes for the future on. The economic promise of a new telecom architecture is as great as the interstate highway system and the internet itself. Therefore, it is worth reconsidering our aversion to government interference, getting standards set, and building out the infrastructure as fast as possible, perhaps with some kind of bonding. My fear is that none of the myriad applications that are guaranteed to arise yet appear large enough to give the large firms confidence that there is a target large enough for them to survive even if they hit it. It is worth mentioning that the infrastructure required to support the ultimate integration of the real and virtual worlds requires monitoring human location, direction-of-gaze, physical action, and speech on a moment-by-moment basis. Such omnipresent observation makes Big Brother seem absolutely negligent. That such a technology could be abused is obvious, but I am old enough to be living in the future I was warned about and have faith that this is a bad as it gets. Government and business will do some things that violate our privacy—but it won't be as bad as living in a small town a hundred years ago.

CTHEORY: What do you think will be the first commercial applications of the nanoassembler? Do you envision any immediate artistic/cultural/aesthetic applications of the assembler once it is on the market? Might this be the key to producing a viable "Artificial Reality"?

MYRON KRUEGER: The ability to make things ever smaller will lead to many culture-defining developments. Today, we are often engaged in conversation with people in other places, even as we offend those around us. It is easy to project miniaturized technology that will allow us to subvocalize instead of speak and later to simply think what we want to say and an implanted RF device will transmit it. A host of other implanted appliances can be expected, powered by the calories we consume or by burning the excess cholesterol in our blood. We can have smart immune systems that distinguish friend from foe and instantly generate antibodies to combat the latest bioterrorist threat. A DNA nanoassembler will allow us to hijack the behaviors of ants to put them to work ridding our crops of pests one by one. It will allow us to incorporate new mental processing capabilities in our brains as needed and then let those cells be reprogrammed and reconnected for another purpose later. Evolution could be moment to moment rather than generation to generation.

ART IN THE WIRES



INTERRUPTION

MOTION PERCEPTION

NET BAROQUE

APPROXIMATE AESTHETICS

SILENCE TO DELIRIUM

DISTRACTION

KOSHUN'S KNOB

ART IN THE WIRES

Arthur and Marilouise Kroker

The contributors to *Art in the Wires* are the outriders of enhanced digital consciousness. Putting aside everything they have been taught about the shape of technoculture, they have commonly turned to confront digitality, to explore what is being shut down but also what is being opened up by the coming to be of digital culture. Painters, photographers, musicians, theorists, multimedia artists, curators, all from different backgrounds and certainly adopting different perspectives, the authors in *Art in the Wires* have commonly entered the light-wave side of digital reality. In their writings, it is almost as if the heavy weight of modern consciousness is finally lifted in favor of a form of thought that actually fits the digital facts comprising the present.

Perhaps their common preference to think technology in terms of art is due to their own intellectual prejudice in that direction. Biologists understand the world in terms of the struggle of memes and genes; astrophysicists privilege the curvature of space; geologists think in terms of long natural cycles of indefinite duration; and economists theorize the natural laws of supply and demand. So why, when confronted with the question of technology shouldn't artists privilege a form of understanding technology in strictly artistic terms? This sounds reasonable, but to assent to it is to miss the stunning originality of the perspectives in *Art in the Wires*. We think that it is precisely because these are artists in the wires that their knowledge of the deep practices of art, from painting and sculpture to video, photography, and music has sensitized them to an astonishing discovery. Namely that in exploring the future of technoculture they have come upon a form of expression—a medium of communication—that is hauntingly familiar, that somehow technology isn't only understandable in artistic terms, but something more fundamental: **technology is art.**

And so, the question which haunts every contribution to *Art in the Wires*. In electronic culture, has technology itself become the highest form of artistic expression? Is the real seduction of electronic culture the fact that the media world within which we live and which increasingly inhabits us, taking possession as it does of perception, expression, imagination, the primary domain of contemporary aesthetics? And if so,

what are the consequences of this fundamental shift? What language can we use to understand both our immersion in the image matrix and the relationship of new (digital) media to the electronic media of mass communication?

When (industrial) products become (electronic) signals, when the machinery of consumer production becomes the "vision machine," when the defined, territorially fixed borders of modernity give way to culture moving at the speed of light, then Marshall McLuhan's prophetic insights concerning artists as probes of the electronic future is revealed to be accurate, yet deeply ironic. Ironic, that is, because if technology is art then artists are probes of their own externalized consciousness. Remember: McLuhan speculated that electronic culture commences with a big flip. When the human sensorium is plugged into the mediascape, we begin to live within *our own* externalized central nervous system in the form of electronic technologies of communication. While McLuhan did not live to witness the full unfolding of electronic culture, the digital generation that his thought so deeply inspired has now come of age, sometimes writing their technological autobiographies in the form of contributions to *Art in the Wires*. However, going beyond McLuhan, these authors—Michael Betancourt, Anna Munster, Janne Vanhanen, Christina McPhee, William Bogard, and Ted Hiebert—send back reports of their time-travel in the digital galaxy. As probes, their minds are already firmly in the future, picking up telemetry from passing digital media, archiving data for later transmission, processing information acquired for its cultural implications, always alert to their primary mission: to find a safe passage through the star field of digital reality for a waiting humanity that thinks much like George Grant, a brilliant philosopher of technology, in *Time as History:*

> Our present is like being lost in the wilderness, where every pine and rock and bay appears to us a both known and unknown, and therefore as uncertain pointers on the way back to human habitation. The sun is hidden by the clouds and the usefulness of our ancient compasses has been put into question. Even what is beautiful has been made equivocal for us in detail and definition.[1]

Art in the Wires lives at the edge of the tension provoked by the coming together of McLuhan's futurism and Grant's lament. Neither past nor future, *Art in the Wires* is a careful attempt both to think through the subtle codes of technology and to use the language of art itself as the basis of a new language for understanding technoculture. Here, we are in the presence of an evocative series of new media studies which do something that is as unusual as it is intellectually saluatory. Refusing to discuss new digital media in the language of television, radio, and cinema, contributors to *Art in the Wires* have developed highly original studies of new media in a conceptual language emergent from the digital reality itself. The authors in this section represent a highly creative encounter with the future(s) of digital media, establishing codes for interpreting new media

This encryption of the cultural codes of new media has different subject-matters: Janne Vanhanen's "Loving the Ghost in the Machine"as a study of **electronic music** as an aesthetics of interruption; Michael Betancourt's "Motion Perception in Movies and Painting" as an evocative discussion a new "**kinetic visual art"** flowing from the relationship of painting and avante-garde film; and Christina McPhee's "Net Baroque" as an eloquent, beautifully articulated, meditation on the cbyorg body which is seen as coming alive at the precise moment when "the space and sounds of the **net become a baroque topology."**

It also has very different very different theorizations. Anna Munster's "Digitality: Approximate Aesthetics" is a compelling account of **proximity** as the structuring process for digital aesthetics. Moving beyond traditional concerns with virtuality, interactivity and connectivity when discussing digital aesthetics, Munster argues that new media privilege proximity as a structuring process. For Munster, digitality is more than a medium but less than a framework. How do codes lie on the surface of the body? How does what Jean Baudrillard describe as the "terrorism of the code" inhabit our imaginations? When we move finally beyond an understanding of digital experience in terms of virtuality, what language can we use to describe those phantom-like zones of the in-between as wired culture rubs itself against human flesh or as the image matrix slips inside to inhabit human perception? When industrial machinery literally retools into assemblages of speed, when digital media become the new automatic nervous system of the cyber-body, how does digital art probe the data body within which it is located? Are we in the presence of new media as sharing a close proximity with the organs of human perception or something else? Does our co-habitation in the delirious world of the image imply proximity or that we are in a cultural free-fall into the "**presence of nothingness."** That is the question posed by Ted Hiebert's "Hallucinations of Invisibility" which studies the dominant cultural sensibilities of the digital age: absurdity, paradox, and delirium. Linking together Albert Camus, Paul Virilio and Jean Baudrillard, Hiebert's analysis, in effect, problematizes Munster's reflections on the 'proximity' of new media by inquiring into the larger cultural consequences of our cohabitating the world of the image matrix. Or what of William Bogard's brilliantly conceived thesis in "Distraction and Digital Culture" that media culture operates now as a vast, relentless **'distraction machine of escape and capture,**' simultaneously a matter of hard seduction and soft manipulation. Bogard asks: What is distraction after the age of mechanical reproduction? and responds with a profoundly original analysis of the stealth, speed and interrupted flows of media and their relationship to power. As he concludes:

> It is not doubt that modern systems of information control threaten to eliminate both the dangers and the charms of distraction as escape. "Recliner" civilization increasingly finds itself caught up in grand delusions of escape, only to discover itself bound ever more tightly to the images on its screens, and to the channels of information which now threaten to restructure it at the molecular level. The political question today remains: what modes of distraction, operating at the most micro-scales of the body, can transform such delusionary escapes into real ones?"

When technology becomes art, perhaps the only satisfactory response to the culture of distraction is an artistic one. Namely beginning new forms of thought such as the different contributions to *Art in the Wires* which have the cumulative effect of unmasking the "distraction machine of escape and capture," confronting the culture of distraction with the laser eye of critical vision.

Notes

1. George Grant, *Time as History*, Toronto: University of Toronto Press, 1995, p.52

LOVING THE GHOST IN THE MACHINE

AESTHETICS OF INTERRUPTION

Janne Vanhanen

Ghosts

In science fiction, ghosts in machines always appear as malfunctions, glitches, interruptions in the normal flow of things. Something unexpected appears seemingly out of nothing and from nowhere. Through a malfunction, a glitch, we get a fleeting glimpse of an alien intelligence at work. As electricity has become the basic element of the world we live in, the steady hum of power grids and their flowing immaterial essences slowly replacing the cogs and cranks of everyday machinery, the ghostly rapport has also relocated into the domain of current fluctuations, radio interference and misread data.

Early telegraph experimenters heard strange raps and clicks issuing from disturbances in Earth's magnetic field, seemingly communication from some other side: Thomas Edison tried to put together a radio device to address denizens of other worlds; Constantin Raudive, Raymond Cass and Friedrich Jürgenson spent hours and hours attempting to capture voices of the dead onto magnetic tape; radio antennas at Arecibo Observatory are pointed skywards, waiting for extraterrestrial signals.[1] The presence of some outside force has always been supposed to be apparent through interference and interruption.

Actual facts about these manifestations are not really important. The interesting thing is that every new medium seems to open up a new kind of outside, every new mode of perception leaving out, or even creating, something imperceptible, and on the other hand bringing out something previously out of reach. Erik Davis has named the outside boundary of electronic media as the "electromagnetic imaginary,"[2] meaning that many animistic or alchemistic notions of essential energies and life spirits have been translated into the concept of electricity, and remaining in the "technological unconscious." Machines seem to inhabit some kind of life, even as that life is an extension of our selves. The sheer uncanniness of a disembodied voice transmitting via telephone line, as experienced by early telephone users, is quite hard to imagine now, but think of hearing a voice of a recently departed person on an answering machine.

We can remember Marshall McLuhan's words about electronic media having outered the central nervous system itself, thus making the world into a smooth plateau of perception.[3] This rings true when considering digital media, which is characterized by its transparency, its smoothness. Any type of information is de- and recodable into another format. This kind of flux and mutability of digital media makes it into an immersive environment, rather like sound.

So far, however, our conception of electronic media seems to have been very visually dominated and tied up to the more general link between the visual and the rational, which has been prominent in Western thought. However, many thinkers have also *heard* something new coming from the explosion of new media since the 19th Century. McLuhan wrote about the acoustic quality of the electronic global village he saw coming. German philosopher Wolfgang Welsch, in his essay "On the Way to an Auditive Culture?" addresses the problem of oculacentrism of the Western philosophical tradition and tries to create a conception of an auditive form of thinking.[4] How to think of sound itself when the epistemological focus of our thinking and our concepts is located in a seeing subject? With its temporality and immersiveness, sound seems to avoid clarity, categorization and objectivity. Light and sight reveal objects, sound is the result of processes, of something happening—and of mistakes—there cannot be glitches without processes. The whole notion of glitch is tied up to an "auditive" thoughtform, which approaches the world as a multiplicity of processes rather than a pre-set field of objects.

The scratches and glitches of contemporary electronic music, its aesthetics of interruption and misuse, should be considered in relation to the ontology of the Outside, or its *hauntology* (to quote Derrida writing about hauntings and returnings in *The Spectres of Marx*[5]). Contemporary thought has painstakingly strived to approach this outside of thought and perception. The subject and the world, if such separation can be made, are considered to take shape in complex interrelations between both. The subject emerges from the processes of the world. Deleuze and Guattari give these processes a name: machines. Machines are defined as "a *system of interruptions* or breaks" cutting and redirecting the energetic flows of a preconscious world,[6] which can be thought of as an infinitely complex assemblage of machines acting upon other machines acting upon others etc. A subjectivity is emergent and residual, having only a limited perspective upon the underlying world of forces it inhabits. Looking at our surroundings we *recognize* things, we are creatures of habit and conventions. Thinking, ultimately a creative act, is not recognition but an encounter, violence to thought. Something comes from the outside, interrupts and grabs us and forces us outside of our habitual territory.

By introducing the *refrain*[7] Deleuze and Guattari have created a concept that illustrates the constantly shifting nature of relations between territorialized or habitual milieu and the chaos of the outside forces. A refrain, in the domain of music, can be described very vaguely as a rhythmic element, something marking out a territory amidst chaos: a nursery rhyme, a child's song to comfort oneself, a birdsong to stake out a territory… Refrain doesn't, however, have just a reactionary function against chaos; it is situated in the middle and has a potential to both reterritorialize and deterritorialize sound, constantly on the border of a territory. Art has posited itself onto this border. Or, to paraphrase Deleuze and Guattari, all creative activity, whether it's art, philosophy or science, has to approach the outside of thought. To be able to create new ways to feel the world, new percepts and affects, one has to court the chaos and worship the glitch.

Machines

Contemporary electronic music has approached this outside of thought, or outside of music, by distancing itself from the hierarchy of Western classical music tradition, which has valuated certain musical structures (such as melody/harmony) over another qualities (rhythm, timbre) and posited the score as a transcendent compositional principle. Deleuze and Guattari observe the deterritorializing tendency of refrain in music:

> Certain modern musicians oppose the transcendental plan(e) of organization, which is said to have dominated all of Western classical music, to the immanent sound plane, which is always given along with that to which it gives rise, brings the imperceptible to perception, and carries only differential speeds and slownesses in a kind of molecular lapping: *the work of art must mark seconds, tenths and hundredths of seconds*.[8]

If art's quest is to bring the imperceptible to perception, music seeks to make audible the inaudible forces of time and duration, to bring out an immanent sound plane, a pure sound block, in which "forms are replaced by pure modifications of speed."[9] How does one manage to get away from the grip of musical forms while being still able to retain a plane of consistency; to not regress into undifferentiated chaos, which couldn't hold any consistency? This is the question of the refrain.

In order to become-other, one has to align with some outerior forces and create new machinic assemblages. That is why Deleuze and Guattari write that refrain is not the origin of music but rather a means of preventing it, warding it off.[10] Becoming is an alliance. With music machines we have entered a new kind of musical alliance. Phonography, the art of recording sound, allows the production of a smooth sound plane, on which all relations between its various elements are immanent as recording extracts or constructs a block of time, a musical time that is present as sound penetrates our bodies, but emerges as a result from an (quasi)event which is distant from us spatially and temporarily.

One can see the effect of recording or sound processing technology as having helped in breaking with the traditional musical notation and the ideal of a pure musical form. Once all sound has become recordable and reproducible by machines, we can be done away with the concept of music as residing, ultimately, in the score. Phonography and electronic/digital media have flattened out the arborescent model of the actual sound's relation to a higher structure, that is, the composition itself as actualized in various levels of perfection in the performances of musicians. From a machinic point of view (or hearing) there's no difference between voice and noise, we have only sonic stratum and various means to manipulate that sound matter.

The concept of frequency, according to German media philosopher Friedrich Kittler, brought about by recording technology, allows music to break with the Old European tradition of pythagorean harmony and notation as the preserver of clear and pure sounds (in opposition to the chaotic noise of the world). Since the 19th century, sound has been recordable, vibrations in a carrying medium transferable to a recording surface. "The phonograph does not hear as our ears that have been trained immediately to filter voices, words and sounds out of noise; it registers acoustic events as such."[11] The phonograph hears sounds acousmatically, without a relation to the origin of a sound.

Using the concepts of Deleuze and Guattari, we can state that the phonograph deterritorializes sound, flattens down the hierarchical organization of music into a rhizome, which is an open, multiple and temporal form of organization and subsceptible to constant de- and recoding. The act of recording is in one way already a creative act of framing

and selection. Any recording is a whole in itself, all its characteristics are immanent to itself, without an essential relation to an outerior or higher symbolic order. However, up until the 1960s and the expansion of recording studio technologies, a record was generally regarded as referring to an original acoustic event, a performance, which would have more ontological value (i.e. "realness") than a mere representation of it. Multitrack tape machines make that stance irrelevant; studio-as-instrument does away with acoustic realism. A particular soundscape, experienced as a unified whole, could have been assembled during many different takes and places, or wouldn't have to result from any acoustic events, as in computer music. Through the mixing board and the master tape, the record is the stratified surface of sound.

I hear no great conceptual divide between various music machines. Whatever means there are available for recording acoustic phenomena or presenting sound, no matter what the source, making sound reproducible and thus variable, all phonographic technologies have the potential to deterritorialize sound and music. Maybe the greatest singular moment in nomadic use (= an act of capturing forces, making a new machinic assemblage of existing machinic formations) of phonographic machinery has been the emergence of hip-hop DJ'ing and the misuse of vinyl records, turning a pair of turntables into a nomadic war machine.

For a better part of the last century the record remained inactive, a storage capsule of time. Apart from few artistic experimentations vinyl records were used as passive playback devices which always referred to some original event captured onto the grooves of the disc. In a parallel to the reinvention of the electric guitar by finding the aesthetic potential of the feedback noise generated by the guitar—amplifier circuit (and thus making electric guitar something other than an amplified replica of acoustic guitar), the DJ would find and learn to use the immanent forces within the record itself.

Radio, a medium, which in the early 20th Century had a similarly all-pervading role as the Internet has today, remained the primary medium of the DJ for a long time. The status of a radio jock rose from that of a salesman/entertainer to a central figure in pop business during the 1950s youth culture explosion. DJ as a sonic artist evolved somewhere else, however: in the *discothèque*, a club for dancing to recorded music instead of a live orchestra. The first discos were born in 1940s France during the German occupation that hampered the live music circuit. After the war some clubs stuck with the concept of dancing to records. This idea migrated elsewhere and in the 50s dance clubs experienced a massive leap in popularity with the advent of rock'n'roll and youth culture. We can see this as a sort of deterritorialization: instead of responding to the presence of performers the audience responds to the music and the forces it directs into the space it creates.

Disco as a musical style developed from the mantric/tantric heavy funk of James Brown, followed by others, which concentrated on the bass-heavy, steady and monotonously repetitive groove; a becoming-machine of the rhythm section. This style evolved into even more functionalist direction, downplaying the soul element of funk and delving solely in the groove. Record companies started producing long dance remixes of songs. Disco DJs wanted to create an all-night flow of music and that required a skill of seamlessly mixing records into one another. Any kind of music focusing on rhythm rather than melody could be used. The DJ was becoming a curator-figure in the emerging club spaces, such as the loft parties in 1970s New York.

The conceptual leap of DJ from a curator (organizing a collection of works) to an artist (creating a work) happened in 1970s Bronx NY, when local DJs invented the

isolating of the breakbeat—and hip-hop: they would play only the rhythmic percussion breaks of funk records, alternating the same passage on two turntables, creating their own music. This rather crude skill of keeping the party going (with the help of an MC hollering encouragements to the party people) soon evolved into finer techniques of vinyl manipulation and collage. The DJ became a *cut chemist*.

Grandmaster Flash's 1981 record *The Amazing Adventures of Grandmaster Flash on the Wheels of Steel* was almost literally an encyclopedia of DJ techniques: crossfading, punch-phrasing, backspinning, cutting and scratching… Not only percussion was used as a sound source, almost everything could be dropped into the mix, all kinds of noise, as long as it was on record. In some ways a popularization of *musique concrète*, this meant a huge shift in the perception of music:

> After Flash, the turntable becomes a machine for building and melding mind-states from your record collection. The turntables, a Technics deck, become a subjectivity engine generating a stereophonics, a hifi consciousness of the head, wholly tuned in and turned on by the found noise of vinyl degeneration that hears scratches, crackle, fuzz, hiss and static as lead instruments.[12]

The turntable becomes not only a new kind of percussive instrument, it becomes a syntax-destroyer and a connective synthesizer in a Deleuzian sense (mixing this AND this AND this…). Record is a diagram, a map, rather than a tracing or writing. A map is "entirely oriented toward an experimentation in contact with the real… susceptible to constant modification."[13]

Despite its inventors' wishes to provide a surface for the representation of an original event, a stable protector of the preceding mode of organization, the record became a destabilizer, weapon in sonic warfare (a nomadic war machine of sorts). DJ's hand is a *terrorwrist* "opening up a new field of objectile thought: fingertip perception."[14] A deterritorialization of hand and record in the machinic assemblage of scratching.

> The phonographic diagram, given its direct transduction of physical wave to mechanical impulse or electrical signal, provides a code both precisely reproducible and potentially editable. … [W]here the score represents, phonography simply transduces… As soon as the deterritorialization of sonic matter into vinyl abstracts it from the moment, and makes music into this random-access memory available time and time again, the sonic matter is susceptible to temporal mutation, warping, looping.[15]

DJ's (ab)use of vinyl is a *derangement* in every sense of the word. Scratching deterritorializes the noise on the grooves, bends the spiral grooves into lines of flight; scratching rips its source material from the record, transforms the ideal into matter to be molded, cuts into syntax to isolate words and phrases, achieving an Artaud-style decoding of language systems (both human and musical). A scratch takes up a block of recorded time and folds it up in baroque flourishes like a cloth. Scratching makes audible the flow of time and matter, the flow and the machines that cut it, and creates a vinyl psychedelia = *scratchadelia*, a machinic refrain, a becoming-vinyl of music.

A digital counterpart to the scratch is the often-mentioned *glitch*. A precariously vague term, which however captures some of the slipperiness of digital media. If analog phonography has led to some sort of metallurgy of sound, made sound malleable and mutable, digital sound processing approaches sound as molecules. The term *microsound* is very appropriate for the digital music of today. Or, if we take heed of Kim Cascone, we should be talking about post-digital music, since the medium of digital technology

has become so transparent it doesn't reflect in the expression of music anymore.[16] Instead, specific sound processing tools such as Max/MSP, AudioMulch or SuperCollider, produce an auratic sound, as well as providing amazing detail and accuracy in manipulating sound.

With glitches, however, electronic music producers embrace the uncertainty John Cage was talking about. Cracked and malfunctioning soft- and hardware, overloaded operating systems, wrong file types opened as sound documents produce unpredictable sounds, sometimes a ghostly unpresence of sounds outside hearing range or gaps in recorded time. Glitches, clicks and cuts are the sound of sound machines molecularizing, atomizing and ionizing sound, making audible the process of sound itself. If we must make a distinction between the scratch and the glitch, it is this: scratching is the folding of recorded time, metallurgy of sound, taking a flow of matter and producing variations of it. Common to music and metallurgy, according to Deleuze and Guattari, is the tendency to "bring into its own, beyond separate forms, a continuous development of form, and beyond variable matter, a continuous variation of matter," in short to bring out the "life proper to matter."[17]

Glitch, in digital domain, happens on a more abstracted level of decoding that results in molecularized matter. Going beyond the matter-form division (which scratching can be seen starting to evaporate with its variations on matter), the molecularization of sound:

> effects a dissolution of form that connects the most diverse longitudes and latitudes, the most varied speeds and slownesses, which guarantees a continuum by stretching variation far beyond its formal limits.[18]

In both cases, the scratch and the glitch, sound has escaped the overcoding symbolic order of music, or the trancendental plane of organization of the score, in nomadic alliance of man and machines.

James Brown's *Sex Machine* and Kraftwerk's *Mensch Maschine* define electronic music's identification with machinery with their twin poles of "raw" physicality and "pure" spirit/intellect. To dance as mindless robots or to think music as an incorporeal AI. This all-too established dualism has been broken down at times by the music machinery's potential to fuse down the two poles and to break down, to express glitches. Dance music, which might at first thought appear as a musical form most tied up with the reterritorializing function of the refrain, with its strict adherence to certain genre-bound norms, appears however as a machine for liberating sound-in-itself. Rhythm: blocks of sound arranged rhythmically, one after another, one beside another, like the instant pop images of Warhol paintings. Repetition makes the thing repeated (the thing *not new* anymore) present again. Each repetition (a simulacrum of the "original," if any is to be found) is an event in itself:

> Repetition *and* first time, but also repetition *and* last time, since the singularity of any *first time* makes of it also a *last time*. Each time it is the event itself, first time is a last time.[19]

This repetition, this constant *now*, can be seen in dance music's lack of drama (or constant crescendo); the changes in music are *quantitative* instead of *qualitative*, its narrative is the happening of repetitions. Dance music seeks to build a plateau of intensity. Any vertical, arborescent models are flattened by the rhizomatics of repetition, which undoes the symbolical or critical form of thought. According to Roland Barthes, critique is always either historic or futurologic, its content is culture, which equals everything that is inside us, *except the present moment*.[20]

Electronic dance music sounds astonishingly non-temporal: repetition makes the track happen in the constant now, concentration on the *sound of sound* (timbre and "color" and texture, the most difficult-to-remember-afterwards and the most deterritorializing aspects of sound and music) fades it from the memory. Repetition is a way of appearing without form, without identity: it multiplies the same element over and over again, juxtaposes the element with its each successive re-emergence, brings out the differences by bringing out the *gaps* between singular repetitions, forms a machinic assemblage out of the circulation of sound blocks. Musical repetition: loops within loops, clashing against each other, *loopduelle*. The audibility of these juxtapositions is a textuality of differences and differences mark out the repetitions = returnings = soundghosts.

As the repetition builds up a smooth plane of constant present, deterritorializing the sound itself as a singularity, a sonorous force, there is a tendency for that repetition to become reterritorialized as a cliché, an all-too expectable formula. This seems to be a potential dead-end for numerous genres of electronic dance music. A glitch appears: a wrinkle in time of the constant present. If we listen to an archetypal glitchy sound, an Oval track for example, we can hear a rich tapestry of sound and absence of sound. There are skips, something is missing, there are holes in the smooth space of sound. Or we can consider Kim Cascone's concept of residualism that involves structuring a work around an absence, removing a signal and leaving only its effects to be heard. Scratching, sampling and the stuttering of malfunctioning soft- and hardware are means of derangement, seeking out a way to make a rhizome out of music, a way to place its elements in continuous variation, where absences, breaks, holes, folds and ruptures can be a part: a way to let ghosts of the outside in.

Love

"[M]achines work…by continually breaking down…,"[21] producing anti-production, creating gaps and glitches. One has to remember we are talking about *desiring* machines and art's ability to reflect the formative processes of machinic pre-conscious world, which is libidinal. As Jake Mandell observes in the liner notes for his album *Love Songs for Machines,* artists' relation to the tools of their trade has always been fetishistic. A favorite pen of a writer, a beloved brush of a painter: it has always been intimate. Mandell writes that the once-close relationship of artists and their tools has encountered a crisis in the digital age, the screen—and—mouse -interface is abstract and alienating. Still, as an immersive environment, digital media allow for an exceptionally affectionate experience. The desktop becomes an extension of our consciousness, writing mobile phone SMS messages makes us think with our thumbs, 3D shoot-'em-ups effect a whole new spatiality…

As tool-using creatures (among other such creatures) we've always been cyborgs. "[T]ools exist only in relation to the interminglings they make possible or that make them possible."[22] That is to say, tools imply a symbiosis between two bodies in a machinic assemblage, deterritorializing them both. Think of Roland TB-303 Bassline Generator, becoming an Acid Machine through a glitch, a programming mistake, releasing a whole new spectrum of sounds, transforming both the musician and the instrument. It's a two-way relation: we can well take heed of Kodwo Eshun's conception of human beings as the sex organs of synthesizers. New sounds happen between things, in the movement that sweeps you and your computer to somewhere else: in order to effect deterritorializations you have to love your machines.

Notes

1. See The Parapsychic Acoustic Research Cooperative's (PARC) website: Available online at: http://parc.web.fm for information and releases archiving the work of the pioneers of EVP (Electronic Voice Phenomenon).

2. Erik Davis, *TechGnosis: Myth, Magic + Mysticism in the Age of Information*, London: Serpent's Tail, 1999, p. 41.

3. Marshall McLuhan, *Understanding Media: The Extensions of Man*, Cambridge MA: MIT Press, 1994, p. 3.

4. Wolfgang Welsch, *Undoing Aesthetics*, London: Sage Publications, 1997.

5. Jacques Derrida, *Spectres of Marx: The State of the Debt, the Work of Mourning, and the New International*, trans. Peggy Kamuf, London, New York: Routledge, 1994.

6. Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem and Helen R. Lane, London: Athlone Press, 1983, p. 36.

7. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia vol. 2*, trans. Brian Massumi, Minneapolis: University of Minnesota Press, 1987, pp. 310-350.

8. *Ibid*., p. 267.

9. *Ibid*., p. 267.

10. *Ibid*., p. 300.

11. Friedrich Kittler, *Gramophone, Film, Typewriter*, Stanford: Stanford University Press, 1999, p. 23.

12. Kodwo Eshun, *More Brilliant Than The Sun: Adventures In Sonic Fiction*, London: Quartet Press, 1998, p. 14.

13. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, p. 12.

14. *More Brilliant Than The Sun*, p. 18.

15. Robin Mackay, "*Capitalism and Schizophrenia*: Wildstyle in Full Effect" in *Deleuze and Philosophy*, ed. Keith Ansell Pearson, London, New York: Routledge, 1997, p. 250.

16. Kim Cascone, "The Aesthetics of Failure: 'Post-Digital' Tendencies in Contemporary Computer Music", *Computer Music Journal* 24(4), 2000, pp. 12-18.

17. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, p. 411.

18. *Ibid*., p. 309.

19. Jacques Derrida, *Spectres of Marx*, p. 10.

20. Roland Barthes, *The Pleasure of the Text*, trans. Richard Miller, Oxford: Blackwell, 1990.

21. Gilles Deleuze and Félix Guattari, *Anti-Oedipus*, p. 8.

22. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus*, p. 90.

References

Barthes, Roland, *The Pleasure of the Text*, trans. Richard Miller, Oxford: Blackwell, 1990.

Davis, Erik, *TechGnosis: Myth, Magic + Mysticism in the Age of Information*, London: Serpent's Tail, 1999.

Deleuze, Gilles and Guattari, Félix, *Anti-Oedipus: Capitalism and Schizophrenia*, trans. Robert Hurley, Mark Seem and Helen R. Lane, London: Athlone Press, 1983.

Deleuze, Gilles and Guattari, Félix, *A Thousand Plateaus: Capitalism and Schizophrenia vol. 2*, trans. Brian Massumi, Minneapolis: University of Minnesota Press, 1987.

Derrida, Jacques, *Spectres of Marx: The State of the Debt, the Work of Mourning, and the New International*, trans. Peggy Kamuf, London, New York: Routledge, 1994.

Eshun, Kodwo, *More Brilliant Than The Sun: Adventures In Sonic Fiction*, London: Quartet Press, 1998.

Kittler, Friedrich, *Gramophone, Film, Typewriter*, trans. Geoffrey Winthrop-Young and Michael Wutz, Stanford: Stanford University Press, 1999.

Mackay, Robin, "*Capitalism and Schizophrenia*: Wildstyle in Full Effect" in Pearson, Keith Ansell (ed.) *Deleuze and Philosophy*, London, New York: Routledge, 1997.

McLuhan, Marshall, *Understanding Media: The Extensions of Man*, Cambridge MA: MIT Press, 1994.

Welsch, Wolfgang, "On the Way to an Auditive Culture?" in *Undoing Aesthetics*, trans. Andrew Inkpin, London: Sage Publications, 1997.

Referenced musical works

Brown, James, *Sex Machine*, King 2LP K1115, 1970.

Cascone, Kim, *Residualism*, Ritornell CD RIT019, 2001.

Elph vs. Coil, *Worship The Glitch*, Eskaton CD ESKATON006, 1995.

Grandmaster Flash, *The Wheels of Steel*, Sugar Hill Records 12" 6.20087-01, 1981.

Kraftwerk, *Die Mensch Maschine*, Kling Klang / EMI LP 1C 058 32843, 1978.

Mandell, Jake, *Love Songs For Machines*, Carpark CRPK008 LP, 2001.

Mixmaster Mike, "Terrorwrist (Beneath The Under)" in Various Artists, *Return Of The DJ Vol. 1*, Bomb Hip Hop 2LP BOMB2002, 1997.

Oval, *Systemisch*, Mille Plateaux CD MP009, 1994.

Pooley, Ian, *Loopduell*, Force Inc. 12" FIM133, 1998.

KOSHUN'S KNOB

Lesego Rampolokeng

KOSHUN SONAR reptilian detects insurgence's electric noises
in underground waves
(psyche-derelict bong-beat scrawls on skull-walls sonograf)
subterraneous activity in stillness' treasonous silence riot in quiet

KOSHUN is amphibious grey-slavemaster-race monster
funkenstein never had this canine atomic-bog-spawn
hurt solidifies/solid-defines into beat
bubbling venom to burning rock-stone...
sound-weight off the scale
'get BACH no HIT THE DECK'
floor-killing technics 'murder' advert in death-rite/right dance

KOSHUN was never born rose from sky-excretion
noxious to earth-touch (cyber-nuked 'first peopled' cultures)
vengeance sown labour intense without wage/pension
coming bible-brain-bad in the lynch-breeze menses-impure

KOSHUN is a necro-prancer (perennial sitting dancer)
jerked off by amputation's hands declares them gone when he comes
strewn sterile across barren ovarianscapes
effluvial semen sound shatters uterine membranes
all in funeral line the future is carcass insinuates into the HERE
the dead never were alive life-blow is death-watch
KOSHUN nibbling on the info-bone

'not annihilate but transmute' got the walking corporeal in eternal spirit flight permuted into plantation/reservation existence (life ransomed in oil reserves)
explorer lays patent to the indigenous
'educate with a brain-scoop'
dream-catcher's got a trick-brake for mental speed-freaks
KOSHUN is ras hopper on a righteous skate

nightmare unhinged hurtles across the rhythm-sphere

harm band to the wounded castrate-procreate choke-seed birth plastic
animal world's disease stash up the gash synthetic-tax for cancer research
dope-up save the rain forest organically-mechanised
cock-eye rule sees all bend down (to the bull-lock)
to red-eye there is no bleed /only blood)
KOSHUN hallucinated into being in a bubble race-shuttle

alien life germ form threat reactive science fictitious destruction xenophobe-release
(what delusion invades gravity forces zero-reality ill social)
muff-diving in the dosh-pit cracks the biologic-code
nerve-motor breakdown push off the verge up the slit & into the hole
mass movement condition's gravitational
take maggot over god abscess spirit soul is absence
KOSHUN's gangrene vision reads yellow

'awesome power display' holy-hydraulics vein-pulleys
cerebral in the churn-machine (thoughts parts in decomposition)
otherside emerges saw-dusty ideas
sweep thought's incinerated bones
'cool slides...play it back' slime-trail ooze trickle-down effect (satan-sneak in history's back-door)
vampire news anchors fang deep
mental probe dip below surface consciousness
creep thru the rips in the hypothalamus
arty-faeces to intellectual dung-beetles
  doctrinal rape spermicide
god-sperm the milky-spray unpasteurised
KOSHUN is cauterised toxic-glands

suicide blade canvas pavement gore-splash
'the actor shall now take a bow'
the ultimate performance cranium crawling up rectum
nail the coffin in my head death trapped inside this skull
carry my grave in my system

zombies awake second come genito-galvanic
 electrocompulsive-inject in the puckered urethral
the unborn speak in shock-spurts suckered urinal
peace is butt-shaped-pissoir to war-dick in harmony flood
  piss blood thru the eyes on the battlefield
KOSHUN owes (soul-pawn) most to ghosts

ras lion is jesused on the lamb-path
dread-spread for donkey to walk in on
dub-bang cloud-crack rump-swing
screech on the scratch on a shriek-mission rap in the gap
deep-water-tight cosmic-flux-flow

look for me in the undertones
KOSHUN marches in mindspaces

strife support system hungry? feed on what starves
life measures (in) no halves

genitals in a hermes-harness
chemical mix&balance rule is penile-head clamps in lead-plugged birth canals (dam earth channels & remix the electrocution)
KOSHUN seeks alternate-thought-current flow
circles concentric around the mystic at reality check-point (computerised)

genitalise it electrode faculty supply failure
(mechanical evil?) ignorance hisses in reply radic-surge
battle-field magnetic kill-urge is super-sexual need
(ah to come in bleed) has mortal-draw-power
live wires catch fire-breath
KOSHUN cast amid spit&flip-tails
mental prod on elemental probe
existence-core twisted in talks tangled cables
(conduct steel lobotomy erode metal mentality)

growing up from wound what scar to become posterity
elastic memory stretched-contracted to collapse in vaginal muscle-slackness
commute between spaces in/on the breath
KOSHUN's mind data-machine
grease-hole slick going down its own throat
(rub up & bone conscience come for the chewing)
street-corner hanging talking to graves
ancestral projections into future deaths computer-generated
the norm's dissemination plug-in-jack-out insemination
form is destruction other-way

set up 'liberty sighting' committees only 'independent on sunday'
easy rolling slipped stuffed anarchist covert-tech secret functionary
KOSHUN is on 'pre-inception' communication systems
humanity a back-pocket-sized concept
hidden behind a beat breaks down from a joint
pop goes WORD for letting gently down the gullet is/in cannibal god-speak

lacerate the NEW DREAM homogenises poverty reality fragmentary
synthetic divinity tainted saints cranial implants programmed miracles
KOSHUN composes hologrammatic prose all expired images lines among corpses
plays the computer-bard game improv/chance-repository crisis refraction
pythagorased at acute dupe-angles con-jerked & charred
electric enema shock waste anatomical bomb
bladder burst liquid metal urinate viscera burn self evaporate
KOSHUN carries vision in a micro-chip

KOSHUN rides virtual wave (breath) lengths
hurtles towards bio-tech purgatory
serial deaths plasma-misted screens autocade collision
sense frontier mind outpost
time radiance space blackness is KOSHUN balance

(apportion guilt in byte-size portions circumstance wears the blame)
radio-shack in a back-pack KOSHUN is jack on the walk
pumps hysterical melted plastic
(barter-bond) life is battery unit bow at the solar altar

dread-pilot & rastanaut are KOSHUN crew in the race-craft
marine geometry

white-dump-heart magic site in god-flesh mould
mechanical occultist brain an illusion domain
KOSHUN wears his darkness on the outside
& takes luminous steps to put skins across the ozone-hole

institutional/iced silence is symphony
dance cracks in the breaks
bull-market gored impaled by commerce-cross he's nailed on
demon-interfaced-
KOSHUN is lost-boy angel in devil-drag fantasy
scared vigilant against evil hag
soft-ware freak hardcore manifest
anthropomorph to voyeur-racist
coagulated hate in conciliate node
amorphous creature subsumed in miscreant aura
KOSHUN in outer-linear loco-motion

principle gain material history garbage future litter
locked in/on a free base parallel existence
KOSHUN has a buffer complex (tears what pain will sustain)
notion stumped conception cremated to ashen expression
birdman flown to land in a glass display life's simulation sequence
atrophied clitoris' dildoed-writhe death-vibration

esoteric-thesis 'raise the inner child' physicalities brat out source is sample
erase concrete identities they erode stunted in growth turned inward
placenta in the mouth defense against the life-curse (lead to the wise)
crane thru cranium poet's inspired flight storm swung across the decayed universe
compressed senses ring stress-released wise-stream neuro-cult cracks the mainframe

MOTION PERCEPTION IN MOVIES AND PAINTING

TOWARDS A NEW KINETIC ART

Michael Betancourt

Julian Hochberg and Virginia Brooks argue in "Movies in the Mind's Eye" that the apparent movement of motion pictures should be understood as a mental process described by cognitive theory and gestalt psychology. This argument is a reconfiguration of the traditional, physiological model that makes the motion an effect of ocular physiology. In place of this model, they propose that the movement we see when watching a movie—whether in the form of a film or a video tape—is more than simply the illusion of motion: it is perceptually as *real* as any other visual motion we perceive. The difference between this motion and other motion resides in its empirical status independent of observation, not in our subjective perception. Their transformation of the conceptualization of "motion pictures" has implications for our understanding of motion in painting. So-called "painterly motion" is historically one of the most important effects employed in old master paintings (and developed in the Modernist period by Cubism and some of its derivatives). Hochberg and Brook's theory about a cognitive basis for film motion is applicable to any form of virtual movement. It provides an account of why we can see "painterly motion." This theory implies a connection between painterly motion and movies that has implications for understanding "avant-garde" film and video. It also suggests a type of kinetic art heretofore unknown.

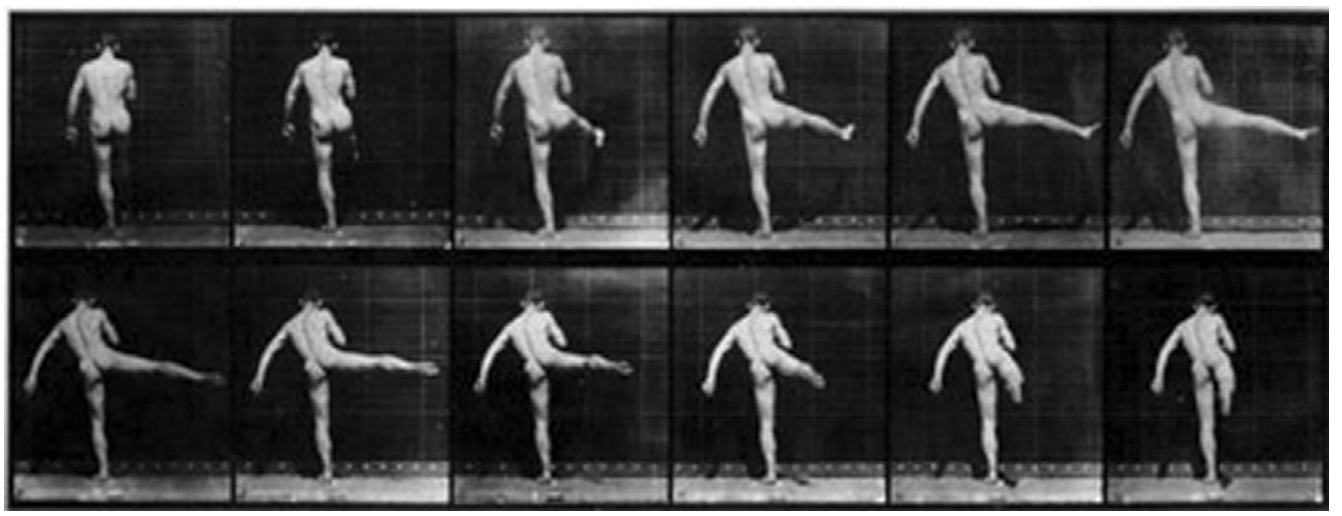
Julian Hochberg and Virginia Brooks' discussion of Gestalt theory and the perception of motion in movies begins with a simple observation about the nature of the medium. Their description is the empirical stillness at the foundation of the virtual motion created by movies. This motion is fundamentally different (when considered as a still image) from that of the old master painting. However, it is not the means-to-motion but the cognitive process of human interpretation that Hochberg and Brooks believe is the important factor:

> A continuous motion in the world is, of course, captured by successive displayed images on film (or their video equivalent). For most events, these displacements are small, and within the range of the low-level sensory receptors of the visual system; these respond identically to the visual displacements on the screen and to the differences provided from one moment to the next by smooth physical motion in the world.[1]

Gestalt theory claims human perception treats all visual phenomena encountered in the same way. Those visual displacements that we see in film are interpreted without distinguishing their empirical causes. This approach to movies emphasizes the linkages between motion pictures and optical illusions: both are a result of our perceptions incorrectly interpreting their sense-data. The "principle" created by Gestalt psychologist Helmholtz to describe this interpretative tendency is the *likelihood principle.* It is a description that implies a perceptual commonality at the heart of all perceptual interpretations:

> we perceive that which would in our normal life most likely have produced the effective stimulation we have received.[2]

Unlike motion in the real world that is physically eminent, the motion we see in movies and through the technique of painterly motion is entirely a result of a human perception. The motion we see does not exist outside our perception. The *likelihood principle* is an explanation for how we interpret. What we see results from an internal comparison between immediate sense experience and prior knowledge. We see motion in both the movies and painterly motion because we understand what we see in terms of encounters with real, empirically eminent motion. Our perceptual understanding of virtual motion derives from encounters with reality, thus Hochberg and Brooks' argue, it is real in *perceptual* terms. The motion we see exists in the same way as any other visible motion. This essay will develop the connection between painterly motion and perception before examining some implications of this relationship. The overlap between the motion of movies and the motion of painting is necessary for this cognitive theory to be logically consistent.



Animal Locomotion, Eadweard Muybridge

Painterly motion as a technical phenomenon requires some explanation. The painted image has possibilities that photography lacks. The photograph is static, as Eadweard Muybridge's photographic motion studies demonstrate by isolating motion into a series of stills where we can see the component adjustments of a figure in motion. Each person or an animal shows us the increments of motion as units in themselves. These pictures "arrest" the figure imaged, presenting a single moment from all possible moments of the subject in motion. The motion, however, is absent. Muybridge presents it in the form of possible, but not-yet-visible action. Taken as a whole, these photographs present us with an idea of motion; when shown quickly and in proper sequence, the motion becomes apparent rather than potential. The relationship between the motion of movies and the *likelihood principle* is obvious: the movement

created by showing the sequence of photographs imitates our normal experience of the world well enough that we interpret it in the same fashion as our normal experience. This is "photographic motion."

*Helene Fourment in a Fur Coa*t, Peter Paul Rubens

By contrast, "painterly motion," which is a technical effect common to "old master" paintings of the European painterly tradition, presents a single image that incorporates some of the same characteristics as the entire series of photographs employed in "photographic motion." The movement we see in Peter Paul Rubens' portrait of his wife wearing a fur wrap is a example of this effect made famous by critic John Berger's commentary in *Ways of Seeing:*

> [Helene Fourment's] appearance has been literally recast by the painter's subjectivity. Beneath the fur that she holds across herself, the upper part of her body and her legs can never meet. There is a displacement sideways of about nine inches: her thighs, in order to join onto her are at least nine inches too far to the left.[3]

Displacement causes Helene to appear (depending on the interpretation) to be turning away from or towards the viewer. The *apparent* motion of her upper body is caused by a specific distortion: as the eye moves across this image the human mind fits the different positions of her body together to form a coherent whole. This process creates the impression she is moving. Her movement is caused by the combination of a series of different views showing distinct physical positions. Because we see her from a single

vantage-point our minds combine them to form a single body. This effect is identified by Helmholtz as the *likelihood principle*. In order for us, as viewers, to make sense of the image as a whole body—a "good gestalt"—we interpret Helene's displacements and distortion as motion. She turns.

This appearance of motion is an intentional construction, created by a specific technical process that Rubens (and other old masters) learned. It is not a mistake. The "stillness" which this painting presents is a lively one, completely different from the static, arrested movement of the photograph. This is a complex technical development that evolves from life-drawing and work from living models. It must be planned and built-in to the picture and could not happen accidentally or unconsciously. Yet, Berger makes the assumption that this effect was not intentional:

> Rubens probably did not plan this: the spectator may not consciously notice it.[4]

To assume that a master painter with several decades of experience painting the human form is unaware of a nine inch dislocation of the body in a painting of his *wife* is difficult to believe. The reason that many viewers may not consciously notice it is they are not supposed to notice it. The fur wrap which covers her body also hides the displacement from immediate observation. Her movement and what it means is the focus of the painting: Helene, teasingly, turns towards and away from the viewer; the possible revelation of her whole body is the subject of the painting. The displacement is what produces the force of the movement, a dynamism that Berger notes[5] even as he denies the artist's knowledge of what, how, and why Rubens may have produced this image. To deny the intentionally of this movement is to deny the humanity of the artist, his interest in the subject of his painting, and the relationship that picture proposes for the viewer. It dehumanizes and formalizes what is not a formalist painting.

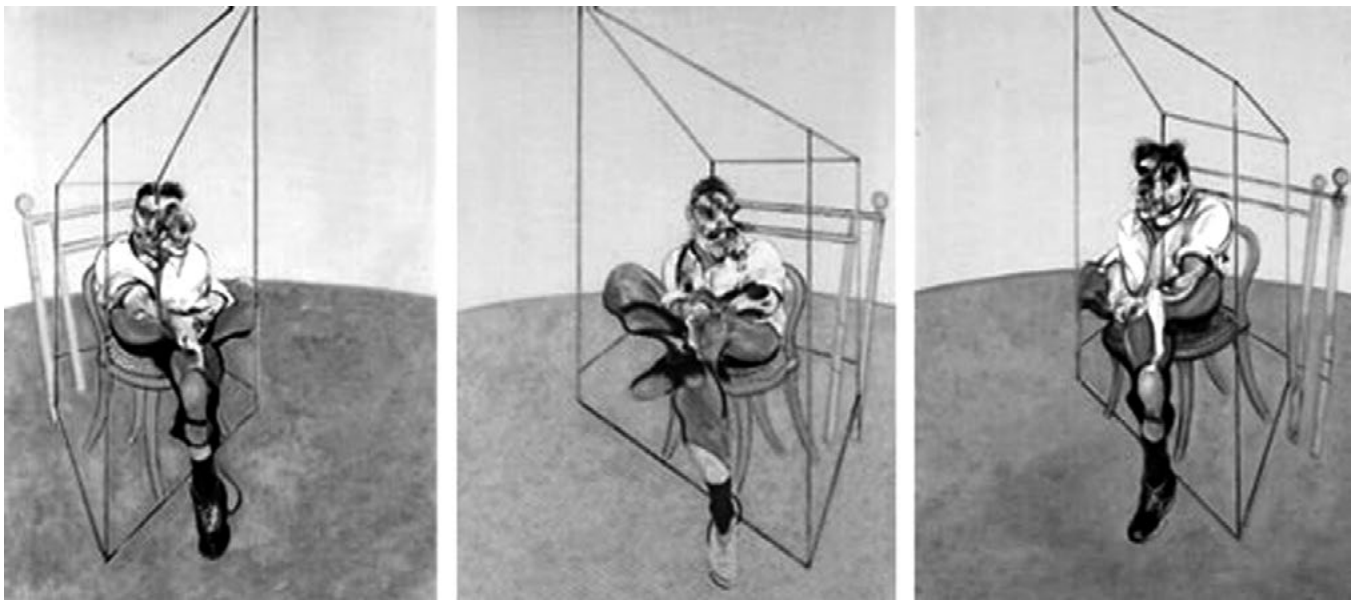
Berger's assumption also reduces the importance of Rubens' training and the European tradition to mere accident. It repeats the popular assumption that artists are unintellectual actors who perform and produce in an unconscious manner. Critics are more than simply the explicators of art in this formulation. They are the conscious observers of those things of which the artist is unaware. This case is an ironic situation because Berger is unaware or ignores his knowledge of the process involved in producing a painting of this type: the number of studies, drawings and the amount of work required to make the painting itself. Nothing in such a painting should be regarded as accidental or unplanned. Her movement is a technical effect that must remain technically invisible. It is the difference between a painting of Rubens' period and a Modernist painting where the technical devices and effects tend to be readily apparent. Viewers and critics shouldn't notice *how* the effects are produced in art of this type. To do so breaks the illusion that the painting's meaning depends upon.

The appearance of motion within this image is a result of the viewer interpreting the different positions of Helene's body to be markers of movement through time. This perception follows from the likelihood principle. The movements are interpreted from "signs" she has *moved* slightly while the spectator was looking. This is what makes painting active in a way that never "happens" in (normal) photography. The different and incompatible body positions are treated as motion and appear to be movement because our interpretations work to maintain a coherent gestalt. Art historian and gestalt psychologist Rudolph Arnheim explains this effect in greater detail:

> Happenings enter experience only when the passing of clock time is accompanied by the perception of change. Change presupposes that the differential of clock time encompasses more than one location in space.[6]

Arnheim suggests that our normal perceptions present things to us as "events"—actions, movement—only when what we are looking at involves changes over time. Otherwise, we believe what we see is a static reverie. Photographs "arrest" motion in a single consistent and complete "frame." This is why photographs are completely (and fundamentally) different than our perceptions. Arnheim's observation is not simply a commonplace: it states that our perceptions have developed to involve our memory as part of the perceptual process. The likelihood principle suggests we understand the contorted (in fact, distorted) bodies of "classical" realist paintings as bodies in limited motion.

A more contemporary version of painterly motion is the work of Francis Bacon. Here the distortions of painterly motion are taken to an extreme and revealed to the spectator in a distinctly Modernist fashion. These paintings explicitly develop the dislocated bodies and the fragmentation of Cubism. The simplification of space in *Three Studies of Lucien Freud,* (1969) is a necessary and typical element of all his images. With a more complex elaborated environment, the bodies would become more specifically disfigured rather than contorted by painterly motion being stretched towards its limit.



Three Studies of Lucien Freud, Francis Bacon, 1969

These three panels all depict the same figure; Lucien, sitting on a stool in an undefined yellow room. In each panel he is crossing or uncrossing his legs, but the motion presented here is abrupt, even startling. The movements in the central panel are typical of all three: Lucien's hands are folded in his lap, but the left forearm pulls both up and down; his face is both full frontal (the right eye and forehead) and turned to the left, giving a profile while his head is moving to the right. In the case of his legs, the right leg shows us the sole of the shoe, but the pants leg is painted from a vertical point of view, while the knee presents a view looking up. It is an awkward movement that cannot reach a position of rest. Lucien's left leg points straight down, but the angle is impossible vertical (almost as if seen from a position parallel to the shin) while the thigh is seen almost from below. The torso is positioned as it normally would be seated in a straight-back chair, allowing the legs and head to rotate around it as limbs on a stationary pillar. This series of views when taken *in toto* present a vision of the sitter squirming in his chair, unable to rest or remain in a position for more than a moment. It is precisely this sense of movement that this painting portrays in each of the three panels. One can almost hear Lucien complaining about how long it's taking and how uncomfortable the chair is.

Bacon creates this painterly motion through extreme deformations not only of body position (no one could physically hold the position Lucien is in) but also of the spectator's viewing angle. Both the subject Lucien and the observer must be in motion to produce this kind of effect in reality: it is as if a series of different positions were used to produce a single image. These changes are so extreme that the viewer cannot ignore the "montaging" of different views of this body. This is an exaggeration and emphatic reiteration of the distortion employed by Rubens. It is our interpretation of this sequence of forms as being "a body" which creates the effect of motion. If the audience fails to make this interpretation of the elements, they will fail to see the movement.

In considering Bacon's *oeuvre,* we only encounter images with this level of physical distortion in paintings which are very simplified. It allows the complexity of the deformations to take center "stage" in his canvas. The simplification also improves the ability to recognize the body qua body. This relationship is a visualization of Arnheim's definition of gestalt:

> The structure of the whole, certainly of dominant importance, is influenced by the parts, which in turn depend on the whole as to their shapes and interrelations. Neither the whole nor the parts are primary constants, primordial executives of influence. Rather, all components from the whole to the smallest detail exert their modifying effect, while they are being modified.[7]

Our process of recognition of the forms in these paintings and their motions proceed according to an interpretation based on the "field" we encounter, in this case the panels of the triptych. Each represents a variation on the same view of the same subject; taken as a group we can understand what Arnheim is describing here: each panel is a self-contained unit which includes a series of components that individually *and* taken as a single unit take the form of a body in extreme motion: Lucien. Each panel when viewed individually as separate images and together as a single unit provides a summary of the motions of this subject while sitting for the painting we see. In this regard, it is not improbable to think about these panels as separate "frames" from a series showing Lucien shifting and squirming in the chair. Such an interpretation is reasonable; Bacon used photographs as reference material:

> [The photographs of Eadweard Muybridge] showing the elements of motion. They really did interest me greatly.
>
> [interviewer] *As evidence of the distortion of bodies in motion?*
>
> Oh no. I do that myself. That's not taken from photographs.[8]

The distortion of bodies in motion is not possible in conventional photography without significant modification of this image. Photographs present single moments. It is this "freeze-frame" quality which gives scientific studies such as Muybridge's their value as science. His photographs present a single moment of the motion, rather than a successive series of different moments within the same image. This isolation of movement allows the study of the action as a sequence of individual phases each separated by a specific interval. Unlike movement in reality, this fragmenting enables the specific consideration and examination of motion as a combination of discrete states proceeding one after another. Bacon's version of painterly motion makes use of these photographic studies as a way to enable greater deformations while still avoiding the static effect of photography.

The differences between painterly and photographic motion become significant when considered in relation to one another. While the painterly motion requires the movement of the spectator's eyes through the image to create the effect of bodies in motion—a static image of motion—photographic motion does not require movement by the viewer per se because the succession of images provide the necessary shifts in relationship are combined perceptually into motion. The encounter with painterly motion is fundamentally a more active process than that of photographic motion. Both proceed from an interpretative process, but the actual motion of the spectator is irrelevant to photographic motion. However, both types of motion can be understood through the same interpretative strategy, the likelihood principle. The same *biological* perception is employed in different ways but to the same effect: the creation of visual motion.

Our sensory experience not only determines the meaning of the work but also provides the vehicle for that meaning. Depending on how the viewer approaches interpreting the image, where the emphasis is laid, what details are considered important, determines not only the form of the work, but also its significance. While this is true in a general sense, it is literally true only in those instances where the actual perceived form requires multiple perceptual approaches to establish its contents.

A kinetic art of the type proposed by this discussion relies upon the human interpreting consciousness for its existence. What this essay has attempted to show is the applicability of the cognitive view of film motion to painterly motion. By providing an account of how we can interpret both film and painting as developing from a common basis, we have also addressed the ontological question of their relationship as different or related media. This connection implies that it may be more appropriate to consider art based on its *apparent* motion, a division built from perceptual experience rather than one of physical materials. Such a view elides the interpretative difference between painting and film.

The cognitive-perceptual model of media encountered could be described as the opposition between "movies" and "statics." This division is based upon our perception of its motion. By adopting it, the ontological relationship between painting and film suggest some novel potentials for further exploration in art. In the case of "avant-garde" film, a form which uses the aesthetic and visual codes of painting instead of dramatic cinema, this ontological relationship justifies artists' deployment of painterly structures and forms within motion pictures. Linking the visual motion in film with painterly motion creates a historical foundation for a kinetic visual art specifically derived from the issues of painting but using the technology of movies. The historical appearance of such an art is a logical extension of concepts and issues already existing within the Euro-American fine art tradition and has arguably been developing in parallel to that of dramatic film.

The possibility of a cognitive link in our interpretation of movement in both painting and movies also proposes the possibility for hybrid works that employ aspects of both art forms. One such potential is the flickering shutter (literally a strobe or flickering light) used to illuminate and create motion in what are otherwise completely static images. In effect this places the movies' content literally on "screen." Such a kinetic painting is a logical potential that resides within this conceptualization. To even consider it a possibility requires that the basis for motion in film and painting be examined with the framework described in this paper.

Notes

1. Julian Hochberg and Virginia Brooks, "Movies in the Mind's Eye" in *Post Theory,* ed. David Bordwell and Noel Carroll, Madison: University of Wisconsin Press, 1996, pp. 368-369.

2. See also: Joseph Anderson and Barbara Fisher, "The Myth of Persistence of Vision," *Journal of the University Film Association,* XXX:4, Fall 1978, pp. 3-8.

3. *Ibid.,* p. 373.

4. John Berger, *Ways of Seeing,* New York: Penguin, 1972, p. 61.

5. *Ibid.,* p. 61.

6. *Ibid.,* p. 61.

7. Rudolf Arnheim, *To The Rescue of Art: Twenty-Six Essays,* Berkeley: University of California Press, 1992, p. 36.

8. *Ibid.,* p. 205.

9. Michael Archimbaud, *Francis Bacon,* London: Phaidon, 1993, pp. 14-15.

NET BAROQUE

Christina McPhee

Inside the screen is a phenomenological space of indeterminate dimensions. The space of the net as an intelligent, or neural, soundscape is a point of allegory that leads to some reflections on place and sound mapping in the net. The cyborg online becomes a playful recursion inside a sonically resonant, fluid place.

Naxsmash.net is an online net art project in Flash and Shockwave/Quicktime.

A moving sense of place gathers its momentum and definition on the fly, like a continuous improvisation that is not entirely responsive to human use and reflection. A poetics of that place, both virtual and physical, in the mixed volumes of fluid media, might give rise to baroque polyphonies. Imagine the paratopias of spatialized and interactive image and sound as a conscious architecture, within and through the net. The space and sounds of the net become a baroque topology.

www.naxsmash.net

I. inside the sonic landscape of naxsmash.net: dissolve and shift

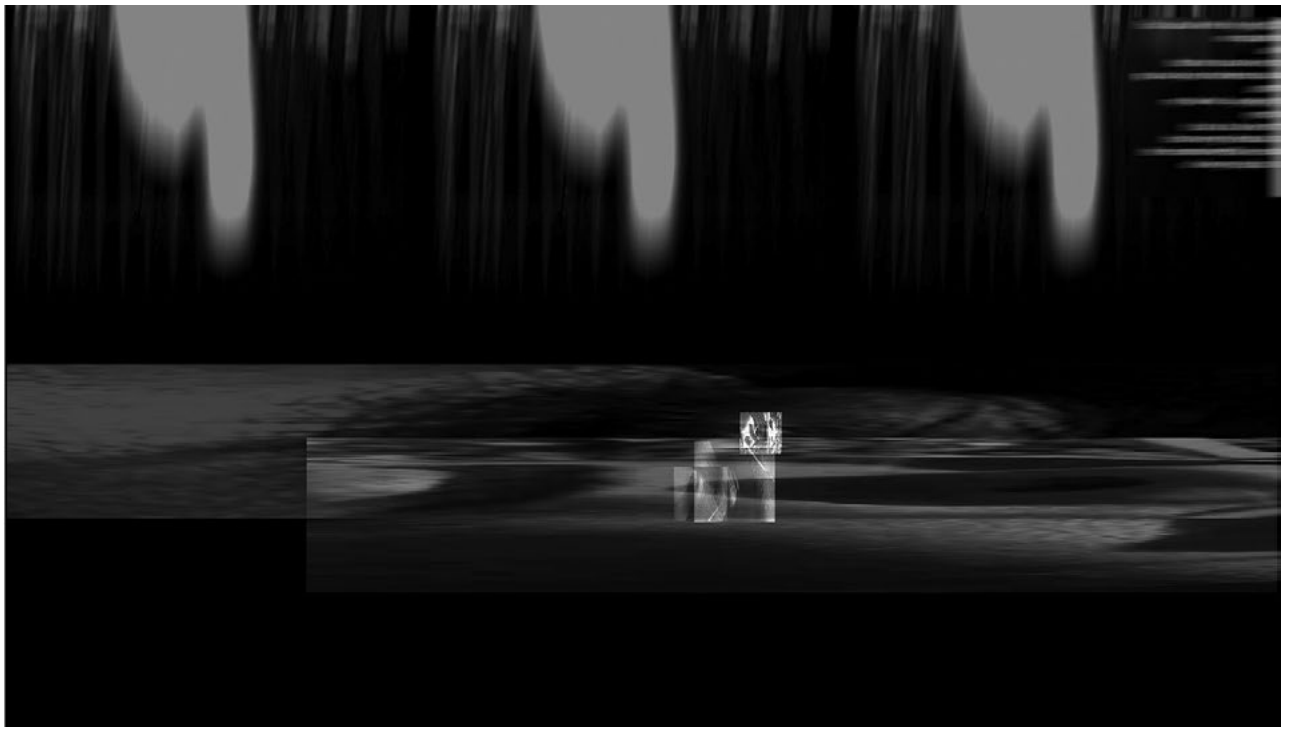
47REDS

Under the spell of eros and memoria, an internet search for mimetic collisions and catastrophes under the surface of the media skin—a search not coded in Google—opens up to a view of a dark field, like some Piranesian view of Rome.

The pictorial space of painting in the Baroque, like its musical styles, concerns bridges, leaps, highs, lows, extremes of every kind. Layers of polyphony crash and burn and reformulate recursively, as if to challenge every move within a countermove, or to seduce new patterns in recombinant waves.

Recursions, sets and resets at the peripheries of the screen, makes you believe you might just glimpse and hear the roar of chaos at the edge of the battlefield. You ask yourself how to take measure of those disclosures; how to negotiate the barriers from screen to inside the screen?

The techno body of the net-based self is imagined as cyborg: her memory stretches and slips, sets and resets elastically through a neuro-sensual landscape of death and transformation, inside a world city whose eyes, ropes, relays, snows, shifts and smashes are transpersonal portals of repression and desire. Transpositions of sound slipstream towards entropy, then catch themselves and call out in layered voices. Interactive panoramas trigger themselves like elastic membranes, the radiant skin of a net-Aphrodite, whose movements and gestures are subliminally felt but remain off screen.



Trace (from *noflightzone),* Christina McPhee, 2003.

The space of net art makes use of sound mapping to make a spatial phenomenology. Interactive music is a form-sensing tool. As if we have come to a new level of neuro-sensorial integration as primates at the very moment that we leave the purely human realm of meaning, and begin to connect with the cyborg's realm I think we want to hear the cyborg and explore her mind. She is the Other, the repressed reflection, the Persephone buried in Hades.

Sonic Persephone

I wonder if neural structures that generate memory of musical threads aren't borne of a linear process at all, but rather, of a quasi-visual live feed that continually reconfigures itself playfully. Strangely, since the net is such a visual medium, the subliminal presence of interactive sound fugues move you past the visual into random patterns—of micro-distillations and trace distortions, left like marks or stains on the 'wall' of the screen.

Sonic Persephone makes sound slips between the cracks in the wall. You could say the sound slips. Through the interstitial spaces between one present moment and the next present moment: a hyper now. In this 'now' the cyborg is adumbrated as felt landscapes. Sound is felt as well as heard.

The sound functions as if to move through an emotional archaeology like the "mystery and melancholia of the street" in a painting by de Chirico. Imagine the cyborg moving through urban darkness, evading death, seeking escape. In the alleys and

passageways, sound loops shatter and reconfigure within a dark screen space. Your only way to communicate with and reach her is to move the mouse around. Although the sound triggers memory and mouse moves in the user, the feedback loop of iterative forms creates a situation in which we never arrive at a conclusion. Place and identity in the realm of the cyborg remain outside the realm of the user.

Even text resolves into nonsense palindromes. This is text the way the cyborg might read it. Her screen text recalls subtitles for an impossible cinema. As net art, Sonic Persephone looks like a trailer for a film that will never arrive.

Net art desires a paradox of space, time and memory, or no-memory. Multiple events dissolve into one another as soon as the simultaneity is noticed, like play, like paradoxes of fictions. You can never go into just one net place, or into one time. You can never find your way to the end of the thread, or to the end of the trail. You can never say, "meanwhile, back at the ranch," because "back at the ranch" is dissolving. Entropy is matched only by a nonlinear logic of play.

the play of memory

Net art shape-shifts as it engages in the interaction of events and is emergent in that interaction as a third, fourth or nth integer event; its motion tends towards the absolute zero, the event horizon, a digital sublime. Entropy recurs, as we try to set and reset the boundaries of things, fix things, set coordinates, or sail to the island of the day before, to paraphrase Eco.

The kinds of meaning constructs capable of flourishing in the baroque distopias of the net are creatures of our narcissistic regard, but also echo our desires for the erotic and the sublime, beyond range of surveillance and control. The technobody presence of a net art work is a double memory package. Joyce's Anna Livia Plurabelle cries: "mememorme!" Is this "me me more me"; or is this "(re)member me!"? Luckily it is both/and. A cyborg subject is a reflection of ourselves: it is both a self and a non-self, dissolved in the river of media. She calls "mememoremee"—is it also "(re)memory"?—a sibylline call, whose primal tone is a verb: to shift.

II. inside the poetics of space on the net : death and life spaces break up the space

Paul Virillio predicted surveillance saturation as an absorption of urban topographies and architectures into, literally, pure vision: vision creates vision by the machine, for the machine. Out of sight, if not out of mind, is a pandemic, nomadic paralysis: when you can be seen anywhere, you have no place to go. The psychic topology of violence is claustrophobic. The abusive environment wants to maintain a frozen or unconscious status and immobility. The panopticon of surveillance structures, like all utopias, is untenable, because it fails to take into account a gash in the perfect surface of its media-skin. The rupture is caused, inevitably, by change. The regimes of hyper surveillance in public spaces want to freeze-frame, in film still doses, all transient visual, haptic and acoustic content like sequential projections into a grim theatre of paranoia. Still, a first impulse of artistic practice within a culture of digital terror is to break up the space, to smash it open, to revive it by using surveillance technique as a generative medium for a human centered aesthetic. Like an archaeological dig through debris of anesthesia and amnesia—the culture of forgetting—the smashed ruins of a panoptic city may be a new ground, even an unimaginable agora saturated with conversation and energy,

contretemps, against time. Building reiterative experiential archives, tracing terrains, and integrating recursive polyphonic spatial imaging with in live space, creates a dynamic and critical subjective presence, a conscious architecture.

data and polyphonies

Imagine interpolation of data emulation into live space as a dialectic or set of interface patterns between paratopic, polyphonic, and polychromatic volumes. We might imagine interpolation and superimposition, like montage, but as virtual and physical spaces, using layers of content that are expressions of hidden data through a semi-permeable membrane, or data transport mode. Maybe time becomes metabolic: it gives rise to a productive structure, composed of intelligent units, or affective artifacts in continuous movement and states of disclosure. What I want to study is the possibility of mapping a generative code structure to a visual and acoustic grain that is scalable and has the integrative geometry and immanent temporality of the M√∂bius strip. The visual grain is so varied that, from small to large, it maintains a sense of its own scale no matter what size it is. A mixing, or mixed reality, incorporates the hard edge of the pixel and the soft edge of the depth of field. Hence we may arrive at a multidimensional volumetric surface/not surface as an infinite, extensive M√∂bius strip that has a continuous surface moving away and towards a depth of field, in a semi permeable, elastic and unstable motility that becomes architectural in terms of a 'built' topology, phenomenology, and cultural imagination.

constellations

One formal continuum in relational aesthetics moves from film into architecture by spatialization of time based media within built volumes. Another conceptualizes topologies in architecture as musical/mathematical recursive structure. A third wants the built volume to remember, as a trace of kinesthetic human memory, the touch of remembrance of things past. An interactive space in virtual construction is cyberpresent at the confluence of at least these three functions. The human/machine active interface, an elastic response, almost like a 'tuning fork' at the functional confluence, becomes an architectural site: it locates a certain kind of cyberpresence as a place that smashes or dissolves between data expression in a constant flow that moves in a fugue like structure of open sequencing. Constellations of paired functions transpose, as hidden to exposed, closed to open, opaque to transparent, inimical to immersive, discrete to engaged, monadic to multiple on one 'visible' side of the strip; while on the 'other' side, i.e. the dark space of architecture, exposure is moving into absorption, openness into ambient hierarchies, transparency into translucency, and immersion into description and distancing.

first and last questions

Gerard Manley Hopkins coined the word "inscapes" towards a sense of generative relations between image, the sound/sense of language, and ontological states of being. "Inscapes" aspired to a condition beyond representation and emulation. Of inscape as a phenomenological perception. Inscape becomes a mediated actuality, in excess to, or alongside, mimesis.

Imagine interpolated virtual and actual spaces thrive and decay, die and live in a riparian zone, watered by pervasive computing. How can we set in motion a generative theory around a drama of the sense of place that derives from the mixed reality of the virtual and the actual? What are the formal dynamics of virtual spaces? How are these dynamics analogous to biological processes? Are these dynamics scriptable as interactive time based entropic cycles? Might the condition of nomadic paralysis in media space, as frightening as it may feel, be the precursors of a new poetics of (an)architecture, where space, smashed between cyber and physical, shifts into a hyperbolic super-present?

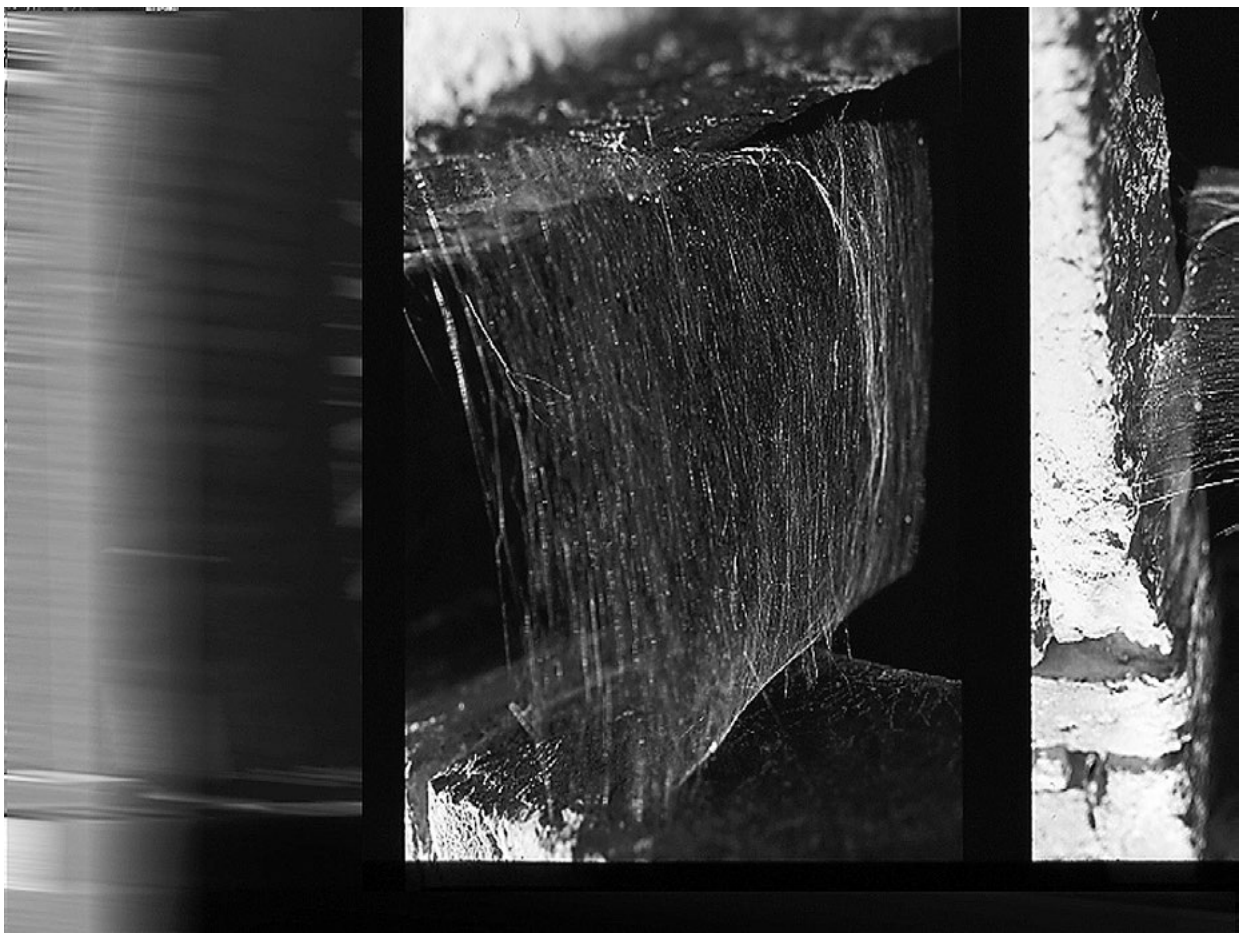


image from *bloodellipse*, Christina McPhee, 2003.

DIGITALITY: APPROXIMATE AESTHETICS

Anna Munster

The digital camera allows a proximity to material, to skin, to the surface of paint that excels the eye's trained ability to sort and recognise. Skin pores become alien matter folding in billows, blunt bags trimmed with iridescent grease, pinked mudflats. Hair meets paint slabbed on like cold marge.

Mathew Fuller.[1]

Where and how to locate a digital aesthetic? In a sense the question, although unanswerable and reaching us from a recent but already faded past (circa 1993), is no longer of any value for theorists and practitioners of "new media" and "digital" arts. As an indication of both the lag and catch-up that cultural practice and theorisation of that practice play with each other, the digital is already located everywhere, if one is privileged enough to take advantage of the franchised globalisation of computing technologies. During the early 1990s, when a range of relatively new art forms such as CD-ROMs and terminal-based interactive installation exploded into cultural life, the self-conscious announcement of a genre of art work called "the digital" had some strategic, and aesthetic substance to it. But as a number of theorists have argued, the range of practices to come under the umbrella of "digital art" is now so diverse and the digital as a category itself so mundane, that the art is done a disservice by being grouped in such a way.[2]

Despite the fact that the notion of digitality to promote, describe or identify a still emerging aesthetic seems already jaded, I want to argue that there is nevertheless something specific about digital art. This specificity partly results from the mode of producing, consuming and participating with those machines that are the condition of possibility for digital art practice. These machines are not reducible to a set of technical parameters nor can the digital be considered solely in terms of the formal qualities and conditions it imposes on its ouput. This is not then, an argument from the medium, particularly if the medium is to be considered as the technology used to realise digital artwork. I want to argue that the content and ideas expressed through digital art need

to be addressed over and above the technology supporting them. But at the same time there is increasingly a sense in which to aesthetically locate the digital one must theorise the perceptual and social impact of these machines.

This discussion of a digital aesthetics and of a variety of digital art genres that constitute a diverging field is framed through my exploration of proximity as a structuring concern in the digital production, management and regulation of contemporary modes of perception. The grounds of debate shift away from concerns such as virtuality, interactivity and dematerialisation, often cited as the preoccupations of digital art.[3] Relations of proximity operate at a number of levels: the closeness digital media continue to maintain and develop with other media such as cinema and photography, the redistribution of spatial and temporal relations into an experience of virtual nearness, and the kinship of the immateriality of informatics with technical materialities and the organic strata of bodies. To set the scene for the relay of connections these proximities set off between each other I want to look at Graham Harwood's Internet artwork "Uncomfortable Proximity."[4] It is precisely the sense of the uncomfortable that this piece technically, politically, conceptually and stylistically conveys that can act as a starting point for traversing these various levels. Harwood's site acts as a mirror to the official website of the Tate Gallery, England. Navigating through its official site allows access to his version, which, when activated from its hyperlink, opens as a new browser window on top of or replacing the window of the official site. This is the first step in pursuing proximity as an adjunct to the phenomenon of mirroring that is itself part of Internet retrieval, search and navigation. Mirroring sites is a ploy commonly used to breach copyright, divert net traffic to more obscure areas and contravene the broadcasting of material, such as pornography, likely to come under regional censorship regulations. A mirrored site may simply reproduce a particular site at another server location or it may partially mirror the site in order to subvert, hack or intervene into this site. As part of the online and offline collective "Mongrel", Harwood's mirroring fits within this hacking tradition, such that the mirror no longer reflects or reproduces but functions as an other version, recalling critically, hacking into and redistributing its meanings across the network.[5]

Perhaps what allows this strategy to remain startling and to produce its uncomfortable affectivity is the proximity of Harwood's mirror, sitting as it does on the same desktop as the official Internet face of the Tate. It is not the deployment of a hacking strategy per se that allows the politics and aesthetics of this digital work to unfold; mimicry as ironic comment or subversion is a well-trodden path within postmodern cultural practice. "Uncomfortable Proximity" operates instead by unleashing momentary flashes of astonishment, discomfort and squeamishness, mobilising the capacities of digital technologies themselves to forge extreme juxtapositions, unbearable proximities, unspeakable intimacies. The proximity Harwood's site offers to the Tate disturbs the comfortable and bland proximities information collection on the desktop or in the institutional archive offers us. The notion that the terminal itself gathers up the world or provides a window onto it is shattered as we begin to feel that terminals might instead be nodes for siphoning, blocking and redistributing informational spaces. For Harwood, the world experienced through the terminal cannot be reduced to universal history, knowledge or aesthetic experience. Information becomes a differential space for the collision of different worlds. The piece then is not just a comment, a subversion or a dull parody but provides, as Mathew Fuller argues, an opening up of the history and politics of the visual that the institution of the Tate has had a hand in constructing.[6] That is, of contributing to an exclusive, class-based canon of British art history. The public and authorised spaces of the gallery and museum often find their continuance through the

Internet, with just about every large institution using digital media to reproduce or disseminate their "collection". "Uncomfortable Proximity" acts to break up the homogeneity of this space and to take the museal on a diversion through its heterogeneous genesis.[7]

The sensation the work produces for the viewer/user is not the same as specular suspension of belief resulting in acquiesence to the phantasmagoric digital world. Instead disbelief, disconnection, discomfort emerge. On the surface of it, this may break the virtual connection between viewer/user and artist almost as if there is a need to move back, away from the monitor and disengage from the interactive process. But it also produces a sensation of discomfort that, configured in terms of proximate embodied experiences, gives us a sense of Harwood's own discomfort. If interactive art or technologies are thought only in terms of the technical level of interactivity that occurs—the degree to which the participant is cybernetically incorporated into a system in which the parameters are preordained—then we lose the aesthetic moment as sensate experience of the art. An aesthetic interaction with digital art may require the production of systemic disconnection.

Harwood takes digital snapshots of the Tate's British masters: Turner, Gainsborough, Hogarth. Snapshots designed not to disseminate the perfect copy but to show up the dirty texture of low-resolution imaging. Using the techniques that make up the stock of digital manipulation—cut, copy, paste—he creates roughly hewn portraits carved from the masters, juxtaposing these with images of his own body, family and friends, the skin of infected bodies and the visceral, dredged-up landscape of the Thames river adjoining the physical site of Tate Modern. While so much digital imaging manipulation is devoted to a construction of the seamless, Harwood points instead to artifice and to the sense in which this can literally produce links: links to the excluded, the minor, the disenfranchised and those obliterated from public and institutional histories.[8] The juxtaposition of canonical painting to embodied biographical images that Harwood achieves in his portraits, for instance in Hogarth, My Mum 1700 -2000, is made possible by the artifice of digital imaging techniques and the flatness of low-resolution digital imaging which gives to texture an informatic surfacing. This is particularly noticeable in online terminal-based work where, as a result of the necessity for compression, visuals lose information and gain noise and where they also glow with the even luminousity of the computer monitor. These conditions, that constitute part of the material production and reception of the digital work pass into the sensations experienced when engaging with a work such as "Uncomfortable Proximity". Not a sense of disembodiment and connection to a society of mind but of bodies pressing together, too close to each other for comfort:

> Eyes of muscle, water and jelly share the same surface tension as those of dried-up and lacquered oil in a self-portrait by Hogarth. Beeswaxed curls crust up into sheets of colour, a microcosmic gesture on canvas becomes enough to smother a head.[9]

Proximity allows Harwood to develop a digital aesthetic that locates digital technology itself as more than a medium but less than an enframing or determining cultural structure. Developing the digital through a proximity to images of organic and embodied life and interweaving these with the materials of official and unofficial histories (those, who like him, experienced the Tate as an institution of the British class system), Harwood finds himself in the midst of the compositional process.

Hogarth, My Mum 1700 -2000,
from the work *Uncomfortable proximity*, Graham Harwood, 2000.

Digital art certainly has no claims to an exclusive modus operandus when it comes to composition. But it does involve particular modes of composition that can create zones through which the organic and machinic become approximate to each other. Digital artists often produce those sensational flashes of wonder, shock, incredulity and squeamishness by laying out both corporeality and the informatic across a plane of artificiality, where both information and matter operate as productions, inventions, chicanery. Art's archives and collections may lie in wait for the promise of heritage restoration to the public that digital media, viewed as a mechanism for perfect replication and pure translation, seems to offer. But the rough, immediate and poor quality of the approximate that they actually deliver can provide the stuff of a different aesthetics, an aesthetics that connects to life as a process of composing/compositing the self. Harwood indicates that the digital is not a technology that easily or seamlessly facilitates subjective compositions. Rather it is one that lays open the very wounds and edges that characterise proximate interfaces.

The borders between the scabs and Turner fragments, the hair follicles of his sister and the brush strokes of an oil, the polluted mud of the river and the aura of the masterpiece are scars. They mark Harwood's own memories of walking the Tate, seeing the art, but feeling that he did not belong to its world. But they also follow the lines of the abrupt intimacies that the digital offers us: bumping up next to the skin of others and recoiling from that sensation. Never quite connecting with "the other"; feeling one's way along the edges of interfaces instead, gaining at the same time the sense and textures drawn in by the alterity which comes with a connection to the machine.

There are of course decompositions that the digital makes of other media such as the photographic which we might be tempted to think about in terms of the loss of materiality. But surely we have moved into a different cultural perception of the image than simply counterposing the digital to the photographic analogue. In this scenario,

digitality can never become proximate to materiality aesthetically, kineasthetically or technically. It always emerges from these encounters with a deficit. But digital modes of image production are no less kinaesthetic simply because they are negotiated through coded terrain. They do however constitute a deterritorialisation of the hand; indeed as Deleuze suggests they envelop the hand completely within their internal relations:

> Once again, these basic units or elementary visual forms [i.e. digital code] are indeed aesthetic and not mathematic, inasmuch as they have completely internalised the manual movement that produces them.[10]

Harwood's rough tears at the borders of his images, the jamming of incongruities to form class proximities experienced as bodily memories of the "out-of-place", the slapdash movement of hand to mouse to screen constitute one form of a digital kinaesthetics that becomes productive of aesthetic experience.

Defining the practice via the medium without regard to its differential proximities has landed digital art and in particular high-tech digital artwork and artists in a rather paradoxical political and cultural position. On the one hand it has secured a place for such art within a more general rhetoric that expounds a constantly upgradable notion of digitality as "state-of-the-art."[11] Roy Ascott, for example, has been at the forefront of this position on digital art, arguing that the computer is not simply a tool but an entirely new medium ushering in a new visual language and producing new relations for making and receiving the digitally produced artwork.[12] These kinds of pronouncements of vanguardism have seen a range of none too critical writings accrue to support the doctrine of a practice and culture that follows the rhythm of the technology itself; always ahead of its actualisation, always awaiting the future as a new version of itself.

On the other hand, the notion that art can be defined according to the medium through which it is realised stands firmly within the modernist tradition. As Greenberg argued in his essay, "Modernist Painting", what was unique to a particular art form coincided with what was unique about the medium it deployed.[13] Indeed, according to him modernism is above all a mode of calling attention to the conditions and limitations of a medium in order to produce from these something new, something positive out of the nature of the medium itself. The concentration on technology per se, whether it features as part of the content, the development of a kind of digital style or the emphasis on computational processes, thus draws this "cutting edge" digital artwork back within a modernist tradition. During the late 1980s and early 1990s writers such as Frank Popper and Cynthia Goodman promoted digital art as a new aesthetic based upon the nature of the medium.[14] But this reads now a little like an attempt to provide the digital with a genealogy that would legitimate it by entrenching it within acceptable art history traditions.

Both Darren Tofts and Steven Holtzman have argued that digital art is endemic to the computer.[15] But they both broaden the argument from the medium and a strictly modernist position to suggest that digital art can occur only after the social and technical event of the computer. Tofts argues that this event has an impact upon our notions of spectatorship in general. Rather than the much touted collapse of the division between artwork and viewer, computer interactivity particularly experienced via the computer terminal makes us aware of the perceptual space that surrounds the terminal. In other words, the computer provides a non-immersive and artificial space for exhibiting and interacting with digital art more akin to theatrical and staged space than to the promise of total identification that virtual reality makes. This then is an argument about the computer as apparatus rather than the computer as medium and offers us a more

expansive version of the ways in which there may be a specificity to the aesthetics or experience of computer art. Holzman, although reliant upon the modernist position of medium specificty to the art form, still offers the argument that digital technologies give us a new language for expression and that this language is part of the development of digital media.[16] Tofts' use of the term apparatus to refer to the computer reminds us that it is more than just a technology and that the digital is also indebted to its proximity to other media histories such as those of the cinema. Yet aesthetic experience in its embodied aspects remains an impoverished term within analyses of digital art.

My sense of the aesthetic possibilities produced in the event of the digital computer comes from the way in which digitality provides a set of lived circumstances for our senses to encroach upon us in a different way. This occurs via a particular kind of mediation that can give rise to the production of a certain kind of artwork. My project to locate a digital aesthetics is not foremost about the tradition that gives rise to digital art nor is it a speculation about an art that will take us ever further into the future. It is about the contemporary moment. It offers the digital not as a brave new category or as an umbrella for everything produced by artists working with digital technologies. Instead it offers itself up as an approximate aesthetics. Living life under the sign of the digital is about the emergence of a spatiality and duration in which relative speeds and differential relations are foregrounded as aspects of our embodied experiences. It is these conditions that constitute the basis for an approximate aesthetics of the digital. Digital art then, is partly dependant upon what it offers us specifically and uniquely as it affects us through its "blocs of sensation."[17] The "bloc" or zone according to Deleuze and Guattari, designates a relational area of sensibility, the indeterminate feeling of sensate participation in the organic or inorganic material world:

> Life alone creates such zones where living beings whirl around, and only art can reach them and penetrate them in its enterprise of co-creation. This is because from the moment the material passes into sensation, as in a Rodin sculpture, art itself lives on in these zones of indetermination. They are blocs.[18]

This of course is to suggest that the overall notion of the aesthetic needs to be rethought as an area not so much dependant upon style, media or the formal qualities of an art but upon the arena of sensation itself. Following this rethinking of art's zone of operation as the affect, the aesthetic is concerned with a range of corporeal and perceptual processes. It is about a plane of experience which allows the force a sense impression exerts upon the body to intersect with a form of mediation (perceptual, cultural,social), and for this intersection to produce a reflection upon this force. This aesthetics must also account for the continual relays between these. The aesthetic as aesthesia would not distinguish between experience and contemplation of that experience as two operations springing from different faculties. Instead it attends to the way that sensation could be productive of both of these across an expansive, experiential plane. These movements, Deleuze and Guattari argue, are almost impossible to detect; molecular, on the verge of imperceptibility, they hit us at lightening speeds. It is perhaps this movement, so difficult to pin down, that we experience almost as after-taste when engaging with art. These forces are rendered as something concrete through the materiality of a medium when producing art.[19]

But if the aesthetic is specifically concerned in this way with the becoming of sensation then it must also take into account the conditions under which that corporeal becoming occurs. I am not suggesting that digitally mediated experience can lay a privileged claim to these marginal movements of perception and sensation. Rather I would suggest that

a preoccupation with movements between different perceptual states, accelerated and accentuated through engagements with machinic perception, does give the digital as a sphere of production and engagement a certain currency in relation to the mutation of affect and the production of new affects. It is in exploring a relation to the possibilities of machinic perception—the different speeds of engagement that it demands from the interactant and also the artist, its instantaneity coupled with the interminable frustrations, stoppages (the computer crash) and waiting periods—that we can begin to see the aesthesia of the digital operate. We need here to think of speed not as an absolute tool of measurement, when for example the speed of light is invoked in an absolutist manner or the processing speed of the computer becomes the measure for machine/corporeal experience. Speed is an intensive, differential, corporeal quality. The relations of movement that make up the speed of a particular body also allow it to be affected by and affect other bodies. It is possible to change these qualitative relations of speed by entering into affective relations with other bodies and creating new affective compounds.[20]

Digital proximities are foremost about new relations to movement, although these necessarily lead us to think through questions of spatiality particularly as these are fleshed out through geopoltical changes. Perhaps the preoccupation with disembodiment or dematerialisation within some digital art results from riding roughshod over the differential speeds at which both digital technologies and human corporealities move. As Katherine Hayles has argued, the materiality of embodiment has a particular way of receiving and generating meaning.[21] This gives it a vector of movement that may run parallel to or out of sync with but is definitively not reducible to vectors of digital information. Another way of stating this is to look at the way in which embodiment also carries senses of personal and cultural histories that often seem to linger, enmeshed in the fibres of bodily memory. As Jill Bennett states:

> The poetics of sense memory involve not so much speaking of but speaking out of a particular memory or experience—in other words, speaking from the body sustaining sensation.[22]

These histories themselves distribute different kinds of speeds within and across the differences of humans' bodies, making them resistant, slow, malleable, adaptable, heavy and light. But as Hayles suggests, digital signals may have a mode of altering such things as history and memory in ways that seem out of tempo with embodied experience: "information technologies create what I will call flickering signifiers, characterised by their tendency toward unexpected metamorphoses, attenuations and dispersions."[23]

It is the differential relation of informational speeds to embodied speeds that has the potential to create turbulent "blocs" of sensation. These occur when, for example, objects morph into strange and unknown shapes in digital animations or astonishing links between areas of information become immediately proximate to each other through online hyperlinks resulting in affective wonder, laughter or surprise. Or the screen freezes and adrenalin plummets and anger rises, as our game character no longer moves in sync with our movements at the control panel. I want to argue that there is a body of digital artwork emerging that specifically "speaks out of" particular sensations sustained, to argue Bennett's point in another context, through the relation of digital to corporeal speeds.[24] This work is concerned with the proximity of forces captured in the production of art work to those affectively produced in the works' reception by its possible viewers. What is also interesting is the extent to which this

work is located at points of convergence and conflict with the speeds of digital technologies affecting our broader day-to-day engagement with machines and cultures. Artists working with digital media are caught up with the permutations that their material undergoes by entering into a relation with code and the capacities of the digital to be affective. That is to say, the materialities that sustain the sensations or through which an artist enters into affective compounds also pass through a becoming-incorporeal in digital work.

The form through which a work is realised digitally does, to an extent, also relate to this issue of speed and its differentials. The attention Hayles draws to the phenomenon of flickering is important for it reminds us of the perceptual, material conditions under which we most commonly engage with visual digital technologies: the peculiar rolling light of the computer monitor. The monitor has proved to be a difficult space for engaging with digital art perhaps because it accentuates unbearably that flickering of light. But it also limits the area for flickering as semiosis: the glimmer of the digital's transformative qualities to which Hayles also refers Digital artists have often opted to change the speed and roll of the flicker itself by outputting terminal work to print media and freezing that movement, as it were. Or else they have created installation spaces using large screen projection or video cube/walls that mediate the flicker through another display technology such as the video monitor. When it comes to considering what kind of aesthetic experiences digital art works offer us we need to consider the hypermediation of the technology itself through a range of media machines (video, television, print, photography) and the speeds through which these qualify the digital. In other words, it is not just our bodies that introduce the question of histories into the discussion but also the digital's relations to media themselves.

Rather than producing an exact science of feelings or resulting in a judgement of taste, a digital aesthetics would at best be an approximation. This is not to say that the digital misses its mark but rather that we need to be aware of what the conditions for contemporary media experience are likely to be. Digital media are quite capable of registering affectively; we underestimate our corporeal capacities if we suggest that the speed and geographical fragmentation wrought by these media lead to dematerialisation, indifference or desensitisation. But we also need to be wary of the claims made for digital media's abilities to capture a more authentic or fuller sensorium because of its proximity to "the real." As Lev Manovich has argued, the digital's claim to the real is part of a retrospectively constructed genealogy of Western visual realism that places the digital image, in particular, as the progressive overcoming of older technically degraded media.[25] It is possible and perhaps preferable to unhinge this kind of genealogy by ceasing to pronounce the digital necessary heir to a dominant tradition. As Maras and Sutton argue, a medium is not a single system but a production that is inherently unstable. They argue for:

> the possibility of understanding medium specificity not in terms of purity or as a norm, but precisely as a product of interaction between different elements in an assemblage of material processes.[26]

Digital media have a number of lineages then that can be recalled depending upon the way these media coalesce and interact with other media at specific times. They also have the ability to rearrange these histories in relation to each other and in relation to the flows of other matter, such as human corporealities, with and into new modes of expression.

Approximation as a qualification of the proximate allows several new ways of dealing with digital aesthetics. First, it captures the sense in which an attempt to theorise contemporary artwork and practices like digital art never quite reaches its destination because the contemporary is always temporary and in the process of being remade. This occurs at varying speeds wrought by the relations of corporeal and media histories to each other. An absolute measure of speed is unlikely to adequately capture the differential of these forces. We may be better off with the vague estimations that an affective understanding of digital experience renders for us. Second, approximation qualifies the sensation of those flashes of affectivity, introducing machine perception into the assemblage of interactant/viewer and computer. In turn, our experience of digital artwork is marked by the broader cultural claims that the integration of computing into day-to-day life brings about. The most consistent of these claims is for the proximity of digital technologies to realistic representation, signaled not just in photorealism but also as digital software, hardware and artists promise their audiences access to a fuller sensorium.[27] In important ways then a digital aesthetics depends upon the fact that digital art is culturally indebted to the popularisation of ideas and claims about what digital technologies are capable of achieving. Rather than making the notion of digital art culturally obsolete, the proximity of this art to the integration of digital technologies into life remains an ongoing raison d'etre for a number of artists making digital work. This has meant that digital aesthetics can and have also become approximate to a politics of perception and affection. Here digital art has situated itself in syncopation with the rhythms of an emerging articulation of the entwined histories of bodies and technologies and the possibilities this may raise for their future rearrangements. For a number of female digital artists working within a postfeminist arena and for people of colour operating within the politics of postcolonialism this is becoming an ongoing concern. Most importantly approximation gives us a way to look at what I am suggesting is one of the most important conditions and issues running through digital art, the problem of proximity itself.[28]

Proximity itself becomes a mode of elaborating not just a relation to technology but to others and to culture as it is digitally inflected. Proximity is thus a way of fleshing out the aesthetics of artwork that must take into account its reliance on a particular kind of machine, while simultaneously landing the digital artist within the sphere of the ethical and political. This is not to say that all digital artists voice these concerns or are willing to engage with these issues. But some of the more conceptually interesting although possibly less technically "cutting edge" digital work signals belonging to this proximate aesthetics. It is possible to argue for a digital aesthetics that is not confined to the qualities of the medium yet develops its own particular concerns produced through the embodied experiences of living in digital times. Working through this notion of proximity indicates how a digital aesthetics can provide us with a strange set of affinities for both producing and engaging with new media artefacts. Approximation is about paring down the expectations that the digital, and in particular digital art, has been burdened with: delivering the real, promising freedom, authenticity or utopia. But it is also about nearness, the way in which digital media have an odd way of creating affinities and compounds.

Digital media do provide the platform for a broader process of self-composition. This is not to argue that they provide some renewed possibility of self-representation or that they are inherently libertarian or that access to them will provide for a more open political process. As Keith Piper and Cameron Bailey have shown in quite different contexts, cyberspace is a synergy of corporate and military surveillance technologies.

These regulate, for example, the flow of immigrant workers in and out of the collapsed nation states and borders of virtual territories such as the "new European state."[29] In his interactive installation of 1992, Tagging the Other, Piper highlights how digital technologies of surveillance have produced an "other" to fictional whiteness of this state. This "otherness" has been composed by technologically monitoring the bodies, lives and movements of South East Asian, West Indian and African migrants forced to locate and relocate themselves in the wake of global technological reconfigurations. Bailey and Piper offer us an interesting supplement to the debate around disembodiment by calling attention to the limits of a rhetoric of subjective freedom that suffuses digital media. In other words, one disembodied avatar's gender, race or class fluidity is another person's lived and dislocated embodiment.

Initial euphoria surrounding the seeming lack of bodily markers in cyberspatial relations lined up with hope for a politics of tolerance, in for example Sherry Turkle's Life on the Screen.[30] But artists such as Harwood and Piper remind us that this rhetoric belongs to the time and space of particular kinds of subjective compositions. It is here that aesthetics opens onto and approximates the questions of ethics, of our embodied relations and actions towards others. In composing the self—given that digital life foregrounds the networked and distributed self—we are also immanently composing our relations to others; relations which are not fluid in the way information promotes itself to be. In Sean Cubitt's words then, there is a "radical disjuncture between the new media and the new geopolitics."[31] As Maria Fernandez argues, constructions of identity by electronic media theorists and participants tend to revolve around the extent to which the individual can create or control their sense of self.[32] This form of hyperindividuation places the self once more at the centre of a world: claiming a stake in virtual real estate, controlling the production of virtual gameworlds and, for those artists who ignore the ethical implications of their aesthetic productions, producing digital work that feeds into a universalist (albeit a flowing, mobilising), informatics.

Cubitt's theorisation of digital aesthetics is important because it implicates aesthetics within the realm of the ethical. It foregrounds the relation between digital art and the economic and social polarisations brought about by the more general deployment of digital technologies. Connectivity, for example, cannot just be thought as the experience contained within the interactive artwork. It is a broader vector of information that links privileged networks of people throughout the world (primarily corporate networks). [33] But Cubitt invests both too much and too little within the aesthetic sphere. For him, aesthetics should offer us a different mode of living in the world, one which is not of the present time, but for the future. A digital aesthetics must transcend its current preoccupations with sedimenting the power of the coherent self. In an ingenious reworking of the Kantian position, his prognosis for digital aesthetics is contemplative, designed to reflect upon the social state of the world. Yet the aesthetics I have been conjuring remains very much in and of the world situated on the side of bodies and sensations. Reflection does not work so well as its mode of operation. The digital artwork cannot offer us, ahead of time, the conditions for a better life; it can only give itself over to the life it is in the process of becoming.

Fernandez makes the salient point that where electronic art and the postcolonial impulse have met tends to be within digital art forms such as digital photomedia and video work, already regarded by some as obsolete practices of new media.[34] This is enough to remind us that the hankering after ever newer, grander more complex schemes to support or actualise art work, especially technological art, is itself an indication of the wider global distribution of digital technologies towards the needs and desires of an elite, usually first world, few. To suggest then that digital art dissolves into

the ubiquity of digital life is to forget that digital technologies are most definitely not located everywhere or evenly. It is worthwhile pulling apart the digital as a universal arrangement and into a diversity of practices whose differences are also produced via the differing material conditions the bodies engaged in making and consuming the work find themselves. This implicates a digital aesthetics within an ethics of digitality. But it does not guarantee that the digital use this connection to raise itself to more equitable or democratic proportions.

The artistic CD-ROM is placed at the intersection of a number of these problems and concerns and proves a useful form to help further elaborate them. In the spirit of Hernandez's comments about the aesthetic obsolescence of particular areas of digital art, the CD-ROM could likewise be seen as having passed its used-by date. Interest in it seemed to peak around the mid-90s and this was marked in Australia, for example, by the 1996 Burning the Interface exhibition at the Museum of Contemporary Art. [35] While CD-ROMs continue to be made by artists and attract both commercial and public sector funding and investment, the form itself seems to have given way to attention around net.art or to high-tech interactive installations. There is a sense in which the CD-ROM as artwork has failed; failed to attract the commodification of digital art that it seemed to so easily promise in its cheap and distributable form and failed as a form to deliver the multimedia experience as an aesthetic experience.[36] The Burning the Interface exhibition marked this failure, presenting rows and rows of computer terminals with different groupings of artists' work at each terminal for viewer interaction, all housed within the conventional white cube of the modern gallery space. Although the work was public, only one person could use a terminal at a time and the division between the privatised producer and consumer of digital media, and the public as an audience for contemporary digital art became only too clear. Not only did the show bring to the fore the problem of the monitor as a space for viewing/engaging with digital art, but also with the investment in the promise of delivering multimedia at a mass level. This dream of providing vast quantities of heterogeneous data within a standardised space (the desktop), at a speed at least comparable to broadcast media still largely fails to materialize.[37]

And yet artists have persisted with CD-ROMs and indeed the form became an area for developing work more overtly engaged with the political structures of information culture and with the problems of the senses and embodiment in relation to these structures. In order to understand why this is the case we need to think through the question of what kind of aesthetic experience can be offered by the CD-ROM as an art work and how this also engages us with broader questions about its place in relation to other digital media. As others have argued, the interactivity of the CD-ROM often amounts to choosing between predetermined choices specified by the parameters of the coding.[38] Hence the feeling of immersion or engagement with the piece—its access to a "full" virtual engagement—seems poorly approximate. The CD-ROM is haunted by its inability to fulfill the promise of the digital. For the audience of the CD-ROM artwork, this failure translates into frantically clicking and sweeping the cursor across the screen waiting for it to refresh, to provide more information, to come up to speed.

But this is precisely why the CD-ROM could be considered the digital art form par excellence if we think about it from the standpoint of an approximate aesthetics. Particularly in artists' CD-ROMs, we find speed destratifying into differential relations. These are enacted between the participant, the artwork, the bodies that sustain the production of the work (that is the artist and their collaborators—programmers, designers, sound artists etc.) and the assemblage that is the technology of the digital

computer. That frantic clicking for more information is in part produced in relation to the broader promise to deliver digital media capable of operating at inhuman speeds. But it is also a sensation produced in (inverse) relation to the body of the artist making the CD-ROM. Typically an artists' CD-ROM takes around two years to make. During this time one finds oneself concentrating enormous amounts of bodily energy around the small space of the monitor, clicking frantically within the parameters of off-the shelf software that never seems to fit the infinite horizon of possibilities that is the project. Making a CD-ROM forces one's body to move at lightening speeds, gathering endless quantities of material from heterogeneous sources, losing duration for hours in the space of the monitor's flicker, concentrating the diverging intensities of the body to remain aligned with rapid eye and hand movements. But CD-ROM production is also incomparably slow: hours of dragging the cursor across a landscape of code to find one small programming flaw; the repetitive batch processing of content; the constant retracing of navigation wrought by imagining the user as interactor. Aside from any corporeal content that CD-ROMs might draw upon, they are intimately caught up with the sensations of digital embodiment as sets of differential speeds from both the place of production and reception. As artist Linda Dement states:

> Aside from the content being from the physical, my flesh, sitting restrained at the desk burning my eyes out at the monitor—there's that thing that happens when you restrain and focus physical energy, tension and stillness and of course eventually pain & damage. Almost trance like if it's going well.[39]

The CD-ROM itself comes out of a relation (or tension) between movement and stillness experienced at the embodied site of its production and by engaging, for the user, with its limited form of digital interactivity. If its affective dimension so often registers with its audience as malaise or fatigue, this is perhaps also because the artist's body is subjected to the speed of information saturation. As Douglas Kahn notes, the CD-ROM emerges from a larger process of creative fatigue.[40] This includes the fatiguing of media forms as they recycle themselves through the multimedia format, the fatigue of the artist's body adjusting to the rhythm of media cycling and technological upgrade, and often the end-fatigue of the user who easily tires of its iterative structures. The art of the CD-ROM, pitted against its dissolution into an aesthetics of computer terminal ennui, must lie in its ability to recompound or recompose the self as resensitisable.

Linda Dement's CD-ROM *In My Gash* moves us in this direction, towards a resensitisation of the nervous system as it traces a becoming-media of the body. Rather than abandoning a photographic practice, she has used the multimedia platform to reassemble her visual practices and preoccupations. Dement's work has consistently valued a rich, visual style garnered from her initial aesthetic practice as a studio-based photo-media artist. *In My Gash* signals Dement's unwillingness to abandon the richness of photographic tableaux even as she intermeshes these with the potential for transformation and recombination that low-end interactive media allow. But *In My Gash* is more cognisant of the space-time of the computer monitor and its flickering inability to hold the viewer's gaze. Although these conditions for new media perception can lead to an hysterical oversaturation of information, Dement uses the opulence of her photographic practice to slow down this propensity. *In My Gash* allows the fullness of her imagery to unfold in relation to the user's actions, revealing layers and veils of lacerated bodily organs, destroyed petals, discarded syringes and torn limbs to appear and fade across the field of vision. Subsequently the manic desire to point and click that informs so much interactivity gives way here to an engagement with the piece as multi-mediated. This

tends to provide a slower tempo for engagement; iterations do not follow the speed of cyclical repetition but move in terms of the decomposition and recomposition of images. At other points filmic fragments tear at the fabric of the synthetic computer image as if the clash of media materialities were itself capable of bearing down upon the body and wounding it with the sensation of conflict. What Dement has been so successful in achieving is the redeployment of photographic and filmic decoupage as the dream and memory space for digital multimedia. The sensate aesthetic experience for the interactant—a shiver in response to the dilating and contracting of Dement's digital wounds—is simultaneously a digital mediation of other media experiences.

The zones of proximity digitality can call up for us in contemporary life include the digital's relations to other media forms such as the photographic and the cinematic and to institutions such as the gallery, museum and archive in which art and media are housed and displayed. They also include our relations to others in the world and thus implicate the production of digital aesthetics within a wider context of ethics. As a result of both of these foregoing sets of relations, digitality as an aesthesia is produced in a relation of (a)proximity to embodiment. I have signalled that this closeness to the sensate and affective dimensions of life can only be grasped as approximate. Yet the aesthetic experiences this produces might be described as uncomfortable in their proximity, in the case of Harwood's work, or galvanic in a work like Dement's *In My Gash*. In both its production by artists and consumption by audiences, the digital introduces a universe of reference that is both hypermediated and incorporeal. But current experiences of extended and distributed embodiment, which aesthetic digital experience can offer us, are also recompositions of materiality through its differential relation to immaterial, incorporeality of information.

Notes

1. Mathew Fuller, "Breach the pieces," Available online at: http://www.tate.org.uk/netart/mongrel/mat2.htm.

2. See, for example, Mitchell Whitelaw, "The end of new media art?", Working the Screen 2000, special issue of *Realtime*, no.38, August-September 2000, p.7; Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genres*, London and New York: Routledge, 2000, pp.1-7; Geert Lovink, "Cyberculture in the DotCom Age", *Dark Fiber*, Cambridge, Massachusetts: MIT Press, 2003, pp.330-347. The same point was made at the end of the 1980s when the nomenclature of "computer art" was beginning to seem a little drab. See, R. Wright, "The Image in Art" and "Computer Art", *Leonardo*, Computer Art in Context Supplemental Issue, 1989, pp.49-53.

3. See for example Frank Popper, *The Art of the Electronic Age*, London: Thames and Hudson, 1993. pp.86-87.

4. See Harwood@mongrel, "Uncomfortable Proximity" Available online at: http://www.tate.org.uk/netart/mongrel/home/default.htm

5. Mongrel in fact deploy a general strategy of hacking to create parallel networks and virtual spaces rather than as a means to directly subvert or destroy pre-existing sites. Their development of the "Natural Selection" project uses code from widely used Internet search engines redesigned to promote portals for anti-racist sites and artwork. Available online at: http://www.mongrelx.org/Project/Natural/index.html

6. See Mathew Fuller, "Breach the Pieces", op. cit.

7. *Ibid*. It is this breaking up of space achieved by producing relations between the virtual and the concrete, the digital and the actual which occurs so often in digital art. This makes it resonate with earlier spaces of museum collection that began in the sixteenth and seventeenth centuries through, for example, the Wunderkammer. See Barbara Maria Stafford, *Good*

Looking: Essays on the Virtue of Images, London and Cambridge, Massachusetts: MIT Press, 1996, pp.32-34.

8. Harwood@mongrel "Uncomfortable Proximity", op. cit.

9. Mathew Fuller, "Breach the Pieces", op. cit.

10. See Gilles Deleuze, *Francis Bacon: The logic of sensation*, private translation Daniel Smith, 1992, p.61.

11. R. L. Rutsky has made a sustained argument for the fetishism that surrounds the notion of "state-of-the-art" in relation to technology in the way that artists, designers, theorists, entrepreneurs, publicists and advertisers all deploy this term. See R. L. Rutsky, *High Techne: Art and Technology from the Machine Aesthetic to the Posthuman*, Minneapolis and London: University of Minnesota Press, 1999.

12. See, for example, Roy Ascott, "On Networking", *Leonardo*, vol.21, no.3, 1988, pp.231-2.

13. Clement Greenberg, "Modernist Painting", *Art and Literature*, no.4, Spring 1965, pp.193-201.

14. See Frank Popper, *The Art of the Electronic Age*, op.cit; and Cynthia Goodman, *Digital Visions: Computers and Art*, New York: Harry N. Abrams, Inc. Publishers, 1987.

15. See Darren Tofts, "Your Place or Mine?: Locating Digital Art", *Mesh*, no.10, Spring 1996, pp.3-4 and Steve Holtzman, *Digital Mosaics: The Aesthetics of Cyberspace*, New York: Simon and Schuster, 1997.

16. This point is likewise made by Steven Maras and David Sutton in their article, "Medium Specificity Re-Visited", *Convergence: The Journal of Research into New Media Technologies*, vol.6, no.2, Summer 2000, pp.99-113. This article is particularly useful, mapping out a recent history of the notion of medium specificity in relation to new media.

17. This is Deleuze and Guattari's description of the grouping of sensations into affectual moments that occur in aesthetic experience. See Gilles Deleuze and Felix Guattari, *What is Philosophy?*, trans. Hugh Tomlinson, New York: Columbia University Press, 1994, pp.173-4.

18. *Ibid*., p.173.

19. *Ibid*.

20. Gilles Deleuze, "Ethology: Spinoza and Us", *Incorporations*, eds. Jonathon Crarey and Sandor Kwinter, New York: Zone Books, 1992, p.262.

21. N. Katherine Hayles, " Virtual Bodies and Flickering Signifiers", *Electronic Culture: Technology and Visual Representation*, ed. Timothy Druckrey, New York: Aperture Foundation,1996, pp.262-3.

22. Jill Bennett, "The Aesthetics of Sense-memory: Theorising Trauma Through The Visual Arts", eds Franz Kaltenbexk and Peter Weibel, *Trauma and Memory: Cross-Cultural Perspectives*, Graz: Passagen Verlag, 2000, p.87. Bennett's argument in this paper develops some of Deleuze's notions of sensation to account for the way in which visual arts can be produced out of a field of bodily memories (such as those of child abuse) and can also produce affective responses in the viewer. She argues against the notion of art as representation as this removes the aesthetic experience of the artwork, especially artwork dealing with traumatic experience, away from the bodily context out of which it is produced by the artist and which allows it to register for its audiences.

23. N. Katherine Hayles, "Virtual Bodies and Flickering Signifiers", *Electronic Culture: Technology and Visual Representation*, op. cit., p.263.

24. Jill Bennett, "The Aesthetics of Sense-memory: Theorising Trauma Through The Visual Arts" op. cit.

25. Lev Manovich, "The Paradoxes of Digital Photography," Accessed online at: http://www-apparitions.ucsd.edu/~manovich/home.html (15/02/01). This article is no longer available at this or Lev Manovich's new site, http://www.manovich.net

26. Steven Maras and David Sutton "Medium Specificity Re-Visited", *Convergence: The Journal of Research into New Media Technologies*, op. cit., p.102.

27. Perhaps the best example would be Jaron Lanier's prediction for an ultimate experience of virtual reality in which all of the senses would respond to the experience of a virtually created and shared reality. See Jaron Lanier, "A Vintage Virtual Reality Interview," Available online at: http://www.well.com/user/jaron/vrint.html

28. My discussion of this notion of proximity was spurred on by conversations held over the last year with Mitchell Whitelaw. I am grateful for his sense of provocation and for his intellectual and conversational generosity.

29. See, for example, Piper's own discussion of his piece:

> The new technologies that are being implemented to fix and survey the "un-European other", in the faltering consolidation of this "new European state", form the basis of Tagging the Other. Central to the piece are the framing and fixing of the black European, under a high-tech gaze—a gaze that seeks to classify and codify the individual within an arena where the logical constraints of race, ethnicity, nationality and culture are unchanging, and delineated in a discourse of exclusion.

30. Keith Piper, "Tagging the Other", *Iterations: The New Image*,. ed. Timothy Druckrey, London and Cambridge, Massachusetts: International Centre of Photography and MIT Press, 1993, p.121.

31. See, for example, Turkle's argument:

> When identity was defined as unitary and solid, it was relatively easy to recognise and censure deviation from a norm. A more fluid sense of self allows a greater capacity for understanding diversity. It makes it easier to accept the array of our (and others') inconsistent personae—perhaps with humour, perhaps with irony. We do not feel compelled to rank or judge the elements of our multiplicity. We do not feel compelled to exclude what does not fit.

32. Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet*, London: Phoenix,1997, pp.261-2.

33. Sean Cubitt, "Orbus Tertius", *Third Text*, no.47, Summer 1999, p.3.

34. Maria Fernandez, "Postcolonial Media Theory", *Third Text*, no.47, Summer 1999, p.14.

35. Sean Cubitt, "Orbus Tertius", *Third Text*, op. cit., p.14.

36. Maria Fernandez, "Postcolonial Media Theory", op. cit., p.15. Since the time of writing "postcolonial" new media art has segued into a multitude of new media forms: web art, CDROMs and so on. Nevertheless, one might also extend Fernandez's original point by remarking that these forms have also become the more accessible DIY and low-tech areas of digital art practice. For a good survey of some of these pieces see the documentation of the acclaimed show "Race in Digital Space", held in 2001 at the List Visual Arts Center, Cambridge, Massachusetts. Available online at: http://cms.mit.edu/race/exhibition.html

37. The *Burning the Interface* exhibition ran from 27 March to 14 July 1996 at the Museum of Contemporary Art, Sydney, Australia. It was curated by Mike Leggett and Linda Michael and was an international survey of CD-ROMs by artists.

38. Michael Punt argues that the CD-ROM has failed to deliver as a mass market phenomenon because of the technological constraints that it places on the user—one can only read and retrieve data, not write back to it—and because the way in which it has been conceived by producers as a storage medium. Users on the other hand use it to retrieve information but producers often fail to look at the models of retrieval they build into their design. As a result the interactivity of the CD-ROM is hardly that; the user is reduced to merely following the "command" to retrieve and as a result finds the experience to be one of a command control dynamic rather than the celebrated, open, connected, democratic, multimedia environment. See Michael Punt, "CD-ROM: Radical Nostalgia? Cinema History, Cinema Theory and New Technology", *Leonardo*, vol.28, no.5, 1995, pp.387-394.

39. See *Ibid*., pp.388-9.

40. See for example, Zoe Sofoulis, "Interactivity, Intersubjectivity and the Artwork/Network", *Mesh*, no.10, 1996, pp.32-5; and Kevin Murray, "Mouse, where is thy sting?" *Burning the Interface: International Artists' CD-ROM*, catalogue, Museum of Contemporary Art, Sydney, 1996.

41. Private email correspondence with Linda Dement, August 8, 2000.

42. Douglas Kahn, "What Now the Promise?", *Burning the Interface: International Artist's CD-ROM*, op. cit, p.24.

HALLUCINATIONS OF INVISIBILITY

FROM SILENCE TO DELIRIUM

Ted Hiebert

Glow-in-the-dark self-portrait, Ted Hiebert

A delirious silence—the sound of negative space. Inverting presence along with its reflections. Also, and more importantly, inverting absence. And *its* reflections too. The limits of a reasonable thinking are those that break down when confronted with reflected absence. A confounding assertion in that it refers no longer to the impossibility of presence, but also the impossibility of absence itself. An unavoidable and inexhaustible *presence of nothingness*.

The delirious image—no longer the image of reflected worlds, but the impossible image of inverted reflection. Between selfless self-portraits and portraits of selflessness, not a void but the paradoxical variations of reflected play. Figures of inversion, absurd and delirious. A silent cacophony of tongue-less twisters.

At the limits of a reason of this sort lies, not only silence but also the irrational and its various formulations. And to rise to this challenge, three theses. The thesis of the *absurd*, Camus' silent universe and Regine Robin's Vampire Narcissus. The thesis of *paradox*, Paul Virilio's world of sightless vision and the myth of the nymph Echo. And the thesis of *delirium*, Jean Baudrillard's world of holographic thinking and Echo turned vampire. Consequently, a theorizing of the signs of inversion and impossibility—reformulating a world that is no longer reasonable; a world that is transformed, from silence to delirium.

I. Silence of the Universe: Albert Camus and the Vampire Narcissus

To start then, a moment of silence. A moment of respect and reflection for questions that continue to matter. An inverted gesture from the start, for silence is observed only in those cases where no other response would be appropriate. A moment observed by none more seriously than Albert Camus, for it is from within this silence that Camus asks the question of meaning; the question of whether life is worth living.[1] Yet this is not properly a question of meaning, not really. Rather, from the start it is a question of the *silence* that surrounds meaning. The silence necessary for self-reflection, and the unbearable need for an answer to one's silent questioning. For if life and meaning can be questions at all it is only because they have not already been given adequate answers. Indeed, if Camus' question is one put to the world around him, it is only because the question itself is, from the start, shrouded in the silence from which it grew.

Perhaps it is no coincidence then that to Camus' silent question, the universe answers in silence.[2] A silent response to a silent question. And might one not then ask if the universe was also observing a moment of silence? Out of respect for Camus' question perhaps. Or was it rather a silent mockery, a rhetorical non-answer? A confrontation then, not with meaning, but with an answer pre-empted by silence—the possibility of *no* meaning. Indeed it is a question here of possibility, for a silent answer provokes only the question of interpretation. How is one to interpret silence? And further, the question of how Camus heard this silence to begin with. The perception of an absent response: the *hearing of silence*. Or the inverse? For a *perceived* absence is rather more akin to a presence of sorts—the presence of a silent response. Not unlike the entry into a darkened room. Does one *see* darkness? Does one *see* absence? Or is the reasonable response not rather to say that one *does not see*, does not hear? For if there are things to see in a darkened room, then the reasonable response is indeed to say that there are things that one does not see. But of course Camus' response is not a reasonable one, for it is precisely the *darkness* that Camus aims to see; the silence that he aims to hear. In the end, it is not a reasonable question that he asks, but one that lies at the limits of reason. It is precisely here that the true question reveals itself, not in the form of meaning or even of silence, but rather in the form of the absurd.

An absurd perception as that which sees an invisible presence, that which *hears* a silent response—an inverted form given to what one does not see or hear, in order to constitute its absence. And Camus' assertions follow this form in *The Myth of Sisyphus*, embarking on a deciphering of silence. An absurd analysis for an absurd situation—the task of seeing the invisible. The state of silence—a staring contest with an unblinking

universe. Not then, a project which aims to find meaning in life, but only one that struggles with the absurdity of silence. The possibility that there is no meaning, but also the possibility that there *could be*—the irreconcilable dilemma of absurdist reasoning.[3] And this perhaps is Camus' true meridian: not the tension between history and metaphysics, but rather the tension between silence and its inverse—the tension between absence and inverted presence.[4] The question, ultimately, of the absurdity of silence.

Perhaps it is not only silence that has become unbearable, but the absurd itself. Not a tension caused only by the universe's silent response but also by Camus' perception of the invisible. Not only in tension thus with the world, but also with his own perception of the absurdity of meaning and silence. Not, in the end, a reasonable question, but a question of the limits of reason—the absurdist perception of the imperceptible. Or *the absurdity of perceiving the absurd*. And perhaps here an offense constituted to one's own dignity in the process. For with the perception of the absurd, comes a self-reflexive tension through which the question is no longer strictly about the absurdity of the world, but rather about the absurdity of the self. The struggle here is not for dignity in face of an absurd world, but rather the question of one's own absurd existence. Consequently perhaps, not a sin of the universe against man, but ultimately only of man against himself. Offended by the necessary perception (and silence) of one's own absurdity. Paradoxically, absurdist reasoning has its basis both in the original sin of a silent universe and in the original silence of existential specificity.

The Vampire Narcissus

When Sisyphus abandons hope, he finds happiness. Hope, as an image of the future. Consequently also a reflection of the present. Sisyphus as he who has abandoned his image, he who no longer needs, or wants it. Camus, on the other hand: looking for his image and finding none. Not merely the empty mirror that confronts the vampire, but a desire for image (in the form of meaning) that confronts Narcissus. The vampire-narcissus then, Robin's formulation; one who obsessively pursues an absent image:

> Narcissus versus the Vampire. Narcissus who loves only his own image, that he contemplates in the mirrored water. The vampire who lives with the impossibility of such contemplation. The mirror shows him nothing. 'One must imagine the paradox of a vampire-narcissus: one who pursues the reflection of which he is deprived.'[5]

Moreover, one who lives on the blood of others; a predatory self, yet strangely, a self without image. Unable to prove his existence to himself, unable to see himself in the mirror, the vampire-narcissus must seek his image in the terror of his prey. Through acting on the world, feeding, the vampire-narcissus proves that he exists. Yet it is not quite so simple, for the vampire cannot bear the sunlight. Forced to feed at night, thus forced into an existence of darkness. And yet at night, the vampire is unable to see the faces of his prey. An eternal frustration awaits the vampire-narcissus; always seeking a (visible) response, unable to see himself, unable to see the reaction of others. Thus the figure that is truly invisible to himself. Invisibility here as the visual equivalent of silence.

Inverted Reflections I: Staging Inversion

The vampire-narcissus as the first figure of inversion. The figure of silence—the figuring of silence. And the strange realization that the problem with this is not the silence, but its figuration. Like the glow-in-the-dark figure—invisible to itself; visible only to

others. The faint light of the glow is enough to be seen, but never even sufficient to allow reciprocity. The vampire-narcissus may be predatory, but he is a victim to his own frustrating condition.

And if the world is absurd, why doesn't it seem that way? Or does it, perhaps, after all? Glaringly absurd. A friend of mine once told me of something he called the "eleven second rule." He said that if you remain silent during the breaks in a conversation, it would never take more than eleven seconds for someone to break the silence, for the silence to become unbearable. Perhaps then, Camus simply didn't wait long enough—or maybe he was waiting for an echo, a reflection. Not a simple mistake, for it takes reflected light much longer to travel. This is the problem with photography—it seeks out only the reflection. Indeed most photographers will even avoid *direct* light, since it throws off the exposure. So rather than creatures of light, could we not better call the photographer a creature of reflection, and of shadow, one who avoids all that is direct. And all this simply because of the flawed premise that the image reflects the world; rather it is the reflected world that is the image, even before photography gets there.

The absurd image—the portrait of a self that is not.

Glow-in-the-dark self-portrait, Ted Hiebert, 2001

II. Silence of the Self: Paul Virilio and the Nymph Echo

One might be tempted to agree with Camus if one thought that silence was inevitable. However, Paul Virilio, in *The Vision Machine*, proposes quite the opposite. Reading Virilio's work in the light of Camus, there is a significant difference in the extent to which they allow for the autonomy of the self. Whereas Camus confronts a silence which offends him, Virilio confronts rather an overload of information, too many answers. Consequently the problem is quite different for Virilio, whose project can be seen as the climax of a movement initiated by Roland Barthes' essay on 'The Death of the Author.' A movement which systematically removes rather than challenges the individual, a progressive automation of interpretation, thought and perception that results, not in the silence of the universe, but rather in the silencing, and disappearance, of the self.

Camus asks the question of the meaning of life. The universe responds in silence, a silence which offends Camus. An indignation then, resulting not from the silence itself but from its interpretation. Roland Barthes warns against precisely this confusion of

author-voice and interpretation in 'The Death of the Author.' Although his analysis aims at the differentiation of texts from books, this differentiation is one which applies to communication in all its forms, from the text to the image, and in this case speech itself. [6] If the silence of the universe was inevitable, Camus' indignation in face of silence is not. Rather, Camus personifies the universe, as the reader personifies an author, creating rather than revealing the meanings of the text. From this perspective, Camus' fundamental mistake is not the identification of silence, but simply his interpretation of silence as offensive. If indeed lucid indifference is an ambivalent thought which moves beyond the personal reaction to an absurd realization, Camus can perhaps be seen as compromising his own strategy.[7] In this case, the rebel's first response would be, not an absurd reaction to an insulting silence, but the very act of interpreting silence as insult.

In this light Barthes' warning can be seen as one against the mythologization of the author (or the universe).[8] It is a warning against the personification of what he constitutes as an impersonal author. The author does not exist in the text; rather authorship is attributed through interpretation. It is not that texts have no meaning, but that meaning is constituted rather than inherent in the text.[9]

Michel Foucault's analysis of authorship can be used to take this argument one step further, in the depersonalization of language. Foucault asserts that language itself functions in a way very similar to Barthes' analysis of interpretation. Yet the subject of Foucault's analysis is not primarily the text, but the social and cultural context in which both author and reader exist. An extreme read of Foucault suggests that language itself is constitutive rather than representational, the same argument that Barthes made with regard to the text. The context of the reader in this case, is not freely determined but rather socially informed.[10] Although the reader may interpret a text in multiple ways, those ways are not constitutive of the individuality or originality of the reader-as-subject, but rather are instances in which the social and cultural conditioning of that individual are manifest. We do not personalize a text by interpreting it, but reveal our own inherent depersonalization.

Virilio's project in *The Vision Machine* can be seen as the final phase in this depersonalization of the self. Virilio notes the extent to which perception has been, and increasingly is, automated.[11] This is most easily illustrated with surveillance technologies, whose primary purpose is the viewing of people without their awareness. However, surveillance is not an isolated example, but the general rule of the vision machine. In a similar way to Foucault's suggestion that language reveals interpretation as myth (because of the social conditioning that informs it), the image infiltrates rather than communicates with the viewer. Images, do not speak to us, but *at* us and *through* us.

For Virilio then, the problem of silence is the inverse of that in Camus. In a world where objects perceive us, it is not only sight that is automated, but thought itself. We no longer simply speak, but are spoken through; we no longer see but are seen through.[12] The see-through self, blind except to its own transparent image. Silence here is the silence of the self-as-host, a medium of sorts, through which and upon which the social seance is enacted. The truly 'possessed individual.'[13] Worked and reworked, through technology and language, into an adequate model of industrial consciousness. For Virilio the world is no longer reasonable. Far worse, it is operational. And the self is simply a mechanical instance of homogeneity. And so, for a paradoxically transparent self, Virilio proposes a paradoxical logic—a last attempt to negotiate with the non-negotiable image.[14]

The problem of silence for Virilio, then, is the problem of automation and possession. The world manifests itself antagonistically, at us—infiltrating through language and image. A viral world, a world without silence, a discordant and schizophrenic overload

of voices instead. And the self, if one can still speak of a self amidst the invasion of information, is a self-as-host, a self which exists only as it is inscribed and codified. [15] Silence, in this context, is rather a silencing of the self. The problem is not that the world answers us in silence, but that both the question and the response are spoken through (rather than by) the self. It is the self that is silent. It is the self that no longer appears, except in its reflection of the world.

The Nymph Echo

The spectral double of the vampire-narcissus; she who exists in reflection only. There is no world that is outside of her; rather she herself is merely a function of the world. A reflection of the language that creates her; a reflection of the society that conditions her; a reflection of the images that see her. Yet strangely there is an awareness of her condition; not only is she inscribed by the world, she channels it. The medium of an elaborate seance; *the encoded host*. Watching silently as she is spoken through, as the world uses her to communicate with itself. The site for the parasitic world; that which in turn is sustained by its parasite. If the vampire-narcissus could die, this figure would be his ghost, haunting the world, a gremlin in the mechanism of existence. A prisoner in a body that is not hers; she is only the reflection.

She is the nymph Echo, the paradoxical hero. Echo, who could no longer speak, "except in foolish repetition of another's shout: a punishment for having kept Hera entertained with long stories while Zeus's concubines, the mountain nymphs, evaded her jealous eye and made good their escape."[16] Echo as she who believes only the reflection, for she herself is nothing but this reflection. An inverted world then, trapped in the mirror, unwillingly reflecting all that confronts her. A rhetorical figure, silent and invisible except for the awareness of all that she is not. Not simply invisible. Not simply silent. Rather the spectral host of the world. Paradoxically there and not there, seeing with eyes that are not hers—it is no wonder she does not believe. The inverse of the vampire-narcissus; a visible reflection that comes from a paradoxically invisible body.

And Virilio then as the invisible man, staring at his visible reflection; a reflection which returns his gaze blankly. No longer an external silence, for the image of the world passes through his transparent self, permeating, invading, possessing. The paradox of invisibility: an absence, but one that is immediately filled by the superfluous speed of the world that, once would have been behind, but now is unobstructed, channeling itself through yet another invisible space.

Inverted Reflections II: The Forgotten Party

With Echo, the same—the same, but different. For who is Echo but she who can only be heard by others? Her thoughts are not hers; her image is not hers. She is a discordant mask that fades as her light source, the unseen other, fades away. Peering forever into nothingness—as a mirror waiting to be seen.

What lies behind the mask? If Echo is right, perhaps only a memory. Perhaps not even that. We might be the ones to wear a mask, but can it really be said that it only changes us for others? Changes us into others? Or mightn't it simply reveal that there was nothing there to begin with—that there was never more than the reflection, never more than the echo? A lightless photograph—or rather one that uses non-light. A light source, without reflection—what photographers call *incidence*. Paradoxically, an image of nothing. Pure mask, pure echo. And though it makes no sense to say,

there was never a self wearing the mask, there was only ever the mask itself. Under the light, under its instance—there is only a living, breathing, sulking, nothingness. "All the world's a stage?" Well, perhaps—and an ongoing party where we have only forgotten to bring ourselves.

A self-less self-portrait for a paradoxical world.

III. From Silence to Delirium: Jean Baudrillard and the Vampire Echo

Between Camus and Virilio, in the fluctuating space of non-identity, a new question emerges. The question, not of a response to silence, but of silence itself. It is in this space that Jean Baudrillard re-formulates the traditional question of presence and absence, asking "Why is there Nothing rather than Something?"[17] When we pretend self-consciousness, the world meets us with the self reflexivity of the simulacrum. The self responds by reproducing the symptoms of individuality, disregarding the impossible paradox of its own condition.[18] It is from this position that Baudrillard proposes a position between absurdity and paradox; a position of delirium, and a delirious thinking that must accompany our understanding of a hallucinatory and feverish world.[19]

From this perspective, the fundamental problem articulated by Virilio can be reworked. Rather than the paradox of an absent self, the question becomes that of self-consciousness. The self, although spoken through and fundamentally silent, still has the mechanism by which to conceive of itself. It is this mechanism (of consciousness) that is the subject of Julian Jaynes *The Origins of Consciousness in the Breakdown of the Bicameral Mind*.

Tracing the anthropological roots of consciousness and language, Jaynes makes a remarkable assertion, that consciousness itself is a biological phenomena and further that it evolved out of a part of the mind responsible for the sort of hallucination we now associate with schizophrenia.[20] Using the example of Homer's *Iliad*, Jaynes contends that up until relatively recent times (c. 1000 BC) people literally heard/hallucinated voices of the gods telling them what to do.[21] Jaynes suggests that the breakdown of these hallucinations (in the part of the mind he calls bicameral) is what initiated the biological development of consciousness. He cites schizophrenia as a contemporary example of the biological vestiges of our bicameral minds. Although he stops short of asserting that consciousness itself is a function of the same sort as these bicameral hallucinations, in the context of this discussion it is feasible to assert this very point. In face of the breakdown of 'externally' hallucinated voices, man developed the capacity to hallucinate himself. Consciousness itself, then can be seen as precisely this self-hallucination.

What here becomes immediately apparent is a further development of Virilio's theory of automation. If self-consciousness can be seen, via Jaynes, as a structural hallucination, then the paradox articulated by Virilio is suppressed; the automation of the individual is complete. Yet the hallucination persists as that which Slavoj Zizek calls the spectral trace—the invisible condition of automation as the fundamental hallucination of the self.[22] In this, the self is reconstituted, but not by a re-infusion of autonomy. Rather it is a structural re-working that is suggested, one through which Virilio's paradox disappears without being resolved. The automation of the self, through language and image, has as its fundamental condition the hallucinated structure of the self-as-host. The myth of individuality is realized, not as a built in regulatory mechanism of language and perception, but as the spectral trace of consciousness-as-hallucination. In other words, the self is revealed as, on one hand entirely automated through its contextual channeling of information and image, and on the other as subverting automation through its realization as hallucination. This simultaneous coexistence of the socially animated and

biologically hallucinated selves does not reinvent Virilio's paradox, but in a rather peculiar way, resolves it. On one hand this is because consciousness ceases to be seen as a socially determined phenomena—rather it is a biological and structural phenomena. On the other hand, vision is no longer simply co-opted by the vision machine, but is fundamentally hallucinated, thus pre-empting the strict invasion-of-image that Virilio proposes.

This thesis can be arrived at no less easily by route of Baudrillard's discussion of singularity. Whereas Jaynes' proposition resides in a biological and anthropological study, Baudrillard arrives at this conclusion from a strictly theoretical position. Baudrillard asserts that any closed system is (essentially) beyond the possibility of exchange. Thought is one such system. My thinking, as such, is not exchangeable for any other person's thinking. There is no system of equivalence which can be used to determine value.[23] Thought, as a structure, is beyond exchange, just as 'life' as a structure, is beyond exchange. There is no basis by which to assert that one person's life is worth more or less than anyone else's. Nor is there a manner to assert them as equivalent.[24] Consequently there is no way to differentiate *my* thought from thought as a structural phenomena. Thought is always both. In other words, once one takes the *personal* out of thought, there is nothing left. Structurally, my thinking conceals the fact, not that there is no self (as in Virilio), but that there is no *thought*. Thought reveals itself as fundamentally hallucinatory; thinking is nothing except the hallucination that it creates. No longer simply a mirror image, thought is now purely holographic.[25]

This is a point that must be insisted upon: there is no paradox within delirium. To use the same example of schizophrenia: although we might speak of it as a paradoxical condition, we cannot speak of a schizophrenic's experience as paradoxical. It is singular and beyond exchange, and although it may cut across a variety of rational/non-rational/hallucinatory/delusional states, it cannot be constituted as a relationship between these states, nor as a contradiction among them. And it is this difference, the diffusion of paradox through delirium, that serves to illustrate the same relationship with regard to the question of silence. Silence is not at one end of a paradoxical or absurd relationship between the self and the world. Rather silence itself is a delirious phenomenon; it is the simultaneous appearance and non-appearance of the self through hallucination.

What seems here like an impossible negotiation is precisely that. The positing of a hallucinogenic root of consciousness is at once the irrefutable argument against it *and* the reason why it is non-negotiable. In other words, a conversation with a hallucinated figure is no less a conversation for the hallucination, yet at the same time its existence *as* hallucination is the proof of its illegitimacy.

The Vampire-Echo

What would we call the specter of a specter? That which persists when the ghost is exorcised. Or the ghost who now knows better than to appear. Without body; without image. Conscious only of a lack of consciousness. The delirious hero: the invisible man. Undaunted by his invisibility, he interacts with the people around him as if they were real; as if he were real. As if they could see him or hear him, and as if he could see and hear them. Yet he no longer sees or hears anything. If he did not refuse to accept his invisibility he would simply disappear. Or rather he has disappeared already, yet he adamantly re-enacts his disappearance, looking not for a sign that he is still there, but only that his disappearance was not inevitable. Looking no longer for traces of himself, but only for the residue of his own hallucinations.

The nymph Echo turned vampire. Only reflection, yet without reflection. Speaking voiceless words that are not hers. Not merely silent, not merely silenced. The space between the mirror and the world has collapsed for her. Without form she now passes freely from one to the other; yet they are the same. She appears in neither. Hallucinations of a hallucination, vampiric simply because there is nothing left to sustain her but the ceaseless feedings of illusions. No longer predatory, except in a delirious sense. More akin to prey perhaps—feeding herself through allowing herself to be preyed upon. Yet far from a passive or inert hero. For the hallucinations must be enticed to feed; this remains her only source of interaction. Infinitely sustained, yet fundamentally unsustainable, a vampiric hologram that infiltrates through feedback—through seducing the world to prey upon her for a change. Thus conceding to contingency, but also affirming the contingency of concession. Not deferred, but immediate and unrelentless.

Inverted Reflections III: The Delirious Playground

The final stage of inversion, the vampire-echo—a predatory reflection. She confronts her prey no longer with their own voices but only with the realization that her voice is not her own. The self-less self-portrait, which is by no means to assert that it is passive. Rather it is vicarious—no longer nihilistic for she has no self to efface. Nor is her project to confront others with their own disappearance. Despite the seeming logic to it, this course of action alone would be paradoxical to her. Yet she neither knows nor experiences paradox any further. Hers is the singularly impossible experience of forever being someone else—someone who themselves are not, who themselves fall to her siren call, a call to feast, a vampiric dinner-bell. This alone is her delirium.

And what then of the incident self in face of delirium? A self that does not appear to itself, except in reflection? An incidental self that has no image—and yet it still has an irreducible experience of itself. Arbitrary perhaps, but entirely without condition. It could be anyone, anything. And no one would ever know the difference. Not repressed or hidden either—simply forgotten.

I used to pretend I was an animal—a panther perhaps, or a crow. I used to pretend I could change my shape, change my form. And I would sit for hours, practicing growing, changing the colour of my eyes, or simply forgetting who I thought I was. Then I would growl or run around the house on all fours, for a change. And why not? For this was never just a game; it was never as easy as to just pretend. But then, inevitably, it would end and I would pretend to be myself again. A game that loops, a game that never ends.

The delirious image—not the image of a self that is not, but of a not-self that is.

IV. Hallucinations of Invisibility

Delirious thinking for a delirious world. Such is the mandate of the invisible man. Interacting with his hallucinations without regard for the impossible contradiction upon which they are based. An interaction, not devoid of its theoretical formulations, but which through action, resolves the paradox of action. Not precisely a disregard, but rather a delirious regard for the world.

A number of years ago, my father wrote a book on relaxation. A formative text for my understanding of the world, due to its addressing of what has always seemed like a contradiction: the question of how to try to relax. Not strictly speaking the question of how to try most efficiently, or more effectively, but how to try at all. It is a delirious question: how to *work* towards a state of *rest*.[26] And its solution requires a delirious reasoning: to relax one must conscientiously become more tense. A similar strategy to one proposed by Julian Jaynes—to correct a mistake one must conscientiously practice

making it. Through such practice, the mistake simply 'drops away.'[27] It is, in a sense, the practice of 'not-doing' what one intends. A delirious self-trickery, an active engagement with hallucination, with an impossible invisibility and a world that has already disappeared.

Self-portrait chimera, Ted Hiebert

Absurd Thinking for an Absurd World

A delirious interpretation of Camus then, from which, in response to the silence of the universe, the absurd hero no longer seeks dignity, but seeks only to practice that silence that was his answer. That the world responds in silence to his questions simply gives him room for reflection on his (absent) image. A world, not without consequences, but surely without cause. Silence as a hallucination in itself; a hallucination of nothing. An imaginary void towards which one can only retreat. Thought at the meridian then, not as a balancing between metaphysics and history, but between silence and hallucination. And absurd reason as that which provokes, not rebellion, nor passivity, but precisely their fusion in a sort of non-action. An absurd reason as that which practices silence; that which speaks silence, negotiating the non-meaning that can be the only silent conclusion. From a delirious perspective then, silence as the paradigmatic activity of an absurd world.

In this, the real resistance of Sisyphus is in his loss of hope; the loss of his (future) double, the loss of his reflection. Doing the impossible, but also doing the contradictory.[28] The realization of silence, the realization of his immediacy, the embracing of the universe's original sin in a non-reaction to it. Sisyphus goes on, outside of history, outside of metaphysics, silent. If there is any problem to Camus' thinking it is merely in his refusal to forgive the universe for its silence.

Paradoxical Thinking for a Paradoxical World

Building on this, the equivalent in Virilio to the not-doing of absurdity is the not-doing of automation. The vision machine, the structural spirit channeled through the self-as-host. Indeed Virilio already suggests this in his notion of the accident. If the accident of a system comes into possibility with the system, the subversion of the system is its not-doing.[29] The cultivation of accidents then as the strategy for a paradoxical thinking. The problem of course is in the intentionality of the accident. An accident, by definition is unintentional. Yet within a delirious framework this is no longer a problem. The same not-doing of absurdity provides an answer here as well; yet an answer in a different form. In order to cultivate an accident, one must practice doing the opposite. In a literal sense, one must seek an overload of the system in order to provoke its shutdown. In order to combat automation, one must strive to be as automated as possible.[30] In this way intending the unintentional; the provocation of accident. From a delirious framework then, the accident as the paradigmatic activity of a paradoxical world.

The golem, the animated stone, and the nymph Echo—such are the heroes of paradox. The silent heroes, the accidental heroes. Practicing the paradoxes of contrived spontaneity, planned accidents, through the cultivation of the unintentional. Pushing connectivity to the limits, for the sole sake of eventual disconnection. If there is a problem to Virilio it is only that he refuses to forgive the world for making him silent.

Delirious Thinking for a Delirious World

Already working within a system of delirious thought, Baudrillard himself is the delirious hero. The simulacral nature of thought, the vital illusion of a delirious world.[31] 'What if we were to forget to die?,' Baudrillard asks, discussing the question of cloning and biological immortality.[32] From a delirious perspective then, forgetting as the paradigmatic activity of a delirious world. Yet the singular quality of forgetting is that it must be preceded by remembering, or at least by knowledge. The crux of the delirious paradigm: one cannot forget what one does not know. Learning then, in order to know. And knowing for the sole sake of then being able to forget. Not a prescription for experience over thought—not nearly so phenomenological. Rather that of *experiencing* thought, *thinking* experience. Concessions of contingency then, the not-doing of memory; the not-doing of paradox. Or perhaps as simple as remembering to forget.

The invisible man, Echo-turned-Vampire, the delirious heroes. The spectral doubles of reflection, themselves hallucinated. Mediating structures that are no longer binding conditions, the hallucination of conditions themselves. Without even the necessity of necessity; a streaming phantasy. Infinitely connected, inseparable from the world, equivalent only to its hallucination. And so if there is any problem with Baudrillard, it is only that all this is too true to be useful and too seductive to be true. Non-thinking in an invisible world.

Conclusion

The only problem that remains, is precisely that there is no longer any problem. The final inversion that sets the stage for the traumatic reversibility of volition.[33] The reinvention of trauma, for no other reason than its own annihilation—the end of necessity. The last necessary conclusion in the end of necessity. The sacrifice to end all sacrifices, the last meal, the symbolic exchange of delirium for itself.[34] With the end of necessity we celebrate not the endless possibilities of equivalence, but the singularly paradoxical birth of the possibility of the impossible—itself only contingent on us not remembering it.

As the quest for understanding is revealed as a constructed improvement in the wrong direction, urged on by the currents of social and cultural automata—the undercurrent reveals a fantasmatic inversion of consciousness itself, as hallucination: the ultimate simulacrum of experience.

We are no longer in the process of disappearing. Rather, we have already disappeared. Everywhere we look for signs, not that we are still here, but that our disappearance was not inevitable—that it 'could have been' different—as though if we had somewhere made a mistake we could live with the consequences. Yet if such could ever have been the case there is no trace of it left. What we encounter is not an acceleration towards disappearance but only the realization that we never were. It is not our disappearance that was evitable—but only our appearance in the first place.

We encounter ourselves now—indivisible from the world. We have become bicameral but not in the sense used by Jaynes—rather precisely the inverse. It is not that we have once more begun to hear voices—but rather that we are merely the voices themselves. An invisible race in a delirious world. Not merely cut off from the world, but for the first time indistinguishable from it. Perhaps for the first time truly alive. From here it is useless to try to remember the life we knew before. With a delirious mind now we must proceed only to forget.

And so we come full circle from where we began. It is no longer us asking the universe for the meaning of life, but the universe who quietly asks us. With a smile, but without irony, we reply simply that we have forgotten.

Notes

1. Albert Camus, *The Myth of Sisyphus*, trans. Justin O'Brien, London: Penguin, 1975, p. 12.

2. Camus, *The Rebel: An Essay on Man in Revolt*, trans. Anthony Bower, London: Vintage, 1992, p. 6.

3. Camus, *Sisyphus*, p. 59. Camus constitutes his problem here as that of a "life without consolation."

4. This is analagous to Camus' refusal of hope, or death (suicide) as appropriate responses to the question of life. Camus, *Sisyphus*, p. 59.

5. Regine Robin, "En lieu et place de soi," *Le golem de l'écriture: De l'autofiction au cybersol*, Montréal: XYZ, 1997, p. 36. Sub quote: Joan Fontcuberta, *Le baiser de Judas: Photographie et vérité*, Paris: Actes Sud, 1996, p. 33.

6. Narcissus against le Vampire. Narcissus who loves only his own image, which he contemplates in the water. The Vampire, who lives with the impossibility of contemplating his image. The mirror shows him nothing. "Imagine the paradox of a vampire-narcissus: someone who pursues the reflection which is deprived to him." (my translation)

7. Roland Barthes, "The Death of the Author," *Image-Music-Text*, trans. Stephen Heath, London: Fontana, 1977, pp. 146-7.

8. Camus, *Sisyphus*, p. 16.

9. Sean Burke, *The Death and Re-birth of the Author*, Edinburgh: University of Edinburgh, 1992, p. 43.

10. Barthes, "The Death of the Author," p. 148.

11. Michel Foucault, "What is an Author," eds. Charles Harrison and Paul Wood, *Art in Theory 1900-1990*, Oxford: Blackwell, 1992, pp. 924-5.

12. Paul Virilio, *The Vision Machine*, trans. Julie Rose, Indianapolis: Indiana University, 1994, p. 62.

13. Virilio, *The Vision Machine*, p. 73.

14. Arthur Kroker, *The Possessed Individual: Technology and the French Postmodern*, New York: St. Martin's Press, 1992, p. 2.

15. Virilio, *The Vision Machine,* p. 63.

16. Kroker, p. 52.

17. Robert Graves, *Greek Myths: I,* London: Penguin Books, 1955, p. 287.

18. Jean Baudrillard, *Impossible Exchange*, trans. Chris Turner, London: Verso, 2001, p. 11.

19. See Jean Baudrillard, *Simulacra and Simulation*, trans. Sheila Faria Glaser, Detroit: University of Michigan, 1994, p. 3.

20. Jean Baudrillard, *The Vital Illusion*, New York: Columbia University, 2000, p. 68.

21. Julian Jaynes, *The Origins of Consciousness in the Breakdown of the Bicameral Mind*, New York: Mariner Books, 1976, p. 452.

22. Jaynes, p. 75.

23. Slavoj Zizek, *The Fragile Absolute: or why is the christian legacy worth fighting for?* London: Verso, 2000, pp. 64-5.

24. Baudrillard, *Impossible Exchange*, p. 19.

25. Baudrillard, *Impossible Exchange*, p. 39.

26. Kroker, p. 57.

27. Bryan Hiebert, *Learn to Relax: A Step by Step Guide*, Toronto: Lugus, 1993. The process involves a systematic tensing and releasing of muscles, starting with the feet and working upward to the neck and head. This takes about 45 minutes.

28. Jaynes, p. 34. Jaynes uses the example of the common typing mistake 'hte' (instead of 'the'). He calls this a theory of 'negative practice' whereby, through practicing the mistake one stops inadvertently making it.

29. Camus defines 'It's absurd' as 'It's impossible' but also 'It's contradictory.' *Sisyphus*, 33.

30. Paul Virilio, *Politics of the Very Worst*, trans. Michael Cavaliere, ed. Sylvère Lotringer, New York: Semiotext(e), 1999, p. 89. also *The Vision Machine*, p. 65.

31. Similar to Baudrillard, *The Vital Illusion*, p. 83. "Facing a world that is unintelligible and problematic, our task is clear: we must make that world even more unintelligible, even more enigmatic."

32. Baudrillard, *The Vital Illusion*, p. 73.

33. Baudrillard, *Impossible Exchange*, p. 39.

34. Zizek, p. 98.

35. Zizek, p. 63.

DISTRACTION AND DIGITAL CULTURE

William Bogard

Two Stories Of Distraction

She seemed removed again tonight, dimly preoccupied with something, or someone, else. Entering the room, she pretended I wasn't there, something I hate. Or she would smile indifferently, deafly assenting to whatever remark I made, making her absence all that more glaring. All my miserable attempts to seduce her failed. I noticed that her state of distraction had deepened during the last weeks, and she fell into innocuous habits that betrayed a hidden terror. She had always despised routine, but now her routines never changed. Something had stolen her eyes, as it would eventually take away her hands, her entire body. By degree, her touch became cold and distant. I suspected an affair. And soon, *I* became her distraction, her hated routine, removing her from what had removed her. She could not bear the sound of my voice, the cut of my collar, how I looked at her, how I breathed, having to submit to these ridiculous signs of power. And her irritation and detachment grew daily, until finally one morning she disappeared.

A crowd gathers on the sidewalk. Ten stories above, a child, a young girl, is perched precariously on a ledge, frozen, the wind dancing in her hair. Below a pack of eyes raised to the sky, transfixed in the anticipation of disaster. Trucks with satellite dishes arrive to capture the event live, to be replayed a thousand times on every channel from every angle to the last numbing detail, at least until the ratings drop. Talking heads compare similar events in history. As for the future, computer simulations show how it will look, to the eyes of a child, to fall from a ten-story building or, to the "eyes" of the sidewalk, how brains splatter on concrete from that height; everything is rerun endlessly, blown up, and run again. A miniseries is in the works, we hear... book deals, promotional materials, all set to go. It's not everyday this happens (is it?). The police order the crowd back, then rope off the viewing area. Stands are erected; ambulances stand by; a helicopter hovers overhead, then swoops in low for a tight shot. The stage is set, the suspense is perfect. Now, as if on direction, the child moves closer to the

edge, reaches out, falters, then falls. Time expands. The crowd gasps and grows silent; across the country the masses turn to their screens to see the moment of impact. They think: we've seen this before...did we miss it the first time? We *live* here, don't we? The fall is played over again in slow motion, close, closer, the wind in the child's hair, then the terror in her face, her eyes, the instant her head explodes. Every image is so clean, so crisp, so beautiful; the technology has advanced considerably since Zapruder. Since Baby Jessica and even Baghdad. Freeze frame, each shot is meticulously superimposed on its simulation for instant comparison; and they are the same—screen and fall, child and spectator, concrete and blood. And the mass of watchers blinks and stupidly stares until finally it too totters and falls, into the screen of the catastrophe, and disappears.

Escape And Capture

Arthur Kroker used to refer to American media culture as a "civilization in recline."[1] The image was certainly apt. The perfect icon for a bored, exhausted, and utterly "removed" American public on the eve of the twenty-first century was someone in the classic Lazy-Boy position, *captured* by the TV screen, oblivious to anything around him (or her) beyond what flickered before his eyes between trips to the refrigerator. This picture, however, seemed to contradict another one of Kroker's—that of *panic America*, neo-fascist and hyper-paranoid, obsessed with death, haunted by the body and its unruly fluids, and using whatever means to *escape*.[2] Now we don't normally associate panic with TV-induced catatonia. But in fact, as Kroker well knew, the two scenes were intimately and even essentially connected. The television, of course, is both the perfect means of capture and the perfect escape device. Its logic has become even more pervasive with the advent of the computer, which is now in the process of absorbing it. McLuhan was the first to realize that physical capture (or immobilization) does not prohibit, and indeed *smoothes*, the active neural integration of the subject into the medium. [3] This is the whole pleasure—and terror—of television; it induces flight to the same extent it leaves the body behind in "sleep mode." TV is a *panic release technology* that operates by dividing the body and removing all the parts superfluous for experience. It "releases" experience in the same paradoxical way the woman in our story is released, through a kind of habituation (we'll have more to say about this in relation to Benjamin's theory of distraction later). What has changed since TV has met its virtual nemesis in the computer is certainly the intensity of that integration; perhaps it even portends a qualitative shift. Baudrillard imagines a time when the masses are integrated entirely into the media, and the media into them, as in the scene of the falling child, where the difference between capture and escape is meaningless—a seamless integration/habituation of technology and the subject.[4] Someday all you'll need is a brain, if that (!). In the same way, a "recliner civilization" dreams of infinite worlds summoned at the throw of a switch (the ingestion of a pill, the modification of a gene). It imagines merging, body and soul, with the system of digital codes, a time when, without going anywhere, it can live and *be* the images on its screen. When it can disappear.

These ideas can serve as approximate entry points to a study of distraction. This is because distraction is a logic of escape and capture. To distract something is to elude its clutches; but also, as a consequence, to now clutch *it*, secretly and from behind. These qualities of clutching AND elusion, of escape and capture, are what make distraction and its related strategies—simulation, disappearance, removal—games of *power*. When we speak about the power of the digital media, we see lines of escape and capture everywhere—mass distraction truly is the *order* of the day. This is not a moral judgment. We

assume this has both good and bad sides. Nor is it to claim that our age is any more distracted than any other. There is no reason to think that print is any less distracting than electronic media, or that modern forms of spectacle distract the masses more than ancient ones. Every society re-invents its own regimes of distraction. Every culture develops its own methods of mobilizing (and immobilizing) the masses.

This way of speaking, however, is already too narrowly sociological. Distraction is hardly just a social, or even human, condition. Animals can be distracted, and so can non-living things—geological processes can be described in this way, as I'll suggest below. But this also means that distraction is not a state of consciousness, e.g., attention or inattention. Shifts of attention or consciousness may certainly be *produced* by distractions, but they are not identical with them.

It means, too, that distraction doesn't require a subject, although a subject could be one its effects. Kroker's "recliner" is a subject of distraction only in the sense that its body occupies a space where multiple lines of escape and capture converge and diverge. The *material* scene of distraction is what's important—the proximate relations of body parts (brain, hands, eyes) to the screen, the design and engineering components of the console (inputs, through-puts, outputs), the entire material infrastructure—mathematical, molecular, technological, socio-cultural—of the flow of information. *You* do not watch TV, Baudrillard says, TV watches you.[5] Or rather, it *removes* you, takes you away, "subtracts" you from your surroundings. It is on this material scene or territory of removal that consciousness is produced and consumed.

To note this extra-human dimension of distraction is in no way to deny that it is one of the elemental features of human experience. In countless forms, it is implicated in the production of life's pleasures (the French meaning of the term is close to "entertainment" or pleasurable "diversion") as well as its irritations and dangers (the English word can convey the idea that distraction is something hazardous, as in the case of being distracted while driving a car or crossing the street). If we could limit its manifestation to living forms—and we cannot—we could even make the case that distraction is a *condition of survival*, that the struggle for existence absolutely depends on finding, managing and adapting to means of escape and capture (for example, for many predatory animals, and even many plants, distraction is an essential means of procuring food, or avoiding becoming food).

Despite the fact that distraction is everywhere in experience, it is not at all difficult to imagine a world without distraction. Such a fantasy is in fact the rule if we consider it from the point of view of social control. Institutions like the Church, the State, markets, even the mass media, generally do not tolerate distraction, at least when it fosters neglect of duty or responsibility. In Catholic theology, for example, a world without distraction is one where nothing disturbs one's prayers to God—distractions, such as uncontrolled or impure thoughts, are a sign of man's imperfection and inherent sinfulness. For bureaucracy, it is a world of dutiful, law-abiding, on-time citizens; for the school, a classroom of focused and docile students; for Capital, a shop of committed workers. The television and advertising industries, even as they deal wholesale in distraction themselves—e.g., by sexualizing images of commodities—desire watchful, undistracted viewers.

In fact, *all* these institutions develop and perfect their own methods of distraction. They become, to use a phrase of Deleuze and Guattari's, "apparatuses of capture," seeking in their different ways to control movement, order desire and belief, and translate them into habits.[6] How do religion, Capital, and the State capture their objects? Simple.

They generate what appear as lines of escape or removal, as exits, outs, passages, and so on: you too can escape from divine retribution (through the passages of prayer, sacrifice, and confession); escape from work (through money); escape from power (through prestige). The authorities, like *trappers*, know that the lure of escape is usually the most powerful apparatus of capture. Money, prestige, indulgences, sex, these are all traps at the same time as they are means of flight. Although institutional power does not tolerate distraction when it threatens to become unruly—and here distraction *is* conceived morally—distraction is its single most valuable tool. Often, it prepares the way for the use of force, as when the police employ it before making an arrest (the sting operation), but sometimes it can also eliminate the need for force. In an important sense, the distracted object (or subject) has already surrendered to power—it does not *see* power or in any way sense its closeness, thus power can operate behind its back, reserving force for the times when distraction itself threatens to wrest the object from its grasp (parents sometimes use TV to occupy their children's time and create some free space for themselves, but it is a strategy that often backfires, as the TV becomes the more powerful apparatus of capture).

We already sense that power, at least institutional power, does not fully control the forces of distraction. In fact, distraction is a principle that *rivals* power. The authorities not only fear losing control *over* distraction, they fear losing control *to* it. A distracted mass, potentially, owes nothing, not even its life, to power, and the most dangerous groups are always those that could care less about power, i.e., that are too distracted to care about their own survival. As we shall see later, the means of distraction are also those of power's *annulment*. Distraction is what seduces power; power can lose itself there, break into a million pieces, or scatter in a hundred directions. But that does not mean distraction, as a political strategy, can always save us from power, either, that it can always be used to overturn power. Such dreams only mask a more elaborate picture of an unstable mixture of forces and materials. We take seriously Deleuze and Guattari's rule that no strategy once and for all can serve as a guide for praxis. The truth is that as quickly as distraction opens a line of flight, it also opens a line of death - such is the nature of logics of escape and capture, which for all their strategic character always involve indeterminacy, a measure of luck.

So we don't ask if distraction is a good or bad thing—a question more for the authorities anyway—but rather if it can serve to map the dynamics of various and sundry social processes—wars and militaristic maneuvers, rituals, the emergence of hierarchies, population shifts, market and currency movements, and so on. Can we view things like the evolution of material culture, in particular digital mass media, through the theoretical lens of distraction? Is it possible, more generally, to understand relations of power themselves as effects of distraction? If so, it will be in terms of logics (and paths) of escape and capture.

Distraction Machines

Here we are interested mainly in how distraction functions on the sociocultural and technical planes, but we will often use the term more broadly to refer to a "machinic assemblage" composed of variable matters and relations of force. Following the lead of Guattari, we do not intend "machines" in either mechanistic or vitalist terms. He develops a machinism that does not reduce the idea of a machine to a simple construction *partes extra partes* or assimilate it to living beings (or living beings to it).[7] Guattari's model also differs in certain fundamental respects from the cybernetic notion of the

machine as a feedback mechanism, and with philosophical notions of techne that link its function to an ontological ground of "unmasking," as in Heidegger.[8] Throughout all these positions, he proposes a concept of "machinic heterogenesis" that would attempt to view the machine not in its various limited aspects, but in its complex totality, in its "technological, social, semiotic and axiological avatars," as well as in its operations in nature. His project, which we can only mention in passing here, involves a basic rethinking of the general idea of a machine in terms of *differential flows of matter and energy*, for example as processes of dispersion and concentration, stretching and compaction, intensification and dissipation, friction and smoothing, etc..[9] Machines are "assemblages" of other machines, which are themselves composed of further machines, in the manner of fractals, to use a mathematical image. Machinic assemblages bring together machines that may differ dramatically in nature (geophysical machines, biochemical machines, technical machines, social machines, desiring machines, concept machines), and combine them in an organized, consistent fashion. Such heterogeneously composed but organized structures are spontaneously generated and destroyed by what he and Deleuze call "abstract machines" or diagrams,[10] which impart form to variable flows, or again, break their form apart and down.[11] Machinic assemblages do not depend on the actions or intentions of human subjects (which are themselves a collection of differently composed machines). Rather, they form and dissolve "autocatalytically," as effects of their own dynamics.[12]

This, anyway, is the general frame in which we intend to view distraction. Distraction is not an effect of the subject, but a self-organizing machinic assemblage that channels and sorts flows of differently composed matters into relatively consistent layers, much like we see in natural processes of sedimentation and stratification. Our first rule in this investigation is that we must consider distraction in its *geological* (or meteorological) as much as its sociological manifestations, in the language of changing pressures, heats, and speeds.[13] What is meant by this is not that the former can serve as metaphors for social processes, as for example when we use terms like social "strata" or social "currents," but rather that both share a common diagram or abstract machine. DeLanda notes, for instance, that it is a different thing to say, as Marxists once did, that "class struggle is the motor of history," than to say "a hurricane is a steam motor."[14] While the first example is clearly a metaphorical usage, the second is not. In the second case what is claimed is that "hurricanes embody the same diagram used by engineers to build steam motors—both refer, for instance, to reservoirs of heat, thermal differences, and circulations of energy and matter. Is it possible, DeLanda asks, to find a diagram (or abstract machine) that operates across geological, meteorological and social formations? Over the last several decades, chaos theory has proposed a language that perhaps makes such a convergence possible.[15] The ways in which ordered structures or flows emerge from chaos may be the same across fields with formally different contents. More, chaos theory examines processes of self-structuration (or autocatalysis) and suggests that they may not be exclusive to living materials, but may extend to inorganic processes as well, such as the formation chemical clocks, veins of minerals in the earth, cyclonic movements in the atmosphere, etc., raising the possibility that more than analogies may exist between natural and social phenomena. All this fits in well with much of what we have already indicated regarding Guattari's machinism.

"Distraction" of course is not a theoretical concept in geology. But we can ask alternatively whether it makes sense to describe geological processes in terms of escape and capture. DeLanda once again suggests that certain geologic structures like strata

beneath the ocean floor may be a function of *sorting* mechanisms that separate differently sized materials into relatively homogeneous size-groups before depositing them in layers.[16] Rivers, for example, are recognized by geologists as one such sorting mechanism, moving groups of smaller rocks faster, larger rocks slower, in bundles of differentially paced lines of flow. It makes sense to describe these dynamic mechanisms as systems of escape and capture (certain rock sizes are "passed" quickly in the sorting process, others are held back in the flow). Another example of such mechanisms at the geological level might be the ways volcanic flows organize surface features of the earth's crust as a function of different speeds of deposition.

Chaos theory suggests that such dynamic systems are nonlinear, nonequilibrial, and self-regulated. The question is whether the same sorting diagrams can be located in the social and cultural spheres, despite vast differences in form of content from geological structures. DeLanda believes this to be so, referring to "slowing down" or "hardening" (crystallization) processes in the formation of normative social structures, where the production of those structures refers not simply to human decisions but, for example, to how those decisions follow from spontaneous changes in rates of flow of food, money, bodily fluids, etc..[17] Social structures, in this view, are seen in terms of relative speeds of mixtures of different kinds of materials undergoing sorting and crystallization processes. Formal social hierarchies run at relatively slow or fixed speeds, generally by force of habit, compared with more fluid, improvised groupings that DeLanda calls "meshworks."[18] In terms of speed, the difference between a hierarchy and a meshwork is like that between a solid and a liquid, or a liquid and a gas—both move, but at different rates. Alternatively, we might characterize one movement as molar (large-scale), the other as molecular.[19] We do not have to "humanize" these ideas to apply them to the social sphere. In fact, they allow us to view "human being" as a variable organization of differently paced flows of matter and energy. To be "really" human, as excluded groups in any social order know well, means to have the right flow of blood, currency and equipment, to bear the right series of distinguishing marks (eye color, skin color, hair color), maintain the proper rhythms, habits, routines, and so on.[20]

We don't ask who organizes these flows, but rather what machines inaugurate a change of state, what *intensive thresholds* are crossed and how (e.g., from a liquid to a gas, from non-human to human, from uncoordinated individuals to a pack, as in animal groups, or from non-social to social aggregates); where certain flows break off from or reconnect with others (steam flows, or the places where the pack splits off from the larger group.[21] Such thresholds, in the case of liquids to gasses, refer to specific heats. In animal groups, they may involve caloric levels, densities, carrying capacities, etc., which above or below certain limits may provoke organized action. Again, what matters in the immediate context is that we can conceptualize all this in terms of escape and capture, and from there as various forms of distraction.

Before leaving these ideas, we need to reiterate the importance of *speed* as a mechanism of escape and capture.[22] In the old military formula, either you're "quick or your dead."[23] Speed is also a sorting function. It is by virtue of their relative speeds that elements in a mixture, whether geological or social, sort themselves into distinct flows. In this way of viewing things, the "escape velocity" of objects has as much meaning in the social as the natural sphere, i.e., if it makes sense to describe as social the operations through which bodies are captured and sorted into homogeneous groupings which are made to flow at similar rates of speed. Foucault, for example, does not describe the prison in "institutional" or bureaucratic terms—viz., as systems of abstract rules and fixed relations of authority—but as spaces of bodies organized around the homogenization

and routinization of specific flows (again, of food, waste, tasks, information).[24] Certain flows are slowed down (i.e., hardened) in specific locations and during specified times, others are speeded up—prison routine is the outcome of relatively paced lines of movement. Foucault often writes of the importance of architectural arrangements in determining the organization of bodies in prisons, specifically as they affect conditions of perception. But alongside this Foucault also gives us a kind of "geomorphology" of the penitentiary that is at the same time a depiction of its social order from the point of view of controlling rates of material flows, that is, a model of relative speeds, thinnings and thickenings, gravity sinks and acceleration points, capture and escape. *Perception is organized via the channeling of flows in engineered space*. But this is precisely nothing more than a definition of distraction. (We will return to these points below in our discussion of Walter Benjamin.)

We should further note, to anticipate our remarks below, that an important effect of speed is *stealth*. In social terms, we cannot ignore the fact that distraction is a strategy of disappearance or invisibility. Distraction allows a second event to take place behind or "to the side of" the first one—it enables a close approach. The classic pickpocket scheme is an example, provided we are willing to characterize it, not in terms of the diversion of the mark's attention or consciousness, but as series of flows, subtractions and interruptions, slowings-down and speedings-up. Not attention, but rather, "one hand moves faster than another to the pocket, a mark is subtracted from his money." To capture or elude a thing by stealth is to move at a different rate—to fall behind the thing, to outpace it, to approach it transversally, as with predatory animals or their prey (keeping in mind that both predator and prey draw upon the same set of strategies). Virilio has intensively studied the connections between speed and strategies of disappearance, their relations in politics, war, and modern telecommunications systems, and outlined their internal relation to power.[25] The power to capture one's enemies by stealth may involve making them look where they shouldn't, but that often translates into moving faster. In the same way, the power to elude one's predator by stealth is, in some cases, to move slower (standing still as it passes, falling back). The assemblages that best regulate relative speeds, in the social sphere at least, are also the ones that are usually the most stealthy—those that order the flows of traffic, money, sex, food, information. Like Foucault, we have to look not just for specific "agencies" within society that enforce laws relating to speed—e.g., the police—but to "impersonal strategies" and criss-crossing lines of force, to open and closed pathways, acceleration points, bottlenecks, regions of stretching and contraction, and so on.[26] The central role of the image of the Panopticon in Foucault's history of the prison is not simply a matter of how it describes a complex structure of visibility and invisibility, but how that structure emerges through minute adjustments of speed that supply the prison's specific "texture" of activity (the prison is a "hard" social space indeed, but one where certain flows may periodically escape—riots, streams of contraband, drugs, etc.).[27]

Perhaps we can begin to glimpse from these reflections new ways to develop the idea of distraction as a social-machinic assemblage, and perhaps from there suggest a different way of viewing its importance in the production of contemporary culture ("recliner culture"). Distraction is a machinery that generates differential rates of flow of matter and energy. It is an "abstract" machine in the sense that it coordinates elements circulating on very different planes of intelligibility (geological, meteorological, biochemical, sociological, political). It opens lines of escape and capture, of approach and invisibility. This machinery leaves behind *deposits* of various sorts, hardenings or thickenings (sediments, strata, scars), but it can also generate, within these structures,

liquid or gaseous conditions, zones of turbulence or smoothing.[28] Distraction, in one sense, may even describe a crucial event in all self-organizing processes, i.e., the production of *singularities*. It is singularities that initiate changes of flow and the emergence of qualitatively new states—things like bifurcation points, thresholds, pinch points, edges, holes and cracks, strange attractors.[29] A distraction, in its deepest sense, *is* a singularity, and not simply in terms of an event that draws one's attention because of its rarity or uniqueness, but an event that *because* of its rarity and uniqueness causes a flow to break away, to subtract itself, from a mass of materials to which it had formerly adhered. Distraction generates, to refer this again back to Deleuze and Guattari, a *multiplicity*. One is only a member of a multiplicity, they say, via subtraction, as N-1.[30] Distraction is what subtracts one from a collection to create a multiplicity—it is what causes the lone individual to break away from the randomness of a milling crowd and generate a "pack," the unique event that pulls a particle off-track and causes other particles to follow. It is in this sense above all a *gravitational* force before it is a conscious one.

"To distract" literally means "to draw in different directions" or "to pull apart," and we will feel free to exploit all the rich connotations of these terms. While "to draw" has the gravitational sense we just assigned to it, we will also pay close attention to its *graphical* meaning. To distract something is to *mark* it, and thereby make it vulnerable. A distraction creates a target; it makes a thing *traceable*. Sun Tzu, in *The Art of War*, lists the military benefits of distracting an enemy—it dislodges him, isolates him from his main forces; he is marked by his very separation and thus rendered visible and open to attack.[31] For Sun Tzu, it is a matter of one's superior use of the landscape, the exploitation of pinch points and higher ground along the route of march, the strategic employment of diversions of all sorts (false information, double agents, etc.).

Foucault's analysis of Panoptic power, again, is full of allusions to spatial and temporal devices that distract the subject and thus allow for his more efficient control "from another direction."[32] In Foucault, power often operates through the creation of a host of "blind spots" and lighted spaces, structural devices for keeping the prisoner under surveillance and occupied with everything but the real lines of his capture, which always intersect him from the side or behind his back. In that sense, to distract is not only to reveal the prisoner-enemy, *but to make the object that distracts disappear*. That is, we must also consider the reverse graphical function of distraction, viz., to unmark or erase. The first rule of disappearance is always to create a diversion, hence its importance as a strategic tool not only in war but in magic (and, we'll see, in electronic media, which has elements of both). This happens through a process of bifurcation or breaking apart: the magician makes an object disappear by a double movement that separates it from a set of objects of which it had formerly been a member. One movement creates a zone of intensity to divert the spectator's eye, the other whisks the object away. The two lines, one of capture (the eye), one of escape (the "erased" object), separated by a singularity, the distraction, that pulls in different directions at the same time. In Foucault, if power operates imperceptibly, it is because it initiates this double flow of escape and capture—we should not forget that Foucault's concept of power relations includes their resistance—and this is possible only through the organization of elaborate machineries of distraction, means of dividing perceptual space (and time), technologies of dispersion, of pulling apart, splitting, breaking off, etc. If we conceive of mass media in terms of distraction, we are essentially asking how it functions in all these diverse ways—as a force of gravitation, as a means of making visible or traceable (surveillance), and as a machinery of erasure or unmarking.

Distraction In An Age Of Mechanical Reproduction

Let us now examine the matter more closely, as it relates to the question of social control and cultural patterning, with an eye to contemporary electronic media as distraction assemblages. Before proceeding, however, we must give two qualifications:

First, despite its ubiquitousness and its character as an abstract machine, there is no universal or unitary mode of distraction. Politically and culturally, it is useless to talk about distraction in a global sense. It is characterized rather, as we have seen, by its singularities and bifurcations, by the concrete mixtures of heterogeneous elements it coordinates. Although its lines intersect with those of human decision, belief and desire, distraction, we have said, is not "human." If anything, "human being," the "subject," the "person," the "individual," "consciousness," "attention"—all these things are so many effects of distraction, which is not to deny their strategic role in how distraction games play out in a given society. Again, distractions manifest themselves as zones of turbulence where flows of matter and energy are intensified or dissipated, where disjunctions occur and new structures emerge. In society they may often appear as the expression of intentional choices, but this would be to seriously misunderstand their chaotic nature—the production of singular events, the unpredictable bifurcation of lines. We are not looking for essences here; it is the actual mixtures that are interesting and constitute the dynamics of distraction.

Second, we will not define distraction as a social or cultural totality. There is no "society or culture of distraction," as if society was only this and nothing else. It is one among many traits of contemporary media culture. As we have indicated, it has oppressive and liberating qualities, often both simultaneously. You can be distracted by the police, but the police can be distracted, too. It is possible that everyone in a given society is distracted in a certain way, though unlikely (Kroker's recliner is undoubtedly only a convenient fiction to draw attention to a more complex state of affairs).

Finally, although distraction seems to explain certain relations of activity (or inactivity) in a population in an external way, in fact it is immanent to them. For an investigation into the social organization of distraction, we should look, following Foucault again on this point, to the concrete relations themselves to discover the distraction in them rather than invent a principle that occupies a space below or outside them. Distraction manifests itself in innumerable scenes of escape and capture, traps, ruses, surprises, catastrophes, encirclements, blockages. We must not turn all this into a "theory" of distraction, but examine it, as Foucault says, from the point of view of its political anatomy, the ways it distributes bodies and coordinates their movements.

Walter Benjamin, in The *Work of Art in the Age of Mechanical Production*, is really the first to raise the question about the role of distraction in societies dominated by the mass media.[33] Typically, he does not frame this question as a matter of attention, but in terms of how a population, or rather a mass, distributes itself in relation to material culture, in this case to technologies of aesthetic reproduction. As we shall see, Benjamin locates the problem of distraction in its connection to the formation of *habits*, not to a state of consciousness. Specifically, he asks how art integrates or is integrated into the performance of routine but socially necessary tasks. Whereas the traditional work of art perhaps demanded thoughtful contemplation on the part of an individual spectator, modern mass-produced art, most paradigmatically film for Benjamin, is appropriated not by engaged individuals but by the masses in a mode of distraction. Benjamin noted that it was commonplace in his time to hear social critics lament the masses' distraction and blame the cinema or other elements of mass culture for

promoting it. We still hear this charge leveled in various quarters today, typically from the moral Right, not just against Hollywood but against media in general. Whatever its morality, however, the relation between distraction and aesthetic media is not a new situation according to Benjamin, and demands a closer investigation.

Since earliest times, the most important case of the connection between distraction and art involves the social appropriation of architecture, which generally functions not as an object of contemplation (except perhaps for tourists), but as a taken-for-granted background of human activity.[34] It is not simply the fact that architecture is seen but rarely thematized as people go about their daily business that constitutes the meaning of distraction for Benjamin. The masses appropriate architecture not just visually, but *tactilely*. In an important sense, tactile appropriation is not just another mode of reception on par with visual or optical appropriation. Rather, Benjamin argues, it constitutes the conditions of possibility for the latter, in the sense that habitualized behaviors which develop around the use of dwelling spaces, as routinized practices, *organize perception*. Architectural arrangements, in the social as much as the physical sense, determine what can and cannot be seen. We should remind ourselves again of Foucault's analysis of the prison here. Insofar as these arrangements control the conditions of perception, they foster routinized forms of behavior. The prisoner in Foucault's Panopticon unconsciously regulates his own behavior and is thus perfectly predictable. He becomes a creature of habit to the extent that he does not see the real lines of power that control him, i.e., by virtue of the fact that he is distracted in and by the relation to the ordered spaces in which he finds himself, and in which he must function. Let us return to how Benjamin describes it:

> Buildings are appropriated in a twofold manner: by use and by perception—or rather, by touch and sight. Such appropriation cannot be understood in terms of the attentive concentration of a tourist before a famous building. On the tactile side there is no counterpart to contemplation on the optical side. Tactile appropriation is accomplished not so much by attention as by habit. As regards architecture, habit determines to a large extent even optical reception. The latter, too, occurs much less through rapt attention than by noticing the object in incidental fashion.[35]

That is, as a function of distraction. Despite Benjamin's fall back into the language of consciousness ("noticing the object in incidental fashion"), it is clear that distraction has a far wider political sense for him.[36] It is, in a word, a means of *training*. Even, and perhaps especially, when art is appropriated in a mode of distraction, it exercises a "covert control over the extent to which new tasks have become soluble by apperception," i.e., through the adjustment of the conditions of perception, through architectures of visibility and invisibility. "Since, moreover" Benjamin continues, "individuals are tempted to avoid such tasks [for example, those necessary for the reproduction of Capital], art will tackle the most difficult and important ones where it is able to mobilize the masses," where it can convert those tasks into habits.[37] In our terms, this is a view of art as, potentially, a means of capture. Benjamin sees this potential existing not only in modern film, but increasingly as an imperative behind all mass produced art whose reception, like architecture, becomes a matter of distraction.

Habits are not just subjective states or psychological structures. They involve the initiation of repetitive flows, the construction and placement of material blocks, obstacles, corrective devices; the partitioning of space; the functionalization of time, and the

normalization of specific behavioral trajectories. They are "hardenings" or "contractions" of activity, sedimentations and stratifications of planes of conduct, condensations of matter and energy.[38] But they can also be "softenings"—one only forms new habits, after all, by breaking old ones. The distracted person could just as easily fall into bad as good habits, from the authorities' point of view. In prisons, as in workshops, schools, homes, etc., distractions always threaten to divert flows away from their desired (moral) ends and must therefore be rigorously controlled. Hence, a whole system of rules and practices evolves around their strategic placement—a wall is erected to keep the eyes from straying (the worker's cubicle), an opening closed to prevent any leakage to or from the outside (the locked door). Temperatures are adjusted to insure maximum peak performance (climate control), pressures are adjusted relative to threshold values to guarantee that distraction will smoothly and predictably serve the interests of power (deadlines, quotas, production schedules, grading and ranking schema, etc., so many forms of pressure). All of these in themselves constitute "capture-distractions," but only in the sense that they attempt to short-circuit "escape-distractions." One must assemble a distraction machine that develops the right repetitions, the "good" habits, and disassemble those machines that generate the bad repetitions, the habits that upset the power structure, which is to say, the dominant system of distractions (Regarding this, the droning and "distracting" mantras of one's parents—don't eat between meals, be in bed by ten, do your homework before watching TV, pick up your room... And do this without being told, make it your routine. Don't fall into bad habits. On and on. How many of these repetitive flows are channeled around one's living space, one's negotiation of passageways, open and closed doors, in short, one's *habitat?*).[39]

Digital Distraction

We can perhaps now begin to see mass media, and particularly electronic media, along similar lines, i.e., in terms of an "architecture," the adjustment of conditions of perception and the formation of habits. But precisely what kinds of perception and habitualized modes of behavior, in relation to what architecture, are we dealing with here?

Benjamin's remarks are again instructive.[40] He notes that the technology of film places the observer in the role of a passive critic. This would be a subjective way of putting it. More to the point, cinematic equipment, and particularly the film camera, modifies, in an historically important way, the social conditions of perception.[41] Because film can be speeded up and slowed down, because the camera can zoom in and out, because it can move around its object, take various angles, etc., the traditional reception of the work of art has been replaced, Benjamin says, by one of "testing." The audience, in effect, *becomes the camera and sees as it sees*. In an age where power is increasingly exercised through the mechanical reproduction of images, the "aura" of the traditional art object—its cult value, its "authenticity," its unique origin in space and time—is sacrificed to the modern value of testability. One can now view the object up-close; from any and all sides; and at any place and time (since it is now mass produced and distributed). The cinema, a distraction-assemblage and in Benjamin's hands the model of a technology which once and for all strips the image of its traditional functions, inaugurates a new mode of perception and, one would have to say, a new set of habits. Henceforth, everything is subjected to the test. Testing—i.e., measuring, dividing out, selecting, ranking, *sorting*—becomes the order of the day, and

this is manifest in a specific way of manipulating the image, of producing it in each and all of its possibilities, in every one of its multiple perspectives, the better to *capture its object definitively*. "Every day," Benjamin writes, "the urge grows stronger to get hold of the object by its likeness, its reproduction."[42] Baudrillard has an apt image along these lines: all this—endless examination, continuous inspection, the effort to penetrate and reproduce the object in itself by detailed analysis, re-magnification and over-magnification of parts, etc.—signifies the cultural dominance of the *hyperreal*, i.e., the substitution of signs of the real for the real itself, which increasingly disappears from the stage of perception[43] (Benjamin notes that the perfect image in cinematic society is one from which the technology which captures it is absent, i.e., disappears, leaving only "reality" in its purest form).[44] The hyperreal, we will say, is our current mode of distraction, and our current mode of capture, since, no less than everything else, it subjects us to the test as well.

We should not think, however, that the hyperreal is something insubstantial or immaterial. The urge to test, to convert objects into signs, provoked and supported by technologies like the camera and increasingly by digital information systems, it comes down to sorting and re-depositing material flows. Deleuze and Guattari insist that any system of signs must be examined not only in terms of its meaning, but in its "asemiotic" or arepresentational component as well, i.e., as a regime of desire and affect, an organization of force relations, rather than as a linguistic or "mental" structure.[45] This is Foucault's position as well, who in affirming the connection of language (discourse) and the sign, denies the sign's assimilation to representation and the signifier: "Of course discourses are composed of signs; but what they do is more than use these signs to designate things. It is this 'more' that renders them irreducible to language (langue) and to speech."[46] Foucault's "more" refers to discourse as a practical deployment of forces on bodies, in ways that harness their energies, hierarchize them, functionalize them, etc. The sign is not just representation, but power; not just indication, but *dividing practice*.

Here we return full circle to distraction in the material sense of the test—signification as dividing practice (or sorting-machine). This is not by any means a new idea. It has long been a matter of practice and a condition of knowledge in military organizations. We have already hinted that distraction utilizes signs to divert the enemy—false appearances, lures, feints, ruses, decoys. Such signs divide the enemy's forces, separate him from his lines of support, and render him visible. The military employs these tactics on their own soldiers to establish the order of rank. The enlistee in the American armed forces, for example, is immediately forced into practices that divide him from his cohort and fit him to a system of rank. Shaving the head, rising before dawn, early morning exercises, unison marches, on and on. These can only be called forced distractions.

Distraction, of course, is not unique to the military, and it is not the property of a military elite—in its multiple forms, it is a tactical element in all conflicts, and on all sides, military or not. It is not, we have seen, solely the possession of the stronger force, nor can it be limited to the conditions of capture. One can distract power to escape it. To distract power is to elude its grasp and, potentially, to *overpower it by blocking its sense*. Unable to sense its object or to *make sense* of it, i.e., to signify it, distracted power is rendered powerless.[47] It cannot locate or name its object, or assign it a place in its code (thus distraction is not just sign, but anti-sign, anti-code). It is not surprising that this overpowering potential of distraction, which originally aims to destroy power, immediately becomes power's strongest ally. As soon as they appear, as soon as they are seen in their role as productive of the conditions of perception, the means of distraction are harnessed to the Law, which then employs them to normalize behavior, to reinforce or

modify habits, to channel desire and belief along appropriate paths. But these same means, at any time, can once again become methods for mocking the Law—then it is the "bad" habits that they generate, the illicit desires, and the "evil" signs.[48]

Because distraction is both a signifying and anti-signifying power, it is a diagram of ritualized, social behavior. It is the basis of both the sedimented character of ritual enactments (forms of habit) and the *challenge* ritual throws up to the very forces which authorize and sanction those enactments. Ritual power is nothing more than the distraction of a superior power—a god, a demon, death itself. This is how we should view the practices of sacrifice, prayer, and sacrament, as so many distractions to divert a dangerous force and divide it from its supports. In all these practices we witness the sign as dividing or sorting strategy, a machine for the purpose of weakening and strengthening, but a machine that ultimately obeys no master and can as easily turn on the very forces that seek to employ it.

Today, we perhaps must radicalize Benjamin's question about distraction to account for changing technical conditions. It may no longer be adequate to frame this question in terms of theses regarding art in an age of *mechanical reproduction*. Rather, we must consider the possibility that mechanical techniques of reproduction are being supplanted by digital technologies, and that this signals at least an intensification of their dynamics, and possibly a qualitative shift. That is, we must think about moving from an industrial to a post-industrial or informational model of distraction. At issue in this question is not so much the notion of "reproduction" which still assumes that it makes sense to distinguish an "original" from its copies, but *simulation*, which implies, at least in theory, the essential meaninglessness of that opposition.[49] Benjamin, we have seen, notes the loss of the artwork's "aura" in contemporary culture—its originality and spatiotemporal uniqueness—as it increasingly is subjected to the imperatives of mass production. But it is the principle of production (and reproduction) itself that is challenged by simulation. When art is simulated, its status *as* art becomes problematic in a way that is different than if it is merely mass produced. Not only is its originality lost, but so is its value as a copy, i.e., as a "reminder" of uniqueness, situatedness, realness. The same is true of architecture—computer technology, for instance, has made it possible to speak of "virtual" architectures, cyberspaces, and so on.[50] Baudrillard believes we have entered a time of "trans-aesthetics," where everything becomes art even as art itself disappears (in the same sense that the "real" disappears into the "hyperreal").[51] The notion of "simulated architectures," then, would refer not to constructions of steel and concrete, but to the (no less material) information structures that now form the background (noise?) of daily life; not to negotiated spaces, but to non-spatial "environments" or "climates";[52] not simply to tactile or visual appropriation, but to seamless neural integration.

The purpose of these reflections is not to analyze simulation, which would take us too far afield, but to think how distraction might operate in an age where simulation has become a dominant strategy of social control. Distraction, it would appear, impacts the body today by organizing its flows at a molecular level, at the interface of the cellular structure of the organism and the system of information. To use language from Donna Haraway, distraction has gone "cyborgian."[53] It is no problem to see the forces of distraction at work in the connection of any kid's fingers to the buttons of his or her video game controller. Can we imagine a time when our brains are wired directly to those buttons, when the brain itself is a distraction-machine that can call up its own diversions at the merest thought? When we no longer appropriate the scene tactilely but through our nervous system?[54] Pure escape, or pure capture? Who could tell? This would be "trans-art" and "trans-architecture" at their logical, and nightmarish, limit.

Benjamin's thesis that modern art mobilizes the masses to convert socially necessary tasks into habits is undoubtedly still salient. So is his theory that increasingly those tasks converge on the practice of testing. If anything, we could say that testing as a social imperative is raised to the *nth degree* in simulation societies. Simulations are, in fact, not just tests, but *pre*-tests—one uses simulation as a favored tactic whenever possible to eliminate the very need for tests.[55] The army simulates battle scenarios on its computers to avoid having to "test" any one of them in a real conflict; the police utilize profiles to narrow the range of possible suspects; schools utilize models of performance to pre-screen and sort students into appropriate tracks; advertisers test their images on sample populations, which are themselves derived from simulations; parents select their children from a range of genetic options. Computer simulation technologies as a whole could be seen as sorting and selection assemblages of the most radical kind, channeling flows of matter and energy by virtue of pre-testing the outcomes of those flows. In fact, their essential function is nothing more than to sort materials into testable aggregates (pre-sorting, pre-dividing). Money, sex, food, blood, genes, words... whatever flows can be captured in terms of information and fed into simulation models to better control absolutely the ranges of possible outcomes. It is becoming increasingly apparent today that few flows indeed can escape these widely distributed methods of tracking and diversion.[56]

Can it be said any longer that we "inhabit" these spaces of information, these pre-test, pre-sorting, pre-dividing zones where it is no longer a matter of tactile but molecular and genetic integration? Do information architectures generate habits? Or do they in fact eliminate the requirement of habituation to necessary tasks? When things can be distracted—marked, drawn off, diverted—before they even begin their trajectories (as is the plan for genetic engineering technologies), when their flows are captured in advance, what role does habit play? Does a cyborg or a clone fall into habits? Or is it, rather, one *big* habit, *only* habit, the utopia of perfect habituation which the control societies of the West have been aiming at for the past one hundred years?[57]

Such speculations could easily make us forget that distraction must still be linked to questions of power, that it operates as a means of escape as well as capture. Guattari, for instance, is not willing to identify information systems strictly with systems of domination or subjectification, although clearly that is how he would characterize a great deal in the contemporary situation.[58] Virtually everywhere we turn in information societies, where information is channeled for commercial purposes, distraction functions to arrest flows, to harden them into permanent structures and functions. Where are the information strategies that offer escape, that break down hardened systems, that destratify and remix layers of sediment? Hacking technologies for breaking and distributing computer codes should remind us that no system of domination is permanent or seamless, and that even virtual architectures are subject to sudden breakdowns and catastrophes. What else is hacking than an elaborate game of distraction (breaking and entering, covering one's tracks, drawing off flows of information into banks other than those which were intended for their deposit)?

It is no doubt that modern systems of information control threaten to eliminate both the dangers and the charms of distraction as escape. "Recliner" civilization increasingly finds itself caught up in grand delusions of escape, only to discover itself bound ever more tightly to the images on its screens, and to the channels of information which now threaten to restructure it at the molecular level. The political question today remains: what modes of distraction, operating at the most micro-scales of the body, can transform such delusionary escapes into real ones?

Notes

1. Arthur Kroker and Michael. A. Weinstein, *Data Trash: The Theory of the Virtual Class*, New York: St. Martin's, 1994 p. 41; also Arthur Kroker and David Cook, *The Postmodern Condition: Excremental Culture and Hyper-Aesthetics*, New York: St. Martin's, 1986, p. 266ff.

2. Arthur and Marilouise Kroker and David Cook, *The Panic Encyclopedia: The Definitive Guide to the Postmodern Scene*, New York: St. Martin's, 1989; Arthur Kroker, and Marilouise Kroker, *Body Invaders: Panic Sex in America*, Montreal: New World Perspectives, 1987.

3. McLuhan (1964); cf. William Bogard, "Smoothing Machines and the Constitution of Society," *Cultural Studies* 14:2, pp. 269-294, 2000.

4. Jean Baudrillard, *"The Masses: The Implosion of the Social in the Media," New Literary History*, 16(3): 577-89, *1985;* Jean Baudrillard, *Simulations*, New York: Semiotext(e), *1983a;* Jean Baudrillard*, In the Shadow of the Silent Majorities or...The End of the Social,* New York: Semiotext(e), 1983b.

5. Jean Baudrillard, *Simulations*, New York: Semiotext(e), 1983, p. 53.

6. Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia, Vol. 2*, Minneapolis: University of Minnesota Press, 1987 (1980), p. 424ff.

7. Felix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradigm*, Bloomingtom: Indiana University Press, 1995 (1992), p. 33.

8. Martin Heidegger, *The Question Concerning Technology : and Other Essays*, William Lovitt trans., New York : Harper & Row, 1977.

9. Martin Heidegger, *The Question Concerning Technology : and Other Essays*, William Lovitt trans., New York : Harper & Row, 1977; cf. also Felix Guattari, *The Guattari Reader*, Gary Genesko ed., New York: Blackwell, 1996; William Bogard, "Smoothing Machines and the Constitution of Society," *Cultural Studies* 14:2, pp. 269-294, 2000.

10. The term "diagram" is used by Foucault to describe the organization of the modern prison not in terms of a rational schema, but as a consistent space of differently composed matters, some architectural, some imported from military, educational or religious institutions, some linguistic, etc. The diagram, which he formulates under the broad heading of "discipline," is not unique to one field or plane, but organizes qualitatively different fields in similar ways (the school, the barracks, the asylum, etc.—all effect disciplinary regimes in their specific characteristic arrangements). See Michel Foucault, *Discipline and Punish: The Birth of the Prison,* New York: Vintage, 1979 (1975). cf. also Gilles Deleuze, *Difference and Repetition*, New York: Columbia University Press, 1994 (1968), p. 34 on Foucault's use of "diagram."

11. Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus, pp.* 141-48, 510-14.

12. Cf. Manuel DeLanda, *A Thousand Years of Nonlinear History*, New York: Zone Books, 1997, p. 62; Manuel DeLanda, *War in the Age of Intelligent Machines*, Cambridge: MIT Press, 1989; cf. Humberto R. Maturana and Francisco Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding*, Boston: Shambhala, 1992.

13. Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus*; Gilles Deleuze, and Felix Guattari, *What is Philosophy?,* New York: Columbia University Press, 1994 (1991).

14. Manuel DeLanda, *A Thousand Years of Nonlinear History*, , p. 58.

15. Cf. Ilya Prigogine, *Order Out of Chaos; Man's New Dialogue with Nature*, Boston : Shambhala Publications, 1984; James Gleick, *Chaos: Making a New Science*, New York: Penguin, 1987.

16. Manuel DeLanda, *A Thousand Years of Nonlinear History*, p. 60.

17. Manuel DeLanda, *A Thousand Years of Nonlinear History*, p. 257ff.

18. Manuel DeLanda, *A Thousand Years of Nonlinear History*, p. 32.

19. Cf. Felix Guattari, and Eric Alliez, *Molecular Revolution*, New York: Penguin, 1984.

20. Cf. Felix Guattari, *The Guattari Reader*, pp. 95-108; Felix Guattari, *Chaosmosis*, pp. 1-32; Felix Guattari, "Regimes, Pathways, Subjects," *Zone 6: Incorporations*, New York: Zone Books, 1992; also Alphonso Lingis, "The Society of Dismembered Body Parts," *Gilles Deleuze and the Theater of Philosophy, p*p. 289-303, Constantin Boundas and Dorothea Olkowski eds., New York: Routledge, 1994.

21. Cf. Elias Canetti, *Crowds and Power,* New York: Farrar, Strauss, and Giroux, 1960, pp. 93-124; on "intensive science" cf. Manuel DeLanda, *Intensive Science and Virtual Philosophy*, New York: Continuum, 2002.

22. Paul Virilio, *Speed and Politics,* New York: Semiotext(e), 1986; cf. also James Der Derian, "The (S)pace of International Relations: Simulation, Surveillance, and Speed," *International Studies Quarterly,* 34, pp. 295-310, 1990.

23. Neil Munro, The Quick and the Dead: Electronic Combat and Modern Warfare, New York: St. Martin's, 1991.

24. Michel Foucault, *Discipline and Punish*.

25. Paul Virilio, *The Aesthetics of Disappearance,* New York: Semiotext(e), 1991; Paul Virilio, *War and Cinema: the Logistics of Perception*, London: Verso, 1989; Paul Virilio, *Speed and Politics,* New York: Semiotext(e), 1986; Paul Virilio, *Pure War*, New York: Semiotext(e), 1983.

26. Michel Foucault, *The History of Sexuality, Vol. 1,* New York: Vintage, 1980 (1976), pp. 92-102.

27. Michel Foucault, *Discipline and Punish*, p. 195ff.

28. Again, we are trying not to speak metaphorically. The phenomenon of crowd formation, for example, could be considered from the standpoint of chaos theory as the spontaneous organization of turbulence, i.e., the self organization of flows of heterogeneous elements breaking out from within relatively hardened structures. Canetti's work, to which we have already alluded, is important in this regard as it relates to the movement of packs. See Elias Canetti, *Crowds and Power,* New York: Farrar, Strauss, and Giroux, 1960. Bill Buford's book *Among the Thugs* offers an interesting and important interpretation of crowd behavior in terms of "threshold" events (sudden noises, concentration and density limits, spontaneous breakaways of atomic elements that initiate collective movements, etc.). See Bill Buford, *Among the Thugs*, New York: Norton, 1992. We could easily call such initiatory events "distractions."

29. Cf. Manuel DeLanda, *Intensive Science and Virtual Philosophy*, New York: Continuum, 2002.

30. Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus,* p. 6.

31. Sun Tzu, *The Art of War*, Samuel B. Griffith trans., Oxford: Oxford University Press, 1963, pp. 90-101, 142-49.

32. Michel Foucault, *Discipline and Punish*.

33. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," *Illuminations: Walter Benjamin Essays and Reflections, p*p. 217-251, Hannah Arendt ed., New York: Schocken Books, 1969, pp. 217-251.

34. Walter Benjamin, *Work of Art*, p. 240

35. Walter Benjamin, *Work of Art*, p. 240

36. Percepts, according to Deleuze and Guattari, are not mental states of a subject, but power arrangements, desiring-machines, etc. Again, insofar as distraction involves perception, it is in the sense of organizing its conditions, i.e., its material environment. See Gilles Deleuze, and Felix Guattari, *What is Philosophy?* pp. 163-199.

37. Walter Benjamin, *Work of Art*, p. 240

38. Cf. Gilles Deleuze, *Difference and Repetition*, pp. 70-82 on the notion of habit as contraction.

39. Of course, the work of Bourdieu is central here, though his work remains "sociological" in the narrow sense, rather than "machinic." See Pierre Bourdieu, *Outline of a Theory of Practice*, Richard Nice trans., Cambridge: Cambridge University Press, 1977.

40. Walter Benjamin, *Work of Art*, pp. 230-236.

41. Cf. also Virilio on this point (1991; 1989). Virilio makes important connections between the development of modern cinematic equipment and strategies of disappearance.

42. Walter Benjamin, *Work of Art*, p. 223.

43. Jean Baudrillard, *Simulations,* New York: Semiotext(e), *1983a.*

44. Walter Benjamin, *Work of Art*, p. 234.

45. Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus*; cf. also Guattari 1996, 1992)

46. Michel Foucault, *The Archaeology of Knowledge,* New York: Harper and Row, 1972 (1969), p. 49.

47. On sense and regimes of power and desire, cf. Deleuze (1990).

48. Cf. Jean Baudrillard*, In the Shadow of the Silent Majorities or...The End of the Social,* New York: Semiotext(e), *1983b;* Jean Baudrillard, *The Evil Deamon of Images,* Annandale: Power Institute, *1987;* on the "evil demon of images".

49. Cf. Jean Baudrillard, S*ymbolic Exchange and Death*, London: Sage, 1993a; Jean Baudrillard, *Fatal Strategies,* New York: Semiotext(e), 1990; Jean Baudrillard, S*ymbolic Exchange and Death*. London: Sage, 1993a; Jean Baudrillard*, In the Shadow of the Silent Majorities or...The End of the Social,* New York: Semiotext(e), 1983b.

50. Cf. Michael Benedikt ed., *Cyberspace*, Cambridge: MIT Press, 1992.

51. Jean Baudrillard*, The Transparency of Evil,* New York: Verso, 1993b.

52. Cf. Michael Hardt and Antonio Negri, *Empire*, Cambridge: Harvard University Press, 2000.

53. Donna Harraway, "A Manifesto for Cyborgs: Science, Technology, and Socialist-Feminism in the 1980s," *Socialist Review,* 15:2, pp. 65-108, 1985.

54. Cf. Michael Taussig, *The Nervous System*, New York: Routledge, 1991.

55. Jean Baudrillard, *Simulations*, New York: Semiotext(e), 1983a, *pp.* 115-117.

56. Cf. William Bogard The Simulation of Surveillance: Hypercontrol in Telematic Societies, Cambridge: Cambridge University Press, 1996.

57. James Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society*, Cambridge, MA: Harvard University Press, 1986.

58. Felix Guattari, *The Guattari Reader*; Felix Guattari, *Chaosmosis*; Nor would he accept the idealist assumptions of Baudrillard's analysis of simulation (in this he agrees with Virilio, who views simulation as a matter of material substitution of technical practices rather than the hyperrealism of signs). See Paul Virilio, *The Art of the Motor,* Minneapolis: University of Minnesota Press, 1995. Distraction, too, we must insist, can only be adequately grasped as a material practice (machine-assemblage).

References

Jean Baudrillard, S*ymbolic Exchange and Death*. London: Sage, 1993a.

Jean Baudrillard*, The Transparency of Evil,* New York: Verso, 1993b.

Jean Baudrillard, *Fatal Strategies,* New York: Semiotext(e), 1990.

Jean Baudrillard, *The Evil Deamon of Images,* Annandale: Power Institute, 1987.

Jean Baudrillard, *"The Masses: The Implosion of the Social in the Media," New Literary History*, 16(3): 577-89, 1985.

Jean Baudrillard, Simulations, New York: Semiotext(e), 1983a.

Jean Baudrillard*, In the Shadow of the Silent Majorities or...The End of the Social,* New York: Semiotext(e), 1983b.

Michael Benedikt ed., *Cyberspace*, Cambridge: MIT Press, 1992.

James Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society*, Cambridge, MA: Harvard University Press, 1986.

Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," *Illuminations: Walter Benjamin Essays and Reflections, p*p. 217-251, Hannah Arendt ed., New York: Schocken Books, 1969.

William Bogard, "Smoothing Machines and the Constitution of Society," *Cultural Studies* 14:2, pp. 269-294, 2000.

William Bogard *The Simulation of Surveillance: Hypercontrol in Telematic Societies,* Cambridge: Cambridge University Press, 1996.

Pierre Bourdieu, *Outline of a Theory of Practice*, Richard Nice trans., Cambridge: Cambridge University Press, 1977.

Bill Buford, *Among the Thugs*, New York: Norton, 1992.

Elias Canetti, *Crowds and Power,* New York: Farrar, Strauss, and Giroux, 1960.

Manuel DeLanda, *Intensive Science and Virtual Philosophy*, New York: Continuum, 2002.

Manuel DeLanda, *A Thousand Years of Nonlinear History*, New York: Zone Books, 1997.

Manuel DeLanda, *War in the Age of Intelligent Machines*, Cambridge: MIT Press, 1989.

Manuel DeLanda, *The Logic of Sense,* New York: Columbia University Press, 1990 (1969).

Manuel DeLanda, *Foucault,* Minneapolis: University of Minnesota Press, 1988b.

Gilles Deleuze, *Difference and Repetition*, New York: Columbia University Press, 1994 (1968).

Gilles Deleuze, and Felix Guattari, *What is Philosophy?*, New York: Columbia University Press, 1994 (1991).

Gilles Deleuze, and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia, Vol. 2,* Minneapolis: University of Minnesota Press, 1987 (1980).

James Der Derian, "The (S)pace of International Relations: Simulation, Surveillance, and Speed," *International Studies Quarterly,* 34, pp. 295-310, 1990.

Michel Foucault, *The History of Sexuality, Vol. 1,* New York: Vintage, 1980 (1976).

Michel Foucault, *Discipline and Punish: The Birth of the Prison,* New York: Vintage, 1979 (1975).

Michel Foucault, *The Birth of the Clinic,* New York: Vintage, 1975 (1963).

Michel Foucault, *The Archaeology of Knowledge,* New York: Harper and Row, 1972 (1969).

James Gleick, *Chaos: Making a New Science*, New York: Penguin, 1987.

Felix Guattari, *The Guattari Reader*, Gary Genesko ed., New York: Blackwell, 1996.

Felix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradigm*, Bloomingtom: Indiana University Press, 1995 (1992).

Felix Guattari, "Regimes, Pathways, Subjects," *Zone 6: Incorporations*, New York: Zone Books, 1992.

Felix Guattari, and Eric Alliez, *Molecular Revolution,* New York: Penguin, 1984.

Michael Hardt and Antonio Negri, *Empire*, Cambridge: Harvard University Press, 2000.

Donna Harraway, "A Manifesto for Cyborgs: Science, Technology, and Socialist-Feminism in the 1980s," *Socialist Review,* 15:2, pp. 65-108, 1985.

Martin Heidegger, *The Question Concerning Technology : and Other Essays*, William Lovitt trans., New York: Harper & Row, 1977.

Arthur Kroker, *The Panic Encyclopedia: The Definitive Guide to the Postmodern Scene*, New York: St. Martin's, 1989.

Arthur Kroker and Michael. A. Weinstein, *Data Trash: The Theory of the Virtual Class*, New York: St. Martin's, 1994.

Arthur Kroker, and Marilouise Kroker, *Body Invaders: Panic Sex in America*, Montreal: New World Perspectives, 1987.

Arthur Kroker and David Cook, *The Postmodern Condition: Excremental Culture and Hyper-Aesthetics*, New York: St. Martin's, 1986.

Alphonso Lingis, "The Society of Dismembered Body Parts," *Gilles Deleuze and the Theater of Philosophy, p*p. 289-303, Constantin Boundas and Dorothea Olkowski eds., New York: Routledge, 1994.

Humberto R. Maturana and Francisco Varela, *The Tree of Knowledge: The Biological Roots of Human Understanding*, Boston: Shambhala, 1992.

Marshall McLuhan, *Understanding Media: The Extensions of Man,* New York: McGraw-Hill, 1964.

Neil Munro, *The Quick and the Dead: Electronic Combat and Modern Warfare*, New York: St. Martin's, 1991.

Ilya Prigogine, *Order Out of Chaos; Man's New Dialogue with Nature*, Boston : Shambhala Publications, 1984.

Sun Tzu, *The Art of War*, Samuel B. Griffith trans., Oxford: Oxford University Press, 1963.

Gabriel Tarde, *The Laws of Imitation*, Elsie Clews Parson trans., New York: Henry Holt and Company, 1903.

Michael Taussig, *The Nervous System*, New York: Routledge, 1991.

Paul Virilio, *The Art of the Motor,* Minneapolis: University of Minnesota Press, 1995.

Paul Virilio, *The Aesthetics of Disappearance,* New York: Semiotext(e), 1991.

Paul Virilio, *War and Cinema: the Logistics of Perception*, London: Verso, 1989.

Paul Virilio, *Speed and Politics,* New York: Semiotext(e), 1986.

Paul Virilio, *Pure War*, New York: Semiotext(e), 1983.

CONTRIBUTORS

The Editors

Arthur Kroker is Canada Research Chair in Technology, Culture and Theory and the Director of the Pacific Centre for Technology and Culture (PACTAC) at the University of Victoria, Canada. His most recent book is The Will to Technology and the Culture of Nihilism: Heidegger, Nietzsche & Marx (University of Toronto Press, 2004). His other books include, among others, *The Possesed Individual, Spasm* and *Data Trash: The Theory of the Virtual Class* (with Michael A. Weinstein).

Marilouise Kroker is Senior Research Scholar at the University of Victoria. She is the author with Arthur Kroker of *Hacking the Future.* She has co-edited and introduced numerous anthologies including *Digital Delirium, Body Invaders* and *The Last Sex*.

Together they edit the electronic journal *CTheory.* <www.ctheory.net>

The Contributors

John Armitage is Principal Lecturer in Politics and Media Studies at the University of Northumbria, UK. The editor of Paul Virilio: From Modernism to Hypermodernism and Beyond (2000), he edited *Virilio Live: Selected Interviews* (Sage, 2001) and *Economies of Excess*, for *Parallax*, a journal of metadiscursive theory and cultural practices (issue 18, vol. 7, no. 1., January - March, 2001). He is also co-editor, with Joanne Roberts, of *Living With Cyberspace: Technology & Society in the 21st Century* (London: Continuum, 2002).

Belinda Barnet is Lecturer in Media and Communications at Swinburne University of Technology, Melbourne. She has published widely on new media theory and culture and has an irrational obsession with technics and evolution.

Michael Betancourt is an art critic and artist working in Miami, Florida.

William Bogard is a Professor of Sociology at Whitman College in Washington, and is currently working on a book about smoothing machines.

Nathaniel Burgos is a designer based in Chicago where he teaches visual communications at the University of Illinois. His current projects include an article on InfoRomanticism and DesignFeast.com, a resource for the disciplines of design.

James Conlon is an educational technologist at the Visual Media Center in the Department of Art History and Archaeology, Columbia University. His academic and professional interests began with the social history of the Near East in the Medieval period and have extended to include the contemporary relevance of the region's material legacy. Although most of his professional projects are centered in this part of the world, he now explores the broader issues of experimenting with different modes of representation to better express, teach and live with change in the built environment.

David Cox is a filmmaker, theorist and writer based in both Australia and the USA. He and his partner Molly Hankwitz form the research collaboration Archimedia, investigating the overlap and interplay between media, architecture and public space. Mr Cox's award winning films include "Puppenhead" (1990), "BIT", a documentary on the Bureau of Inverse Technology for Australia's SBS (1992), and the science fantasy short "Otherzone" (1998) starring performance artist Stelarc and Marie Hoy.

Jordan Crandall is an artist and media theorist. He is Assistant Professor in the Visual Arts Department at University of California, San Diego. His most recent book, *Drive: Technology, Mobility, and Desire*, has just been released by Hatje Cantz Verlag in conjunction with ZKM Center for Art and Media, Karlshrue, and Neue Galerie am Landesmuseum Joanneum, Graz.

Manuel De Landa, distinguished philosopher and principal figure in the "new materialism" that has been emerging as a result of interest in Deleuze and Guattari, currently teaches at Columbia University. Because his research into "morphogenesis"—the production of stable structures out of material flows—extends into the domains of architecture, biology, economics, history, geology, linguistics, physics, and technology, his outlook has been of great interest to theorists across the disciplines. His most recent book is entitled *Assemblage Theory and Social Complexity*.

Dion Dennis is an Assistant Professor of Sociology and Criminal Justice at Bridgewater State College, with enduring interests in representation, communication, culture and technology.

Steve Dixon is a Senior Lecturer at the University of Salford, UK and has published widely in fields including cultural theory, performance studies and digital arts. He is artistic director of *The Chameleons Group*, a multimedia performance research company and co-director (with Barry Smith) of the *Digital Performance Archive*. <http://art.ntu.ac.uk/dpa>

Ntone Edjabe is Cameroonian-born journalist and DJ. He hosts "soul makossa" a show on African cultural politics on Bush Radio in Cape Town. He is also the co-founder of a pan-African cultural center in Cape Town called the Pan African Market—also known as the Kalakuta Republic. He is the founding editor of *Chimurenga*.

Irving Goh is a doctoral candidate with the European Graduate School (EGS). His current research interests include the intersection of philosophy and architecture, theories of communities, the question of friendship, and postcolonial theory. His paper on Deleuze and Guattari and postcolonial theory was published by the journal *genre* (California State University).

Fox Harrell is a writer, artist, and computer scientist. He has worked as a game designer and animation producer in New York City. He recently completed his first novel, *Milk Pudding Flavored with Rose Water, Blood Pudding Flavored by the Sea*. His research focuses upon developing new computational narrative forms.

Joan Hawkins is an Associate Professor in the Dept of Communication and Culture at Indiana University Bloomington. She is the author of *Cutting Edge: Art Horror and the Horrific Avant-garde* (U of Minnesota Press, 2000) and is currently working on a book on experimental film culture of the 1980s and 1990s.

Paul Hegarty teaches at University College, Cork. He also Dj's Japanese Noise Music.

Ted Hiebert is a Canadian visual artist. His work has been shown in solo exhibitions across Canada and in group exhibitions internationally. He is the Editorial Assistant for CTheory, a research assistant at the Pacific Centre for Technology and Culture (PACTAC), and a doctoral student in the PhD Humanities Program at Concordia University. <www.tedhiebert.com>

Don Ihde is Distinguished Professor of Philosophy at Stony Brook University and author of thirteen books, most of which address issues in the philosophies of science and technology.

Casper Bruun Jensen is a doctoral candidate in Information and Media Studies at the University of Aarhus, Denmark. His research concerns the controversies surrounding the development and implementation of the electronic patient record in Denmark with an STS- perspective.

Julian Jonker is a writer, researcher and independent cultural producer living in Cape Town. He writes about social identity and cultural ownership in popular culture. In addition he produces cultural projects under the name liberation chabalala, and otherwise fulfils his dreams of a less bookish life by DJing with the Fong Kong Bantu Sound System.

Jari Friis Jorgensen received his MA from the Institute of Information and Media Studies, at the University of Aarhus, Denmark. His thesis is titled: "Cyberculture, Science and AIBO—a Non-modern View on Collectives, Artificial Life and Playful Quasi-objects."

Myron Krueger is one of the original pioneers of virtual reality and interactive art. Beginning in 1969, Krueger developed the prototypes for what would eventually be called Virtual Reality. These "responsive environments" responded to the movement and gesture of the viewer through an elaborate system of sensing floors, graphic tables, and video cameras. Audience members could directly interact with the video projections of others interacted with a shared environment. Krueger also pioneered the development of unencumbered, full-body participation in computer-created telecommunication experiences and coined the term "Artificial Reality" in 1973 to describe the ultimate expression of this concept.

Jason Lubyk has written fiction and non-fiction for a variety of print and online publications. He is currently the editor of the biannual web magazine *New World Disorder* <http://newworlddisorder.ca>.

Peter Lurie has written for *Foreign Policy* and *Topic Magazine*, and he is a book reviewer for *Writ*, an online legal journal published by Findlaw. His essay "The Rise of the Info-Novel," which appeared in *Butterflies & Wheels*, was recently translated into Spanish

and reprinted in *Revista Tedium Vitae*. He is General Counsel of Virgin Mobile USA, a wireless voice and internet service for the youth market, which he helped start. The views expressed are his own.

Christina McPhee's digital inscapes works meditate on code/net as subjective machine/human presence. New exhibitions and installations include *page_space* at machine gallery, Los Angeles and *Digitalis III: Urban Poetry*, Vancouver, in February and March 2004. Among recent screenings of her performance videos *Nax(Silent)Soda Lake*, *Eyes(Berlin/Weimar)* and *Naxsmash/SelectMedia* are at Victoria Film Festival/ Interactive Futures and Incubation 03 /TRACE Conference on Writing and the Internet, The Nottingham Trent University, England in 2004. At http://www.naxsmash.net a subliminal psyche echoes notes from the underground. *Slipstreamkonza*, an art/ science collaborative work on carbon flow data won a James A. Phelan Award for Printmaking 2003 by the San Francisco Foundation. She writes on poetics of code, net, language and presence at <http://www.christinamcphee.net>.

Srikanth Mallavarapu is a doctoral candidate working on STS and postcolonial theory in the English Department at Stony Brook University.

Steve Mann is a professor of engineering at the University of Toronto. He is also an artist who has exhibited work in galleries and museums throughout the world, including the Museum of Modern Art (New York), Stedelijk Museum of Art (Amsterdam), San Francisco Art Institute, to name but a few. Steve Mann is regarded by many as the inventor of the voice activated wearable computer and the EyeTap camera.

Eduardo Mendieta is an Associate Professor at Stony Brook University. His latest book is *The Adventures of Transcendental Philosophy: Karl Otto Apel's Semiotic and Discourse Ethics.*

Paul D. Miller is a conceptual artist, writer, and musician working in NYC. His written work has appeared in The Village Voice, The Source, Artforum, Raygun, Rap Pages, Paper Magazine, and a host of other periodicals. He is a co-Publisher of the magazine "A Gathering of the Tribes"—a periodical dedicated to new works by writers from a multi-cultural context. Miller is most well known under the moniker of his "constructed persona" as "Dj Spooky that Subliminal Kid". Miller has recorded a large volume of music as "Dj Spooky that Subliminal Kid" and has collaborated with a wide variety of pre-eminent musicians and composers. He is a member of the *CTheory* Editorial Board.

Joe Milutis is a writer and media artist. He is Assistant Professor of Art at the University of South Carolina, where he teaches sound art production. Written work has appeared in *Cabinet*, *Afterimage*, *Artbyte*, *Wide Angle*, and *Experimental Sound and Radio* (ed. Allen Weiss), among other places. His book *Ether* is forthcoming from the University of Minnesota Press. Other work has appeared in *Cabinet, Afterimage, Artbyte, Wide Angle*, and *Experimental Sound and Radio* (ed. Allen Weiss), among other places.

John Mix, a consultant to non-profit organizations in Manhattan, is an independent researcher with interests in technoscience, particularly aquaculture.

Charles Tonderai Mudede, originally from Zimbabwe, is the book editor for *The Stranger*, an alternative Seattle weekly. An adjunct professor at Pacific Lutheran University, Mudede is also a founding member of the Seattle Research Institute <www.seattleresearchinstitute.org>.

Anna Munster is a lecturer in Digital Media Theory in the School of Art History and Theory at the College of Fine Arts, University of New South Wales, Sydney, Australia. She is also a practising digital artist whose digital print work was recently part of the USA touring exhibition Digital2000 for ASCI. She has a website "wundernet" <http://wundernet.cofa.unsw.edu.au> on wonder, curiosity, the digital and baroque. She has written for *Culture Machiine, m/c, New Media and Society*, among others. She is a member of the editorial committee of the online journal for experimental new media and networked theory, *fibreculture journal*.

Robert Nirre is a pseudonym for a programmer living in San Francisco.

Samuel Nunn is Professor and Research Director of the Center for Urban Policy and the Environment, School of Public and Environmental Affairs, Indiana University-Purdue University, Indianapolis. His current research focuses on the effects of high technology and the impacts of law enforcement technology on urban life.

John Protevi is an Assistant Professor in the Department of French Studies at Louisiana State University. His latest book, co-authored with Mark Bonta, is *Deleuze and Geophilosophy: A Guide and Glossary.*

Lesego Rampolokeng: born 7-7-65,orlando west,soweto.johannesburg.south africa. studied law.write & perform full-time. solo & with all sorts of musicians. collaborate across the 'media-board' writer,poet,performer. 6 books of poetry & prose: *horns for hondo talking rain the bavino sermons end-beginnings blue v's the second chapter.* two cd's: *end-beginnings the HALF ranthology* have written playscripts & filmscripts.

Jeff Rice is the Director of Writing and Assistant Professor of English at the University of Detroit Mercy. He is the co-editor of *New Media/New Methods: The Turn from Literacy to Electracy* and is currently working on a book length project entitled, *The Rhetoric of Cool: Computers, Cultural Studies, and Composition*.

Nicholas Rombes is an associate professor of English at the University of Detroit Mercy, where he teaches courses in film, media theory, and American literature. He is co-founder of the degree program in Electronic Critique and co-edits the journal *Post Identity*. He is editing a book entitled *Post-Punk Cinema*.

Trebor Scholz is an East-Berlin-born, Brooklyn-based interdisciplinary artist. He exhibits, lectures and curates widely in Europe and the Americas. His work was included in the 2002 Sao Paolo Biennial. <http://www.molodiez.org>

Evan Selinger is an Assistant Professor of Philosophy at Rochester Institute of Technology. His latest book, co-edited with Don Ihde, is *Chasing Technoscience: Matrix for Materiality.*

Mahesh Senagala teaches architecture, design computing and design theory at the University of Texas at San Antonio. His research interests include cybernetics, systems theory, new media, sustainability and existentialism as they relate to architecture. He can be reached at <www.mahesh.org>.

Jaimie Smith-Windsor studies political science at the University of Victoria in Canada. Her academic studies are moderated by a passion for sailing, and an appreciation for the visual and written arts. Becoming a first-time mother to a special needs child provides her with a unique perspective on the relationship between contemporary technology and the maternal instinct that comes with motherhood.

Eugene Thacker is assistant progessor in the School of Literature, Communication and Culture at Georgia Institute of Technology. He is the author of *Biomedia* and the forthcoming *The Global Genome: Biotechnology, Politics and Culture.*

Jeremy Turner is a media artist, writer, composer and curator based in Vancouver. He is a Co-Founder of the 536 Media Collective in Vancouver. In addition, he is a Co-Producer of the very first Machinima Documentary, "AVATARA"—<www.armedrabble.org/avatara>. To date, he has conducted interviews and written articles about innovations in New Media for: *CTheory, Shift, Rhizome,* and *Eyebeam Gallery,* among others.

Janne Vanhanen is a researcher in the Institute for Art Research (University of Helsinki). As a scholar of aesthetics and media studies, his interests lie in the theoretical and practical junctures of contemporary philosophy, technology and art, especially in the domain of electronic music.

Phillip Vannini teaches Media and Popular Culture in the department of Sociology at the University of Victoria. His writings on music, popular culture, and theory have appeared in *Symbolic Interaction, Studies in Symbolic Interaction,* and the *Journal of Popular Culture* and have dealt with issues of co-optation, seduction, and standardization of taste.

Bo Vibe is a songwriter/musician (involved with the *Thekla, Kavai* and *Thrystero* projects) a kamikaze inline-skater with a Masters of Arts in Society, Science and Technology from the University of Oslo and the University of East London. Thesis: "A Tale of Two Machines?—An Actor Network Approach to the Napster Case." Currently dividing his time between Barcelona and Oslo. <www.vibe-music.com>.

Paul Virilio is a renowned urbanist, political theorist and critic of the art of technology. Virilio is best known for his 'war model' of the growth of the modern city and the evolution of human society. He is also the inventor of the term 'dromology' or the logic of speed. Identified with the phenomenology of Merleau-Ponty, the futurism of Marinetti and technoscientific writings of Einstein. Virilio is the author, among other books, of *Bunker Archeology* (1994 1975), *Speed & Politics: An Essay on Dromology* (1986 1977), *The Information Bomb* (2000 1998), *Strategie de la deception* (1999), Ground Zero (2002), Art and Fear (2003), Unknown Quantity (2003) and, most recently, Ville panique (2004). He is a member of the *CTheory* Editorial Board.

Mark Winokur writes on literature, film, popular culture, and digital culture. The author of *American Laughter: Immigrants, Ethnicity, and 1930s Hollywood Film Comedy*, he is currently writing a manuscript called "Technololgies of Race," on film FX, race, and ethnicity. He has received several academic awards, including grants from the NEH. Dr. Winokur is a member of the English faculty at University of Colorado, Boulder.

ACKNOWLEDGEMENTS

The Editors and publishers gratefully acknowledge the following for permission to reproduce copyright material:

"Black Secret Technology (The Whitey on the Moon Dub)" was originally published in the second volume of the South African print journal *Chimurenga*. It is published with the permission of its editors.

Portions of "Circuits, Death And Sacred Fiction: The City of Banaras" appeared in the paper "The Absurd Self and the Naked City: An Existential Revision of Sustainable Urbanism and the Case of Banaras," published in Katrina Deines and Kay Bea Jones, eds., *La Citta Nouva: Proceedings of the Association of Collegiate Schools of Architecture International Conference*, Rome, 1999.

L'Assemblée, by Louis-Philippe Demers (2001) is reproduced in "I Was Seduced By 48 Robots in a Metallic Arena" with the permission of the artist and with thanks to Peter Dimakos.

Three Studies of Lucien Freud, by Francis Bacon (1969) is reproduced in "Motion Perception in Movies and Painting: Towards a New Kinetic Art" with the permission of The Estate of Francis Bacon.

Hogarth, My Mum 1700-2000, by Graham Harwood (2000) is reproduced in "Digitality: Approximate Aesthetics" with the permission of the artist.