

UCLA

UCLA Electronic Theses and Dissertations

Title

Art on the Internet and the Digital Public Sphere, 1994 - 2003

Permalink

<https://escholarship.org/uc/item/5kf3x456>

Author

Driscoll, Megan Philipa

Publication Date

2018

Peer reviewed|Thesis/dissertation

UNIVERSITY OF CALIFORNIA

Los Angeles

Art on the Internet and the Digital Public Sphere, 1994 – 2003

A dissertation submitted in partial satisfaction of the requirements for the
degree Doctor of Philosophy in Art History

by

Megan Philpa Driscoll

2018

© Copyright by

Megan Philpa Driscoll

2018

ABSTRACT OF THE DISSERTATION

Art on the Internet and the Digital Public Sphere, 1994 – 2003

by

Megan Philipa Driscoll

Doctor of Philosophy in Art History

University of California, Los Angeles, 2018

Professor Miwon Kwon, Chair

This dissertation narrates the development of internet art, a diverse set of practices united by their interrogation of the technological, social, and/or political bases of computer networks. Covering the period from 1994, when “internet art” began to coalesce around the rise of the World Wide Web, to 2003, when both internet art and internet culture writ large began to respond to the rise of social media and “web 2.0” technologies, the dissertation homes in on a select number of net art projects that variously engaged or challenged this period’s most persistent claim: that the internet is a new, digital public sphere. By studying how these artworks critiqued this claim, the dissertation uncovers three major models through which net art has asserted the publicness of computer networks—as an interpersonal network that connects or unites strangers into groups; as a virtual space akin to physical spaces of public gathering, discourse, and visibility; and as a unique platform for public speech, a new mass media potentially accessible to all.

Claims for the public status of computer networks rest on their ability to circulate information and facilitate discussion and debate. This definition of publicness is rooted in the concept of the classical public sphere as theorized by Jürgen Habermas. The dissertation will thus review Habermas's model of the classical public sphere as well as its most significant critiques in order to interrogate the terms of a digital public sphere. The dissertation will also engage Michael Warner's work on the formation of publics, counterpublics, and the mass-cultural public sphere; Oskar Negt and Alexander Kluge's analysis of shared experience as the foundation of the formation of public spheres and the role of mass media in this process; Henri Lefebvre's articulation of the social production of space; and Gilles Deleuze and Alexander Galloway's respective analyses of the role of network logics in contemporary systems of control.

The dissertation begins with a chapter overview of the emergence of computer networking during the second half of the twentieth century and the different ways in which artists experimented with it to explore new modes of communication, collaboration, and exchange. With the appearance of the web in the mid-1990s, and with growing art institutional interest in its novelty, these experiments crystallized into what we now know as internet art, bringing with it challenging questions regarding the viability of the internet as an unprecedented digital public sphere.

The second chapter turns to this emergent field of net art and how some artists tried to define the terms of a new public sphere as an interpersonal network that allows people who are not in physical or temporal proximity with each other to form publics. The chapter explores Douglas Davis's *The World's First Collaborative Sentence* (1994) and Heath Bunting's *Project X* (1996), two works that use the strategy of accumulation to make visible the collective presence of internet users, either as a reading public formed through the circulation of discourse or as a

public united by the articulation of its members' shared experience. The third chapter introduces practices that challenge the presumed universality of the digital public sphere by foregrounding gender and race issues, which are often obscured in dominant discourses regarding computer networks. The chapter focuses on Cornelia Sollfrank's *Female Extension* (1997) and Mendi + Keith Obadike's *Black.Net.Art Actions* (2001 – 2003), demonstrating how these works help to define the counterpublics of the digital public sphere by circulating marginalized discourses on the web in opposition to the mainstream.

The fourth chapter examines the spatialization of computer networks and how the internet's communication platforms have become conceptually analogous to ancient forums or seventeenth-century coffee shops. Through analyses of Ben Rubin and Mark Hansen's *Listening Post* (2001) and Natalie Bookchin and Jacqueline Stevens's *agoraXchange* (2003), the chapter attends to both utopian and skeptical views regarding the viability of the internet as a (virtual) space of public gathering and discourse. Chapter five further interrogates the idea that the internet is a theater of visibility, where actions are public because they cannot be private. The first artwork in this chapter, RSG's *Carnivore* (2001), critically addresses computer networks as a surveillance technology and part of a system of social control. The second work, Eva and Franco Mattes's *Life Sharing* (2000 – 2003), explores what happens when internet users embrace this condition of (hyper)visibility, freely sharing not only their personal information but also their intellectual property, thereby eliding spatial and juridical notions of public domain.

The sixth chapter addresses the notion of computer networks as a new mass medium of public speech, a platform for publicity that is also a site of struggle to exert influence on the public sphere. Homing in on the work of net art collective ®™ark, the chapter follows how the collective uses parody to challenge institutions that seem complicit in the commercialization of

the network and the suppression of individuals' access to the network's platforms for public speech. In the seventh chapter, the dissertation turns to artists' responses to a legal challenge that threatened their speech rights on the network, a set of actions known today as *Toywar* (1999 – 2000). The chapter also contends with how etoy, a collective of artists involved in the litigation, took up corporate branding as artistic practice to reframe internet communication platforms as tools of mass publicity in a mass-cultural public sphere.

The final chapter concludes with a reflection on the changes in the forms of net art and its place in the field of contemporary art that followed the first phase of net art, the central focus of the dissertation. While acknowledging the transformation of the online environment brought on by social media and other “web 2.0” technologies, the chapter argues that the question of whether computer networks can function as a digital public sphere remains an open and contested one. The dissertation as a whole thus provides an historical account and critical analysis of internet art that encompasses not only its technological evolution but also its confrontation with the claims of publicness upon which our understanding of computer networks, and the art made on and about them, are founded.

The dissertation of Megan Philipa Driscoll is approved.

Steven D. Nelson

Dell Upton

Peter B Lunenfeld

Miwon Kwon, Committee Chair

University of California, Los Angeles

2018

TABLE OF CONTENTS

LIST OF FIGURES	viii
ACKNOWLEDGEMENTS	xii
CURRICULUM VITAE	xvi
INTRODUCTION	1
CHAPTER ONE: From Bulletin Boards to the World Wide Web	41
CHAPTER TWO: Imagining a New Public on the Network.....	66
CHAPTER THREE: Counterpublics of the Digital Public Sphere.....	97
CHAPTER FOUR: Virtual Public Spaces	128
CHAPTER FIVE: In the Theater of Visibility	153
CHAPTER SIX: Defining a New Platform for Publicity	180
CHAPTER SEVEN: A Digital Speech (Toy) War.....	204
CHAPTER EIGHT: New Net Aesthetics and the Digital Public Sphere	231
APPENDIX I: Links	259
APPENDIX II: Timeline.....	265
FIGURES	293
SELECT BIBLIOGRAPHY.....	337

LIST OF FIGURES

	Page:
Figure 1.1 ARPA Network, Logical Map, May 1973.....	293
Figure 1.2 Mobile Image, <i>Electronic Café</i> installation plan for each workstation with network connections, Los Angeles, 1984	294
Figure 1.3 Mobile Image, <i>Electronic Café</i> locations flyer, Los Angeles, 1984.....	295
Figure 1.4 Judith Baca at <i>Electronic Café</i> Gunter's location using Telewriter and teleconferencing systems, Los Angeles, 1984.....	296
Figure 1.5 THE THING New York login screen, ca. 1992	296
Figure 1.6 Peter Halley, <i>Superdream Mutation</i> , online print edition, THE THING, 1993	297
Figure 1.7 Community Memory, insert in Resource One Newsletter No.2, April 1974, p.4b ...	297
Figure 1.8 Map of percentage of population using the internet by country, 1996	298
Figure 2.1 Douglas Davis, <i>The World's First Collaborative Sentence</i> (1994), historic version page 18	299
Figure 2.2 Douglas Davis, <i>The World's First Collaborative Sentence</i> (1994), historic version page 20	299
Figure 2.3 Douglas Davis, <i>The World's First Collaborative Sentence</i> (1994), historic version page 7	300
Figure 2.4 Douglas Davis, <i>The World's First Collaborative Sentence</i> (1994), historic version introductory page	300
Figure 2.5 Douglas Davis <i>The World's First Collaborative Sentence</i> (1994), historic version page 1 (top).....	301
Figure 2.6 Douglas Davis, <i>The World's First Collaborative Sentence</i> (1994), historic version page 1 (middle).....	301
Figure 2.7 Heath Bunting, <i>Project X</i> (1996), home page.....	302
Figure 2.8 Heath Bunting, <i>Project X</i> (1996), results page	302
Figure 2.9 Heath Bunting, <i>Project X</i> (1996), photograph of URL written on the Charing Cross underground station in London, 2006.....	303
Figure 3.1 VNS Matrix, billboard based on <i>A Cyberfeminist Manifesto for the 21st Century</i> (1991), Tin Sheds Gallery, Sydney, Australia, 1992	304

Figure 3.2 Cornelia Sollfrank, <i>Female Extension</i> (1997), screenshot of sample submission.....	305
Figure 3.3 Cornelia Sollfrank, <i>Female Extension</i> (1997), screenshot of sample submission.....	305
Figure 3.4 Mendi + Keith Obadike, <i>Blackness for Sale</i> (2001), archived listing.....	306
Figure 3.5 Mendi + Keith Obadike, <i>The Interaction of Coloreds</i> (2002), splash page	306
Figure 3.6 Mendi + Keith Obadike, <i>The Interaction of Coloreds</i> (2002), home page	307
Figure 3.7 Mendi + Keith Obadike, <i>The Interaction of Coloreds</i> (2002), partial screenshot of IOC Color Check System® page (top)	307
Figure 3.8 Mendi + Keith Obadike, <i>The Interaction of Coloreds</i> (2002), partial screenshot of IOC Color Check System® page (Hyper-Race® Analysis sample)	308
Figure 3.9 Mendi + Keith Obadike, <i>The Interaction of Coloreds</i> (2002), partial screenshot of IOC Color Check System® application (example questions).....	308
Figure 3.10 Mendi + Keith Obadike, <i>The Pink of Stealth</i> (2003), screenshot of splash page and pop-up	309
Figure 3.11 Mendi + Keith Obadike, <i>The Pink of Stealth</i> (2003), screenshot of Hypertext Variation 1: CC6666.....	309
Figure 3.12 Mendi + Keith Obadike, <i>The Pink of Stealth</i> (2003), screenshot of game demo	310
Figure 3.13 Mendi + Keith Obadike, <i>The Pink of Stealth</i> (2003), screenshots of Hypertext Variation 2: FFCCCC and Hypertext Variation 4: FF9999	310
Figure 4.1 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at the Brooklyn Academy of Music, 2001	311
Figure 4.2 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at the Whitney Museum, 2002 – 2003.....	311
Figure 4.3 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), diagram.....	312
Figure 4.4 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), preparatory installation in studio	313
Figure 4.5 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at the Brooklyn Academy of Music, 2001	314
Figure 4.6 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at On the Boards Theater, 2002.....	314
Figure 4.7 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at the Whitney Museum, 2002 – 2003.....	315

Figure 4.8 Ben Rubin and Mark Hansen, <i>Listening Post</i> (2001), installed at the Brooklyn Academy of Music, 2001	315
Figure 4.9 Natalie Bookchin and Jacqueline Stevens, <i>agoraXchange</i> phase I (2003), screenshot of website home page.....	316
Figure 4.10 Jacqueline Stevens, <i>agoraXchange</i> phase I (2003), design sketch.....	316
Figure 4.11 Natalie Bookchin and Jacqueline Stevens, <i>agoraXchange</i> phase I (2003), screenshot of “Player and State Representation,” game design room forums.....	317
Figure 4.12 Natalie Bookchin and Jacqueline Stevens, <i>agoraXchange</i> phase I (2003), screenshot of “agoraXchange on politics and world news,” related forums.....	317
Figure 4.13 Natalie Bookchin and Jacqueline Stevens, <i>agoraXchange</i> phase I (2003), screenshot of “Theater: Saga of Nations” visual essay, sample slide.....	318
Figure 4.14 Jacqueline Stevens, <i>agoraXchange</i> phase II (2008), screenshot of home page	318
Figure 5.1 RSG, <i>Carnivore</i> (2001), logo	319
Figure 5.2 RSG, <i>Carnivore</i> (2001), sample code	319
Figure 5.3 Joshua Davis, Branden Hall, and Shapeshifter, <i>amalgamatmosphere</i> (2001), screenshot	320
Figure 5.4 Limiteazero, <i>Active Metaphor</i> (2002), screenshot.....	320
Figure 5.5 Jonah Brucker-Cohen, <i>Police State</i> (2003), screenshot	321
Figure 5.6 Eva and Franco Mattes (0100101110101101.org), <i>Life Sharing</i> (2000 – 2003), screenshot of visitor landing screen as viewed through website.....	321
Figure 5.7 Eva and Franco Mattes (0100101110101101.org), photograph of <i>Life Sharing</i> (2001 – 2003) server.....	322
Figure 5.8 Eva and Franco Mattes (0100101110101101.org), <i>Life Sharing</i> (2000 – 2003), screenshot of artist emails as viewed through website	322
Figure 5.9 Photograph of Eva Mattes wearing GPS transmitter for Eva and Franco Mattes (0100101110101101.org)’s performance of <i>Vopos</i> at Manifesta 4 in Frankfurt, 2002.....	323
Figure 5.10 Eva and Franco Mattes (0100101110101101.org), <i>Life Sharing</i> (2000 – 2003), screenshot of computer’s file structure as viewed through website	324
Figure 5.11 Eva and Franco Mattes (0100101110101101.org), <i>Life Sharing</i> (2000 – 2003), screenshot of in-process artworks as viewed through website.....	324
Figure 6.1 ®™Mark, GATT.org (1999), screenshot	325

Figure 6.2 World Trade Organization, WTO.org screenshot.....	325
Figure 6.3 ®™Mark, GWBush.com (1999), screenshot.....	326
Figure 6.4 ®™Mark, YesRudy.com (1999), screenshot.....	326
Figure 6.5 ®™Mark, Monsanto.com (1999), screenshot.....	327
Figure 6.6 ®™Mark, Microsoftedu.com (1999), screen shot.....	327
Figure 6.7 ®™Mark, December, 1999 press release.....	328
Figure 7.1 etoy, <i>etoy.TANKSYSTEM</i> (1996), screenshot.....	329
Figure 7.2 etoy, <i>etoy.SHARES</i> (1998), screenshot.....	329
Figure 7.3 etoy, <i>etoy.SHARES</i> (1999), etoy artists version.....	330
Figure 7.4 etoy, <i>Toywar</i> timeline, screenshot.....	330
Figure 7.5 etoy, Toywar Platform login screens, screenshot.....	331
Figure 8.1 Hasan Elahi, <i>Tracking Transience</i> (2002), screenshot.....	332
Figure 8.2 Natalie Bookchin, <i>Testament</i> (2009), installed at <i>The Sum of Myself</i> , Los Angeles County Museum of Art, 2009.....	332
Figure 8.3 Ed Fornieles and collaborators, <i>Dorm Daze</i> (2011), screenshot.....	333
Figure 8.4 Ryan Trecartin and collaborators, <i>riverthe.net</i> (2010), screenshot.....	333
Figure 8.5 Martine Syms, <i>Black Culture in America</i> (2013), screenshot of website home page.....	334
Figure 8.6 Sondra Perry, <i>It's in the Game</i> (2017), screenshot of video demo.....	334
Figure 8.7 Petra Cortright, <i>cats spirt spsit spit</i> (2008), screenshot of video still.....	335
Figure 8.8 Silvia Bianchi, <i>Culo</i> (2017), screenshot of video still.....	335
Figure 8.9 The Yes Men, “ <i>Anger Marketing</i> ” at <i>Roskilde</i> (2016), sample sign.....	336
Figure 8.10 Dark Inquiry, <i>Bail Bloc</i> (2017), screenshot of project home page.....	336

ACKNOWLEDGEMENTS

I owe an enormous debt of gratitude to Miwon Kwon, whose own work has offered a critical guidepost in my studies of contemporary art and whose pedagogy shaped my graduate career from the beginning. When she agreed to undertake this journey with me, Dr. Kwon had not previously advised my research. Nevertheless, she has been a patient mentor and intellectual guide since the day I showed up to a meeting armed with little more than enthusiasm and an idea. I am also immensely grateful for Steven Nelson's ongoing support of this project, as well as the intellectual and professional guidance that he has offered throughout my graduate career, helping me broaden my research interests and develop as a writer, researcher, and educator.

Neither the theoretical nor historical foundations of this dissertation could have been articulated without Dell Upton's insights into the histories of publicness and Peter Lunenfeld's perspective as both participant and observer during many of the events that shaped its narratives. Miriam Posner's mentorship in the digital humanities has also been crucial, helping me build both the analytical framework and unique set of skills required to study internet-based art practices. And support for the dissertation has come from a Dissertation Year Fellowship from UCLA Graduate Division and grants from the UCLA Department of Art History.

Throughout the research and writing process, this project has been guided by the generosity of many people whose own creative, critical, and curatorial efforts helped to shape the practices found herein, including the many artists who opened up their work to me. To Kit Galloway: thank you for the hours spent rummaging through boxes and telling stories among the flora and fauna of the ranch. To Alexander Galloway: thank you for taking the time to not only dig up the histories and archival remains of your own work, but also offer me critical feedback

on the framework of the dissertation. To Eva and Franco Mattes: thank you for the hours spent reminiscing in your studio and combing through your files, and your ongoing enthusiasm for this project as it has emerged. To Igor Vamos: thank you for opening up your personal collections and digital archives (and Keil Troisi, thank you for your help making sense of it all), for sharing your rare quiet hours to help me untangle these stories, and, of course, for your music. To Mendi + Keith Obadike: thank you for your thoughtful reflections and taking the time with me to delve back into old practices, histories, and—perhaps requiring the most patience—old project files. To Natalie Bookchin: thank you for not only guiding me through your own work, but also helping me get a better grasp on the many key points in these histories that your practice has shaped. To Ben Rubin and Mark Hansen: thank you for hours spent in meetings and emails helping me piece together the complexities of your project. To Jacqueline Stevens: thank you for revisiting an old project, unearthing old sketchbooks, and filling in missing pieces. To Cornelia Sollfrank: although we were continents apart, thank you for taking the time to speak with me at length in order to build a rich picture of your work and its contexts. To Heath Bunting, who was, likewise, too far for me to meet: thank you for those many calls and emails, and for tracking down crucial archival bits of photography and code.

I also could neither have pieced together these histories nor fully understood their significance without hours spent in conversation and correspondence with the following interlocutors: Josephine Bosma, Christiane Paul, Eric Kluitenberg, Jon Ippolito, Vuk Ćosić, Wolfgang Staehle, Geert Lovink, Florian Cramer, Honor Harger, Hans Bernhard, Alexei Shulgin, Manuela Naveau, Gerfried Stocker, GH Hovagimyan, Auriea Harvey, Benjamin Weil, Rudolf Frieling, Marleen Stikker, Remo Campopiano, Steve Dietz, Tilman Baumgärtel, Mark Napier, Muntadas, Timothy Druckrey, Lynne Cooke, Sara Tucker, Kelly Kivland, Jemima

Rellie, and Sandy Nairne. And a heartfelt thank you for the patience and care of the staff at the following institutions and archives: Rhizome, the Walker Art Center, the Whitney Museum, ZKM, Ars Electronica, documenta, the V2_ Institute for Unstable Media, the DDS archive at the Amsterdam Museum, and the Next 5 Minutes archive at the International Institute of Social History.

Of course, this project could never have been conceived without the intellectual guidance of many mentors over the years. I will always be grateful to James van Dyke, William Diebold, and Ömür Harmanşah for introducing me to art historical inquiry and supporting my earliest endeavors. Meredith Cohen and Saloni Mathur—thank you both for your scholarly guidance and professional advice in navigating my graduate studies. And to George Baker, who helped launch my graduate research, thank you for your support in my development toward becoming an art historian. I am also indebted to the many hours of conversation, reflection, and insight offered by my colleagues Tracy Bonfitto, Nico Machida, Joanna Fiduccia, Tenley Bick, Jamin An, Sophia Powers, Carlos Rivas, Zach Rottman, Lauren Taylor, Andrea Gyrody, and Megan Metcalf.

Finally, I would like to acknowledge the remarkable extended family that has surrounded and supported me over the years, and whose shared love for art and adventure sent me down this path. To my father, Scott Driscoll, who taught me how to be a writer; my mother, Jill Allison, who encourages me to pursue the things that bring me joy; my stepmother, Daiga Galins, who can always make me laugh; my brother, Dain Driscoll, who gives me hope for the future; my aunt, Sandra Driscoll, whose determination and achievements inspire me to always try harder; and my aunt, Sandra Be-Taylor, who passed on her passion for the beautiful things in this world. I am also grateful for the patience, wisdom, and spirit-restoring breaks offered throughout this process from Barbara Keyfitz and Martin Golubitsky, as well as the wonderful camaraderie of

Elizabeth Golubitsky. And to my husband, Alex Golubitsky: where would I be without your tireless cheerleading, willingness to roam all over the world, and unshakeable confidence in my ability to persevere? Your humor and patient care helped me keep this project moving forward through even the most challenging obstacles. Thank you.

CURRICULUM VITAE

EDUCATION

PhD University of California, Los Angeles, Art History, expected June 2018
Dissertation: “Art on the Internet and the Digital Public Sphere, 1994 – 2003”
Certificates: Digital Humanities

MA University of California, Los Angeles, Art History, June 2013
Thesis: “The Desiring Photograph: Mark Morrisroe’s Bodily Self-Portraits”

BA Reed College, Art History, May 2006

PUBLICATIONS

“‘And there was violent relaxation.’ Art’s Ambivalence Toward the Age of the Internet,” in *VoCA Journal*, March 28, 2018, <http://journal.voca.network/and-there-was-violent-relaxation/>.

“Color Coded: Mendi + Keith Obadike’s Black.Net.Art Actions and the Language of Computer Networks.” *The Black Scholar* 47, no. 3 (July 3, 2017): 56–67.

“Online and Off: Interpersonal Networks and the Development of Internet Art.” *Shift: Graduate Journal of Visual and Material Culture*, no. 9: Networks (November 2016).
<http://shiftjournal.org/networks/online-and-off/>. Essay with digital timeline and map.

Review of *SoulStirrers: Black Art and the Neo-Ancestral Impulse* by H. Ike Okafor-Newsum (Horace Newsum). *caa.reviews* (September 28, 2017), doi: 10.3202/caa.reviews.2017.139,
<http://www.caareviews.org/reviews/2939>

Review of *Pictures and Progress: Early Photography and the Making of African American Identity* by Maurice O. Wallace and Shawn Michelle Smith, eds. *caa.reviews* (March 17, 2016), doi: 10.3202/caa.reviews.2016.33, <http://www.caareviews.org/reviews/2551>

“Minimalism, Conceptual Art, and the Social Body: Adrian Piper, 1965–75: John P. Bowles. Adrian Piper: Race, Gender, and Embodiment. Durham, NC: Duke University Press, 2011. 352 pp., 17 color ills., 52 b/w. \$25.95.” *Art Journal* 73, no. 3 (2014): 78-80.

AWARDS & FELLOWSHIPS

University of California, Los Angeles
Graduate Division Dissertation Year Fellowship, 2017-18

ARLIS/NA and Sotheby’s Institute of Art
Digital Art History Research Award, 2016

University of California, Los Angeles
Graduate Summer Research Mentorship, 2013

University of California, Los Angeles
Edward A. Dickson History of Art Fellowship, 2011–12, 2015–16

PRESENTATIONS

Northwestern University
Performance Studies Graduate Conference, April, 2018.

University of California, Los Angeles
Art History Graduate Symposium, October, 2017.

University of Illinois at Chicago
Art History Graduate Symposium, April, 2017.

College Art Association
Art History Professional Conference, February, 2017.

UCLA Center for the Study of Women
Gender Studies Graduate Conference, February, 2014.

PRACTICA: MUSEUMS

Hammer Museum, Los Angeles, California
Graduate Student Digital Researcher, March–June, 2014

Los Angeles County Museum of Art, Los Angeles, California
Graduate Student Curatorial Researcher, June–September, 2012

PRACTICA: TEACHING

University of California, Los Angeles, Department of Art History, 2012–2015

Teaching Associate, upper division.
Courses: *Contemporary Arts of Africa, Dada, Surrealism*

Teaching Associate, lower division.
Courses: *Introduction to the Arts of Africa, Introduction to Pre-Columbian Art (Ancient Art of the Americas), Modern Art, Ancient Art, Architecture of the Modern World*

PRACTICA: SERVICE

Sevenminusseven Alternative Arts Alliance, St. Thomas, USVI
Member, Board of Directors from March, 2016–December, 2016

UCLA Department of Art History, Los Angeles, California
Member, AHGSA Executive Committee from September, 2014–June, 2015

UCLA Department of Art History, Los Angeles, California
Member, Symposium Committee from January–October, 2012

INTRODUCTION

During the 1950s, the invention of the modem allowed two mainframe computers to communicate directly, if somewhat unreliably, for the first time, and rudimentary computer networks were born. The basic technical protocols that still structure communication across the internet today were designed soon after, and a slowly growing number of researchers, artists, and amateur enthusiasts spent the following several decades building internet infrastructure and exploring the effects of computing on long distance communication. However, it was not until the World Wide Web appeared in the 1990s that the number of people using the internet started to rapidly accelerate.¹ The World Wide Web, known today simply as the web, introduced a new set of technical protocols that simplified connecting to the network, reduced the cost of sharing data, and provided a more visual and intuitive way to navigate interfaces for browsing the internet.² With the web as an access point, the internet became (relatively) inexpensive and easy to use, and when the first widely distributed web browser was released in late 1994, droves of people started going online anywhere there was network infrastructure.³ At the same time, this

¹ By the early 1990s, services like America Online (AOL) were already making it easier for people to connect to the internet than it had been in the early years of computer networking. The growth in the number of people going online thus actually started before the World Wide Web. However, it was the web that initiated the dramatic increase in the mid-1990s that marked the first major phase of widespread internet use. For example, in the United States the percentage of the population using the internet went from 2% to 16% between 1993 (just before the first commercial web browser was introduced) and 1996 (two years after). International Telecommunication Union, “Individuals Using the Internet (% of Population),” The World Bank, accessed December 12, 2017, https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=1996&name_desc=false&start=1993&view=chart&year=1996.

² The World Wide Web is the phrase that inventor Tim Berners-Lee used to describe what is known today as the web, that layer of the internet that users are looking at when they visit a website or click a hyperlink. The structure and importance of the web will be discussed in more detail in chapter one, but for now it is important to understand that the web is not synonymous with the internet, and that it introduced significant changes in internet usability and access that sparked the massive growth in internet use—and internet art—in the mid-1990s.

³ It is important to acknowledge that geographical imbalances in the development of internet infrastructure, which tended to follow historical wealth disparities, created imbalances in the growth of internet access that persist today—

rise in internet accessibility triggered a significant increase in new artistic production. A flood of network-focused practices began to appear, operating in and around the edges of the many practices through which artists were already exploring computing and telecommunications, and leading to a proliferation of categories that have since been mostly folded into “new media art.” Web art, software art, digital art, electronic art, virtual art, computer art, cyber art, telematics art, database art, and tactical media are some of the current subcategories, and the boundaries between these categories tend to be slippery and contested. For the purposes of this dissertation, I will focus on artistic practices that specifically interrogate the technological, social, and/or political bases of computer networks, identified as internet art, or net art.

The surge of internet-based art in the 1990s quickly caught the attention of arts institutions. In 1995 alone, the Dia Center began commissioning artists to create internet-based projects, a networked sculpture appeared at the Venice Biennale, a browser-based artwork was included in the first Gwangju Biennale, Ars Electronica featured the “Wired World” in their annual arts and technology festival, and the burgeoning relationship between contemporary art and the web graced the cover of *Art in America*.⁴ By the early 2000s, internet art had appeared in

according to the World Bank, only about 45% of the world’s population was able to use the internet in 2016. International Telecommunication Union, “Individuals Using the Internet (% of Population),” World Bank World Telecommunication/ICT Development Report and database, accessed February 19, 2018, <https://data.worldbank.org/indicator/IT.NET.USER.ZS>. The uneven growth of internet access and its effects on internet-based art is covered in more detail in chapter one.

⁴ The Dia Center’s internet art commissions can be viewed at Dia Art Foundation, “Artist Web Projects,” accessed January 18, 2018, <https://www.diaart.org/program/exhibitions-projects/type/web-project>. Information on the networked sculpture at the 1995 Venice Biennial is available at ZKM, “Richard Kriesche: Telematische Skulptur 4 (1995),” Media Art Net, accessed December 10, 2017, <http://www.medienkunstnetz.de/works/telematische-skulptur-4/>. The browser-based artwork that appeared in the 1995 Gwangju Biennial is Douglas Davis’s *The World’s First Collaborative Sentence* (1994), which is discussed in detail in chapter two. More information on the 1995 Gwangju Biennial is available at Gwangju Biennale, “History of the Gwangju Biennale,” accessed December 22, 2017, <https://www.gwangjubienale.org/www/vieweng/bienale/intro.asp>. The archival website for Ars Electronica’s 1995 festival, “Welcome to the Wired World,” can be visited at Ars Electronica Linz, “Welcome to the Wired World (Mythos Information),” Archive – Ars Electronica Festival, 1995,

symposia, festivals, exhibitions, and even collections at major institutions worldwide, including the Museum of Modern Art, documenta, the Walker Art Center, the Guggenheim Museum, the Karlsruhe Center for Art and Media (ZKM), the Museum of Contemporary Art, Los Angeles, the Whitney Museum (and its biennial), the Tate Museum, the San Francisco Museum of Modern Art, and the New Museum.⁵ Meanwhile, smaller galleries like Postmasters and Franklin Furnace in New York City began presenting net art, and Rhizome, which started as a net art email list and database, linked up with the New Museum to bring further attention and exhibition support to the use of computer networks in contemporary art.⁶

However, in spite of the growing interest of museum and galleries in the internet, the relationship between net art and art institutions was often uneasy in these early years. In part, this was because internet-based projects were typically difficult to exhibit. Network connections were slow and unreliable, and few institutions had in-house teams that could troubleshoot when technology failed.⁷ Museums also struggled to find strategies to display net art that did not center around a bank of computer terminals and chairs. Attempts to replicate the atmosphere of browsing the internet at home or in a café often ended up feeling more like sitting in an office,

http://90.146.8.18/en/archives/festival_archive/festival_overview.asp?iPresentationYearFrom=1995. And the December, 1995 issue of *Art in America* with the “Art On Line” cover feature is volume 83, number 12.

⁵ More information on these institutions’ many internet art exhibitions and commissions is available in appendix II.

⁶ Rhizome started in the mid-1990s and is still very active today as an organization that supports the exhibition, commissioning, preservation, and circulation of many forms of digital art, including net art. In October, 2016, Rhizome launched the Net Art Anthology, a two year project looking back at (and, where possible, restoring) major internet-based artworks from the 1980s through today: Rhizome, Net Art Anthology, October 27, 2016, <http://anthology.rhizome.org/>. Wherever possible, the dissertation includes links to relevant Anthology entries, but at the time of this writing the full Anthology has not yet been published.

⁷ These issues came up repeatedly in interviews with curators working with internet-based art during the 1990s, whether they were at art and tech organizations like Ars Electronica or contemporary art museums like the Whitney.

and were not always well received by museum visitors.⁸ Some net artists were skeptical about showing their work in museums and galleries at all. Many who were focusing primarily on computer networks in the 1990s and early 2000s had first been attracted to the internet because it so easily facilitated the circulation of art outside of galleries and museums, and they expressed frustration with the museum's tendency to decontextualize net art from the network.⁹ In spite of these complexities, there were a few curators who still consistently advocated for internet art, helping to nurture the integration of computer networks into contemporary art writ large.¹⁰ Today, digital art and art on the internet have become staples of art practice.¹¹ Yet the field remains amorphous and under-theorized in art history, leaving gaps in our understanding of its significance in narratives of contemporary art.

⁸ Curator Rudolf Frieling has described the “lounge model” of banks of computers and chairs that characterized many 1990s net art exhibitions as closer to an “office aesthetic,” recalling the difficulty institutions had convincing visitors to sit down and linger over terminals in a gallery the way they might browse and explore on a computer in their homes. Rudolf Frieling, interview by author, July 12, 2016.

⁹ See, for example, net artists' many concerns with the way internet art was integrated into documenta x (1997), an incident that art historian Josephine Bosma covers in Josephine Bosma, “Net.Art: From Non-Movement to Anti-History,” in *Nettitudes: Let's Talk Net Art* (Rotterdam; Amsterdam; New York: Nai Publishers ; Institute of Network Cultures ; D.A.P./Distributed Art Publishers [distributor in] North, South, and Central America, 2011), 151–54.

¹⁰ Christiane Paul and Jon Ippolito are two curators who have long supported the preservation and distribution of net art, facilitating its circulation in mainstream arts organizations with programs like the Whitney Museum's Artport and the Guggenheim Museum's Variable Media Initiative. For more information on these projects, see the conclusion and appendix II.

¹¹ Digital and internet-based art has seen a major renewal of interest from museums and galleries in recent years, including *Electronic Superhighway (2016-1966)* at London's Whitechapel Gallery in 2016, as well as *Art in the Age of the Internet, 1989 to Today* at the Boston Institute of Contemporary Art and *I Was Raised on the Internet* at the Museum of Contemporary Art Chicago, both in 2018. Critical reviews of the relationship between art and the internet have also started to appear recently, including *You Are Here: Art After the Internet*, edited by Omar Kholeif and first published in 2014, and *Mass Effect: Art and the Internet in the Twenty-First Century*, edited by Lauren Cornell and Ed Halter and first published in 2015. And since the early 2000s, there has been a steadily growing number of survey texts that include internet-based art, such as Cat Hope and John Charles Ryan's *Digital Arts: An Introduction to New Media* (2014), Christiane Paul's *Digital Art* (third edition 2015), and Rachel Greene's *Internet Art* (2004), the latter of which are both part of the Thames & Hudson World of Art series, as well as the fairly seamless integration of internet-related works into recent art history textbooks like Jean Robertson and Craig McDaniel's *Themes of Contemporary Art: Visual Art After 1980* (fourth edition 2016).

This dissertation addresses one of those gaps by confronting the most urgent claim that accompanied the rise of net art: that the internet is a digital public sphere, and that all art online is therefore public art. As far back as the 1970s, some of the first civilian users of connected computer terminals were imagining the development of a far-reaching network whose information sharing capabilities would give citizens a new “communal retrieve of truth.”¹² In the same period, artist Nam June Paik proposed his vision for an “electronic super highway,” a video-capable network that would revolutionize not only communications but also cultural practice, becoming a “springboard for new and surprising human endeavors.”¹³ As the internet and its user base grew, this excitement over the unprecedented reach of information and images on the network began to give rise to the idea that a new, radically democratic “universal society” was forming online.¹⁴ Stewart Brand, co-founder of the popular social platform The WELL BBS, celebrated the new “electronic frontier...where self-reliance leads, resilience follows, and where generosity leads, prosperity follows.”¹⁵ John Perry Barlow, co-founder of the Electronic Frontier Foundation (EFF), described the online environment as a “global social space” that transcended geopolitical borders, had its own social contracts, and was dedicated to the exchange of ideas and

¹² Community Memory, “Community Memory Inset in Resource One Newsletter Number 2,” April 1974, Mark Szpakowski Online Community Memory Archive, <http://www.well.com/~szpak/cm/>. The inset is broken into several image files on this page; the cited comments are listed under pp4b. The organizers of the Community Memory project, discussed in more detail in chapter one, were one of the first groups of people to make connected computer terminals available to individuals outside of an institutional context.

¹³ Nam June Paik, “Media Planning for the Postindustrial Society: The 21st Century Is Now Only 26 Years Away (1974),” republished in Media Art Net, accessed November 5, 2017, <http://www.medienkunstnetz.de/source-text/33/>.

¹⁴ Jon Katz, “The Age of Paine,” *WIRED*, May 1, 1995, <https://www.wired.com/1995/05/paine/>.

¹⁵ Stewart Brand, “We Owe It All to the Hippies,” *Time*, March 1, 1995, <http://content.time.com/time/magazine/article/0,9171,982602,00.html>.

beliefs, an independent civil society for the digital age.¹⁶ And for many artists, making art in this new digital society meant participating in “direct democracy” and contributing to the formation of a growing “political community.”¹⁷

What all of these visions share is the idea that internet users gain a collective power by exchanging ideas across the network. This association between communication systems and political efficacy emerged out of Jürgen Habermas’s history of the formation of the public sphere in early modern Europe, which was also precipitated by changes in the means of circulation of information. Habermas describes the “explosive power” that the press developed during the mercantilist phase of capitalism as traders began carrying printed news reports with them. As the news became a commodity, journals broadened the information they covered in order to address (and sell to) their growing audience, the general reading public of the news. Tracking this transition, Habermas reveals one of the key characteristics of public speech: it must have an indefinite addressee, an open-ended and unknowable potential group of readers (or listeners). This new public orientation made the press immensely powerful because it became the most expedient route through which governmental authorities could disseminate information and issue official decrees, a type of speech intended to both inform and influence the public that Habermas

¹⁶ John Perry Barlow, “A Declaration of the Independence of Cyberspace,” Electronic Frontier Foundation, February 8, 1996, <https://www.eff.org/cyberspace-independence>. Founded in 1990 and still very active today, the EFF is a nonprofit organization that advocates for civil liberties in the context of digital and internet-based systems.

¹⁷ Artist and THE THING BBS founder Wolfgang Staehle in Dieter Daniels, “The Art of Communication: From Mail Art to the E-Mail,” Media Art Net, September 1994, <http://www.medienkunstnetz.de/source-text/73/>. THE THING BBS was an online communication platform that was very influential in attempts to define an internet-based artistic practice in the early 1990s; more of its history is covered in chapter one.

calls “publicity.” A new public sphere thereby began to form out of the circulation of information among private citizens, and between those citizens and the state.¹⁸

Over time, authorities began to enforce the use of the press to serve their administrative interests, which affected the nature of the public being addressed. Although this publicity was, in theory, aimed at all of the government’s subjects, including the “common man”—as noted, it could not otherwise be properly said to be public address—its audience was in practice those educated members of civil society’s rising bourgeois class who were able to access and read the news. This class defined itself in tension with what Habermas calls the “*publicum*,” an abstraction associated with public authority, because it articulated its own interests in opposition to governmental interference. Thus insofar as the bourgeois class was the reading public of the news, it became a critical reading public because that news was its source of information from and about the state. Its members would come together in social gathering spaces, like coffee houses, to engage in what Habermas describes as rational critical debate, discussing the issues of the day and forming a collective public opinion that could be represented back to the state. The critical judgments of this public eventually also became a matter of debate within the press, and so, with the press functioning as intermediary between the state and its citizenry, the public sphere of civil society was born.¹⁹

The public sphere as Habermas describes it is a domain in which the flow of information between published texts and interpersonal discussions allows members of the public to exert their collective will. Claims that the internet is a digital public sphere therefore rest not only on

¹⁸ Jürgen Habermas, *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society* (Cambridge, Mass.: MIT Press, 1989), 20–21.

¹⁹ Habermas, 19–25.

the network's circulation of information, but also on the platforms it offers for public discourse and debate, the internet's "bulletin boards, conferencing systems, mailing structures, and Web sites [that] are crammed with political organizations, academics, and ordinary citizens posting messages, raising questions, sharing information, offering arguments, changing minds."²⁰ In other words, the concept of a digital public sphere emerges from the idea that people are using the many communication platforms of computer networks to debate the significant political and cultural issues of the day.²¹ In so doing, they become active participants in Barlow's "global social space," part of the public of a digital civil society. These communication platforms became critical for many artists as well, who viewed them not only as venues for sharing images and facilitating collaborations, but also as sites of an internet-specific practice that occurred in and across the network.²²

However, critics have argued that the proliferation of online communication platforms actually prevents the formation of a digital equivalent to Habermas's classical public sphere. In a recent interview, Habermas himself observed that rather than facilitating the concentration of many debates into a single, unified public opinion, which was what gave members of the public political power in the classical public sphere, "on the contrary, the web actually distracts and dispels."²³ Even in the early years of the web, media scholar Mark Poster found that the internet

²⁰ Katz, "The Age of Paine."

²¹ Habermas describes the process of argumentation and debate that shapes the public sphere as "people's public use of their reason." Habermas, *The structural transformation of the public sphere*, 27.

²² For example, the question of what constitutes an internet-specific practice and how that relates to the political function of computer networks was hotly debated on THE THING BBS, an arts-oriented online communication platform. A selective archive can be found at THE THING BBS, "Art," THE THING Archive, 1994, <http://old.thing.net/html/art94.html>.

²³ Jürgen Habermas, Internet and Public Sphere: What the Web Can't Do, interview by Markus Schwering, July 24, 2014, <http://www.resetdoc.org/story/internet-and-public-sphere-what-the-web-cant-do/>.

was incapable of producing the kind of collective public opinion that defined the classical public sphere. He argued that the mobility of identities online and the ease with which individuals can move between the network's many communication platforms produces an almost endless multiplication of viewpoints rather than a movement toward consensus, or what could be called collective or public opinion, a problem exacerbated by lack of face-to-face interaction.²⁴

Philosopher James Bohman, however, has argued against this tendency to prioritize face-to-face communication over mediated communication in public discourse, pointing out that the printed press, itself a form of mediated communication, played an integral role in the formation of the classical public sphere. To Bohman, what matters is the mutual expectation of uptake, or the idea that each participant in a public discourse assumes that their ideas will be heard and debated.²⁵

(As we will see, this proposal that was tested by artists as they experimented with the communication function of the network.) But Bohman makes this argument about in-person versus mediated debate to support a larger point: that the efficacy of the digital public sphere depends not on its technologies, but on the actions of its participants and the nature of the discourses in which they engage.²⁶ And Habermas and Poster are not the only scholars who have found that the chaotic chatter of the internet fails to cohere into anything resembling a unified public opinion. In fact, political scientist Jodi Dean has argued that this is antithetical to how the

²⁴ Mark Poster, "The Net as a Public Sphere?," *WIRED*, November 1, 1995, <https://www.wired.com/1995/11/poster-if/>. It is worth noting that Poster was writing in 1995, before today's social media sites (such as Facebook, Twitter, and LinkedIn, or Myspace before them) encouraged their users to attempt to represent their offline identities consistently across online platforms, starting with their real names. In the 1990s, the possibility of constructing multiple identities, or simply remaining anonymous behind a faceless screen name, was considered to be one of the most liberating qualities of using the internet. At the same time, as Poster pointed out, it also prevented trust from building up between people, which can make it difficult to achieve consensus through debate.

²⁵ James Bohman, "Expanding Dialogue: The Internet, the Public Sphere and Prospects for Transnational Democracy," *The Sociological Review* 52 (June 1, 2004): 133–34.

²⁶ Bohman, 139.

internet defines itself, which is not through consensus, but through the conflict that occurs when large numbers of people exchange ideas, a paradoxical form of collectivity achieved through mutual contestation. According to Dean, it is this essential quality that gets lost in attempts to frame the network as a unified digital public sphere.²⁷

It is within and alongside these debates over the viability of a digital public sphere that internet art came of age in the mid-1990s. The artistic procedures and theoretical concerns that defined the practice emerged out of decades of artists' experiments with computer networks, which will be outlined in chapter one. But the growth of the web in 1994 made it possible for many more artists to use computer networks, and the web's new visual interface and distribution platform helped those earlier experiments begin to coalesce into the practices that are recognized today as net art. At the same time, the accessibility of the web and the number of people it was bringing online added new urgency to claims for the public status of the internet, and of art on the internet.²⁸ For net artists and fans alike, part of the appeal of computer networks was their ability to circulate art outside of established art institutions, making the work accessible to an audience that may be more likely to stumble across a website than walk into a museum.²⁹ Thus not unlike the 1970s, when all art outdoors was declared to be public art, simply being online

²⁷ Jodi Dean, "Why the Net Is Not a Public Sphere," *Constellations* 10, no. 1 (2003): 108.

²⁸ It is no coincidence that the first commercial web browsers were released in 1994 and Stewart Brand and John Perry Barlow described the aforementioned electronic frontier and global social space in 1995 and 1996, respectively.

²⁹ Media scholars and curators Joline Blais and Jon Ippolito observed that, "...online art's disconnection from the mainstream art world has actually contributed to its broad appeal and international following. The absence of a gallery shingle, a museum lintel, or even a dot-art domain suffix to flag art Web sites means that many people who would never set foot in a gallery stumble across works of Internet art by following a fortuitous link." Joline Blais and Jon Ippolito, *At the Edge of Art* (London: Thames & Hudson, 2006), 8.

during the 1990s seemed to confer a de facto public status onto internet art.³⁰ This dissertation will offer a more rigorous definition of internet-based public art by focusing on internet art practices from the 1990s and early 2000s that inserted themselves into the field of discourse surrounding the publicness of computer networks.

As art historian Frazer Ward has observed, shifting our attention from where art is located to whether art, as a form of communication, attempts to “realize concepts of the public sphere” helps to explain why many conceptual practices have come to be received as public alongside works like the outdoor modernist statues of the 1960s.³¹ For example, this shift of attention from the location of the work to its communication function helped to define as public practices like the institutional critique of Hans Haacke in the 1980s, and the activist works of groups like Gran Fury and the Guerrilla Girls in the 1980s and 1990s. In order to establish the terms of an internet-based public art practice, it is therefore necessary to interrogate how net art attempted to “realize concepts of the [digital] public sphere.” To do so, the dissertation will focus on the first major period of internet art, beginning with the aforementioned crystallization of the field around the rise of the web in 1994. This period extended to approximately 2003, when changes in artistic practice and in the cultural and economic environment of the internet began to signal a shift out of the first era of both internet art and the digital public sphere. Homing in on

³⁰ The association between an artwork being outside and being public started in the 1960s, when it first became popular to commission modern artists like Isamu Noguchi and Alexander Calder to produce public installations. These works were typically scaled-up modernist sculptures deemed public because they were placed in government buildings, like courthouses, or in shared outdoor spaces, like plazas and parks. Art historians describe this as the “art in public places” paradigm, after the 1967 NEA program that initiated this early phase of contemporary public art. For a detailed periodization of shifting trends in twentieth century public art, see chapter three of Miwon Kwon, *One Place After Another: Site-Specific Art and Locational Identity* (Cambridge, Mass.: MIT Press, 2002). Suzanne Lacy outlines a similar history of modern and contemporary public art in Suzanne Lacy, “Introduction: Cultural Pilgrimages and Metaphoric Journeys,” in *Mapping the Terrain: New Genre Public Art*, ed. Suzanne Lacy (Seattle, Wash: Bay Press, 1995), 19–47.

³¹ Frazer Ward, “The Haunted Museum: Institutional Critique and Publicity,” *October* 73 (July 1, 1995): 72.

specific works from these years, the dissertation identifies three major axes along which net art has challenged the assumptions of the digital public sphere and (re)defined the publicness of computer networks: as an interpersonal network that connects or unites strangers into groups, as a virtual space akin to physical spaces of public gathering, discourse, and/or visibility, and as a unique platform for public speech, a new mass media potentially accessible to all.

Chapter One: From Bulletin Boards to the World Wide Web

The dissertation begins with an historical accounting of the development of net art alongside the growth of computer networks, recounting a range of experiments through which artists explored the significance of this new platform and its unprecedented modes of communication, exchange, and collectivity. After introducing some of the earliest attempts to bring computer networks into an art making context, including Kit Galloway and Sherrie Rabinowitz's *Electronic Café* installation for the 1984 Los Angeles Olympics Arts Festival, chapter one turns to the social environments that nurtured internet art. Starting in the early 1980s, many artists used pre-web networked communication tools, like Bulletin Board Systems (BBSes), to facilitate collaborations, extend the reach of existing telecommunications-based practices, and debate what an internet-specific art practice might look like. The chapter outlines several of the communication platforms used by artists in this process, focusing on THE THING, a small, but very influential arts bulletin board. Through this history, the dissertation reveals the importance of geographic location in the development of internet art, in spite of claims for the globalizing effects of computer networks. The chapter examines how certain regions became dominant because of early technological limitations, uneven growth in internet infrastructure, and the development of offline support networks around specific arts festivals and media centers.

The chapter then explores the development of the World Wide Web and the major changes in the scope and potential reach of internet-based communication (and art) that came with it. Before the web, most online communication platforms had the relatively limited audience of the people who had specifically chosen to join them by, for example, logging onto a chat room or dialing into a BBS. As media scholar Miriam Hansen has pointed out, this created a condition of partial publicness in which communications could be addressed to the not-yet-known audience found on that platform, but could not truly be oriented toward the indefinite addressee of public speech.³² But as chapter one demonstrates, this changed with the web, which dramatically increased the number of people going online and, in computer scientist Nicholas Negroponte's words, "turn[ed] the Net inside out" by introducing the website, a new way to direct your communication not just to a specific individual or a participation-based group, but to anyone online who could just stumble across it.³³ At the same time, the web's more visual and intuitive interface was attracting a rapidly growing number of artists to computer networks, many of whom started using the web-based email lists that had taken over where pre-web networks like the BBSes left off. These lists became the center of the first practices that explicitly defined themselves as net art. Chapter one thus traces the development of net art from artists' early experiments with computer networks to the birth of an internet-specific practice alongside the opening of online communications onto the public horizon of the web.

³² Miriam Hansen, "Foreword (1991)," in *Public Sphere and Experience: Analysis of the Bourgeois and Proletarian Public Sphere*, by Oskar Negt and Alexander Kluge (London ; New York: Verso, 2016), xxxviii.

³³ Nicholas Negroponte, "WIRED 4.05 - Caught Browsing Again," May 1, 1996, <https://web.media.mit.edu/~nicholas/Wired/WIRED4-05.html>. Negroponte made this observation in his regular *WIRED* column, which is not archived on the magazine's website, but which he has preserved himself.

Chapter Two: Imagining a New Public on the Network

The dissertation then turns to individual artworks produced during the main period of the dissertation (1994 – 2003) that interrogated the principles through which the digital public sphere was being debated and defined. Chapter two focuses on Douglas Davis’s *The World’s First Collaborative Sentence* (1994) and Heath Bunting’s *Project X* (1996), which use the popular net art strategy of accumulation to visualize the collective presence of internet users and examine the different ways in which that rapidly growing group of individuals was starting to be understood as a public.

Social theorist Michael Warner has identified three different ways in which the term “public” is used to describe people. *The public* is “a social totality,” an all-inclusive way of referring to groups as broad as humanity and as specific as the citizens of a nation. *A public* is “a concrete audience,” a more specific group that is bounded by its shared presence at a performance, or common action at an event. And a reading public, the kind of public that shaped the classical public sphere, is a public that “comes into being only in relation to texts and their circulation.” These texts might be written or spoken—or, in the case of some artworks, navigate the relationship between the visual and the textual—but in either case, they produce their publics through shared participation in the circulation of the larger stream of discourse into which the text enters. Of course, Warner reminds us, these three different kinds of publics overlap. A public attending an academic presentation is both the specific audience of that event and a representative of the open-ended group of readers who may engage with the ideas being presented. Or when a text addresses itself to a more general audience, like a nationally syndicated newspaper article, its reading public will overlap with *the public*, that broadly

inclusive social category that, in this case, includes an entire country.³⁴ The public of the internet can thus be simultaneously understood as the “social totality” of all of the people online at any given moment, and the reading public of those individuals engaged in a discourse that is circulating across the network. As noted above, it is the presence of a reading public that is crucial to the formation of a public sphere, but it is less clear that all of the institutions of the public sphere must be in place to produce a reading public. Chapter two will explore how Davis’s *Sentence* tests the proposal that the act of collective production online can form the kind of public discourse around which an individual reading public might cohere, even if the chaotic chatter of the many discourses on the internet never coalesce into a unified public sphere.

The chapter then turns to Bunting’s *Project X*, which examines relationality as an alternative way to understand how groups of people become publics. As the title of their seminal work on publicness, *Public Sphere and Experience*, suggests, Oskar Negt and Alexander Kluge have traced the production of publics not through communication, but via the relations formed by experience. Negt and Kluge turn to Hegel’s dialectical framing of consciousness to define this social experience: “The dialectical movement, which consciousness performs on itself, both on its knowledge as well as on its object, in so far as the new, true object emerges for consciousness from this movement, is in fact what is known as experience.”³⁵ Grounding their definition in the

³⁴ Michael Warner, “Publics and Counterpublics,” in *Publics and Counterpublics* (New York : Cambridge, Mass: Zone Books ; Distributed by MIT Press, 2002), 65–66.

³⁵ Negt and Kluge clarify Hegel’s dialectical definition of experience (consciousness’s awareness of both itself and the objects of its attention) to emphasize that this process constructs social experience with or without the focused attention of the experiencing subjects: “This dialectic concept of experience indicates the real workings of bourgeois society and any other society and its experience, regardless of whether the empirical subjects of this society are aware of the dialectic or not.” Oskar Negt and Alexander Kluge, *Public Sphere and Experience: Analysis of the Bourgeois and Proletarian Public Sphere*, trans. Peter Labanyi, Jamie Owen Daniel, and Assenka Oksiloff (London ; New York: Verso, 2016), 5. This text was originally published in German in 1972, and first published in English translation in 1993.

consciousness of the experiencing subject, which is tied to her specific and changing context, allows Negt and Kluge to resist delimiting any predetermined set of experiences that qualify as public or private, like the formal processes of communication that shape Habermas's classical public sphere. Instead, they focus on how experience can form a "context of living," which becomes public when it connects the individual to society as a whole.³⁶ As a result, the range of social experiences that, in Negt and Kluge's analysis, produce such publics extends far and wide throughout our lives, from the socialization of the child to acts of labor, from the development of language to the construction of intimacy.³⁷ With *Project X*, Bunting explores whether the relational field constructed by the connections people make across computer networks can organize a public through its individual members' shared social experience when that experience is opened onto the indefinite horizon of the web.

Chapter Three: Counterpublics of the Digital Public Sphere

The third chapter looks more closely at whose discourses are—or are not—represented in the digital public sphere. "The public" of the public sphere, whether classical or digital, is understood to be a universal, de-individuated abstraction. This means that personal characteristics like class, gender, sexuality, or race are presumed to disappear when individuals act as members of that public. According to Habermas, this assumption of universality created parity among members of the bourgeois public; by operating under the universal rules of the public sphere, their private subjectivity could be confirmed while they simultaneously escaped

³⁶ Negt and Kluge, 6.

³⁷ Miriam Hansen summarizes the many different forms of social production explored by Negt and Kluge in her indispensable forward to the text: Hansen, "Foreword (1991)," xxxiii.

that subjectivity to debate as ““common human beings.””³⁸ Similar claims have been made about the digital public sphere. Describing his global social space, John Perry Barlow declared that, “Ours is a world that is both everywhere and nowhere, but it is not where bodies live. We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth.”³⁹ It is important to emphasize that this disembodied model of digital citizenship was meant to be liberating, a way to escape inequalities tied to physical characteristics like gender, race, or disability. Writing about The WELL BBS, Howard Rheingold asserted that, “. . . virtual communities treat [people] as they always wanted to be treated—as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking . . .”⁴⁰ Thus like the classical public sphere, the digital public sphere was assumed to be a universal domain in which members of its public shed characteristics like race and gender and their attendant inequalities.

This assumption glosses over the practical exclusion of whole categories of people, from the women who were not welcome in seventeenth century English coffee houses to the residents of entire countries that do not have robust internet infrastructure. Art historian Jonathan Crary highlighted this problem in the early years of the web, critiquing the tendency to ignore such exclusions in social progressivist claims for the democratic potential of a global “communication

³⁸ Habermas, *The structural transformation of the public sphere*, 54.

³⁹ Barlow, “A Declaration of the Independence of Cyberspace.”

⁴⁰ Rheingold’s quote is worth repeating in full because it illustrates the sincerity of many internet advocates’ desire to eclipse individual subject positions in order build a more egalitarian world: “Because we cannot see one another in cyberspace, gender, age, national original, and physical appearance are not apparent unless a person wants to make such characteristics public. People whose physical handicaps make it difficult to form new friendships find that virtual communities treat them as they always wanted to be treated—as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking (or not walking and talking).” Howard Rheingold, *The Virtual Community: Homesteading on the Electronic Frontier*, revised edition (Cambridge, Mass: The MIT Press, 2000), 11.

culture.”⁴¹ Moreover, the universal model of the public sphere ignores the fact that the process of abstracting yourself from your subjective identity is never equally available to all individuals. Social theorist Nancy Fraser points out that, even in the absence of formal prohibitions against their participation in the later years of the bourgeois public sphere, the “universal” rules for proper discourse informally excluded individuals whose subordinate cultural styles of speech, social interaction, and comportment could not be easily assimilated, including women, men of color, and the poor.⁴² In fact, it is really only possible to access what Michael Warner calls “a rhetoric of disincorporation,” the language through which individuals cleave from their bodies to represent only their reason, if one’s body is not already socially marked as the other through which the universal subject positively asserts his identity. The issue, then, is not just whether the bourgeois public sphere historically excluded entire social groups, like women, although it certainly did. It is the fact that the cultural and symbolic meanings of those groups’ defining characteristics, like femininity, prevented them from ever being able to sufficiently abstract themselves to participate in the universal public sphere.⁴³

Chapter three explores how net art challenged the universal model of the digital public sphere by insisting that marked subject positions, like femininity and blackness, remain relevant in public discourse online. The chapter begins with Cornelia Sollfrank’s *Female Extension* (1997), an internet-based work of institutional critique that helped to introduce the discourses of cyberfeminism into net art. Cyberfeminist art and literature traces its theoretical lineage to

⁴¹ Jonathan Crary, “Critical Reflections,” *Artforum International* 32, no. 6 (February 1994): 58.

⁴² Nancy Fraser, “Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy,” in *The Phantom Public Sphere*, ed. Bruce Robbins (Minneapolis: University of Minnesota Press, 1993), 10–11.

⁴³ Michael Warner, “The Mass Public and the Mass Subject,” in *The Phantom Public Sphere*, ed. Bruce Robbins (Minneapolis: University of Minnesota Press, 1993), 239–40.

sociologist Donna Haraway's 1985 "Cyborg Manifesto," which used the metaphor of the cyborg—an unavoidably constructed, piecemeal, neither/nor creation—to explore how feminist politics can subvert the false dichotomies of culture and technology, nature and machine.⁴⁴ The term "cyberfeminism" then came along in 1991, appearing simultaneously in works by Australian artist group VNS Matrix and British cultural theorist Sadie Plant.⁴⁵ But it was not until the mid-1990s that cyberfeminist net art began to appear, as works like *Female Extension* turned their focus to the specific conditions of computer networks. Thus at the same time that John Perry Barlow was arguing that the internet "is not where bodies live," cyberfeminist artists were using rhetorics of the body and of gender identity to oppose such universalizing claims of disembodiment, which they viewed as complicit in the suppression of women and feminist ideas online. Chapter three argues that with *Female Extension*, as well as her contemporaneous work organizing cyberfeminist exhibitions and symposia, Sollfrank became instrumental in bringing these discourses into the digital public sphere.

The chapter then turns to Mendi + Keith Obadike's *Black.Net.Art Actions* (2001 – 2003), a three-part suite of works that deconstructs the semantic and technical languages of the web to reveal how race and the ideologies of color are embedded into every point of contact between humans and computer networks. As Christopher McGahan has demonstrated in a detailed meta-analysis of scholarship on the internet, until recently most discussions on the culture and environment of computer networks simply evaded the question of race. Even those scholars attempting to define the parameters of "cybercultural identity" often dismissed race as

⁴⁴ Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 149–81.

⁴⁵ Claire L. Evans, "Feminist Worldbuilding in the Australian Cyberswamp," *Rhizome*, October 27, 2016, <http://rhizome.org/editorial/2016/oct/27/cyberfeminist-worldbuilding/>.

irrelevant to the subject's experience online.⁴⁶ This has changed over time, but in the early 2000s, when Mendi + Keith Obadike were producing the *Black.Net.Art Actions*, conversations about the racialization of computer networks were often still ignored, or even actively suppressed, in spite of the fact that there was a growing subculture of race-oriented social groups online. Chapter three will explore how the *Black.Net.Art Actions* stepped into that gap, not just to bring attention to that subculture but also to insist on the relevance of racial discourses to the digital public sphere writ large.

By circulating these marginalized discourses, both *Female Extension* and the *Black.Net.Art Actions* participated in the construction of what Warner calls a counterpublic, which he sets apart from what Fraser has described as a subaltern public.⁴⁷ Historically, both formed among those groups that were prevented from participating in the classical public sphere. But whereas a subaltern public is defined simply by its use of a specialized language or idiom, a counterpublic makes claims that are likely to be “regarded with hostility or with a sense of indecorousness,” actively setting participants in its discourses against the mainstream public.⁴⁸ Thus by not only pointing out the exclusions created by the universal model of the digital public sphere, but also producing and circulating discourses that opposed dominant claims for the race-

⁴⁶ Christopher McGahan, “Introduction: Racing Cyberculture,” in *Racing Cyberculture: Minoritarian Art and Cultural Politics on the Internet*, Routledge Studies in New Media and Cyberculture (New York: Routledge, 2008), 5–8. In addition to McGahan, some of the authors who have more recently started to address race on computer networks in the context of art and visual culture include Wendy Chun, Jennifer González, Tara McPherson, and Lisa Nakamura. One recent collection that takes an important retrospective look at these issues is Lisa Nakamura, Peter Chow-White, and Alondra Nelson, eds., *Race After the Internet* (New York: Routledge, 2011).

⁴⁷ Nancy Fraser outlines her concept of the subaltern public in Fraser, “Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy,” 14–15.

⁴⁸ Warner, “Publics and Counterpublics,” 118–19.

and gender-blindness of computer networks, these artworks helped to form the counterpublics of the digital public sphere.

Chapter Four: Virtual Public Spaces

In chapter four, the dissertation turns to the spatialization of computer networks and the influence of spatial concepts on how the digital public sphere is understood. Long before the arrival of the internet, Habermas described a public sphere that relied on intertwined social and physical conceptions of space. Physical space is, of course, made up of the familiar geometries of the world around us. In his influential 1991 text *The Production of Space*, Henri Lefebvre described how a complex set of social and political ideas have become layered onto this older, strictly geometric notion of space, resulting in the phenomenon of social space. Key to understanding this process is the fact that “(social) space is a (social) product” (emphasis in original), meaning that it is constructed, or produced, through both sociopolitical forces and physical forces.⁴⁹ In this way, space has become one of the many simultaneously concrete and abstract structures of modernity; for example, Lefebvre compares the dual state of social space to the way the modern economic system treats commodities and money as “concrete abstractions,” simultaneously real and, like knowledge, circulating in a theoretical state.⁵⁰ This condition highlights two important aspects of social space. First, while social space is an abstraction, it cannot be divorced from the geometric, or physical, ways that space is also understood—the two conceptions are always held coterminously. Second, if social space is a social product, then “the object of interest must be expected to shift from *things in space* to the actual *production of*

⁴⁹ Henri Lefebvre, *The Production of Space* (Oxford, OX, UK; Cambridge, Mass., USA: Blackwell, 1991), 26.

⁵⁰ Lefebvre, 27.

space” (emphasis in original). In other words, when space is no longer restricted to its geometric manifestations, to talk about (social) spaces requires considering the set of actions and relations out of which they are constructed, and how such actions and relations are in turn constructed by them.⁵¹

The classical public sphere defined by Habermas is certainly such a social space, one whose production can be traced entirely out of a series of sociopolitical forces but is nevertheless tied to, and influenced by, certain physical spaces. In other words, the public sphere (itself a spatial term) is a concrete abstraction that is simultaneously social and physical. Habermas’s historical accounting of the public sphere traces the emergence of the concept of public interest out of the development of an economically independent domain of civil society, the circulation of public discourse through the rise of the modern press, and the birth of the public sphere through the interactions of these two institutions with the newly emergent nation-state. Thus Habermas presents a (social) public sphere produced (sociopolitically) by the development of modern systems of governance, modern economies, and new platforms for the broader circulation of information and debate. However, the social space of the public sphere is not wholly divorced from specific, concrete physical space. Habermas touches briefly on the Greek agoras, the spaces in which the public activities of ancient daily life took place. But he also discusses gathering places that were critical to the emergence of the bourgeois public sphere, important enough to its history to be labeled “institutions of the public sphere.” Focusing on developments in the seventeenth and eighteenth centuries, Habermas describes English coffeehouses, French *salons*, and German *Tischgesellschaften* (table societies), diverse

⁵¹ Lefebvre, 37.

institutions that shared certain essential qualities: they were physical locations outside of the halls of government where bourgeois members of civil society gathered to socialize and engage in the process of rational-critical debate. Moreover, these institutions were places where different classes could mingle, establishing the principle that the public sphere was inclusive, its domains understood to be public insofar as they were, in theory, accessible to anyone, even if that was never actually true in practice.⁵² Thus while Habermas emphasizes that the public sphere is not defined by physical public spaces, but rather by the discourses that take place therein, such gathering places and their specific conditions—sociable, non-governmental, popular with the reading public, ostensibly open to all—are still crucial because they foster the circulation of these discourses and are deeply intertwined with the political and economic forces that produce the social space of the public sphere.

Chapter four examines how online communication platforms are experienced as “electronic agora[s],” the virtual gathering places of the digital public sphere.⁵³ The chapter opens with Ben Rubin and Mark Hansen’s *Listening Post* (2001), which pulls messages from online chat rooms and translates them into an immersive audiovisual installation. The work explores the “collective buzz” of internet chatter that is the daily activity of these spaces of digital public life, investigating whether it can resolve into the kind of sustained, rational-critical exchanges that were nurtured by the coffee houses, *salons*, and *Tischgesellschaften*, and that transformed them from social centers into institutions of the public sphere. The chapter then turns to Natalie Bookchin and Jacqueline Stevens’s *agoraXchange* (2003), a series of web forums that ask its users to design a game whose players will build a new, more egalitarian

⁵² Habermas, *The structural transformation of the public sphere*, 36–37.

⁵³ Rheingold, *The Virtual Community*, xxx.

political system, debating the essential characteristics of that system along the way. Thus while *Listening Post* interrogates the nature of public discourse online as the work finds it, *agoraXchange* approaches the digital public sphere as a fundamentally utopian concept, and the work becomes an experiment with constructing a virtual public space in which the realization of such a utopia can be imagined.

Chapter Five: In the Theater of Visibility

In his history of The WELL BBS, Howard Rheingold observed that the same open flows of information and communication that made the internet an “electronic agora” could also turn it into a panopticon, a space in which the individual is constantly being watched.⁵⁴ Chapter five investigates this alternative model of the public space of computer networks: that they are a theater of visibility, a space that is public because it cannot be private. It begins with the more dystopian perspective, in which this state of hypervisibility transforms digital public space into a site of surveillance and, by extension, control. Writing about the computerized networks of consumer information databases that were being accumulated well before the rise of the web, Mark Poster argued that digital society was entering into an era of participatory surveillance, in which consumers exchange their information for the convenience of using a credit card (or, later, using a search engine, or having a social media account). He described this intensified condition

⁵⁴ Rheingold, xxx. The panopticon was Jeremy Bentham’s eighteenth century model of a penitentiary constructed so that all of its prisoners could be watched via a central location. See Jeremy Bentham, *The Works of Jeremy Bentham: Published under the Superintendance of His Executor, John Bowring*, ed. John Bowring, vol. IV, XI vols. (Edinburgh: Tait, 1838). In the 1970s, Michel Foucault popularized the concept when he turned to the example of the panopticon to define the relationship between vision and power in modernity, using it to describe how the centralized gaze of power has been deployed to efficiently enforce the order and discipline upon which modern social institutions, from schools to prisons, rely. Michel Foucault, *Discipline & Punish: The Birth of the Prison*, trans. Alan Sheridan, 2nd edition (Vintage, 1995), 200.

of visibility as a “Superpanopticon,” in which our use of digital communication networks has freed the mechanisms of surveillance from their reliance on physical structures like guards or walls, rendering the eye of surveillance diffuse and therefore seemingly inescapable.⁵⁵ In his 1992 essay “Postscript on the Societies of Control,” Gilles Deleuze used these same two phenomena—the distribution of the mechanisms of surveillance and the voluntary participation of the surveilled—to describe how the eighteenth and nineteenth century disciplinary societies defined by Michel Foucault had given way to new societies of control. By the end of the twentieth century, Deleuze argued, Foucault’s “enclosed” spaces of power—family, education, work, imprisonment, and so on—had become diffuse. Work enters the home, education must be lifelong, the prisoner’s movements can be restricted with electronic monitoring instead of walls; these are the “forms of free-floating control” that have taken over the old disciplinary systems. And, like Poster, Deleuze found that we have adopted these forms of control into our lives voluntarily.⁵⁶

For Deleuze, the computer is the type of machine that is best matched to these societies of control. With computational devices that track and restrict movement, like electronic key access systems or the aforementioned electronic monitors, code has become the “numerical language of control” through which power, mobility, and access to information are managed. However, Deleuze emphasizes that technology does not initiate social change. It expresses the change happening around it, one kind of evidence of new social forms.⁵⁷ In *Protocol: How Control Exists after Decentralization*, media scholar and artist Alexander Galloway argues that it

⁵⁵ Mark Poster, *The Mode of Information: Poststructuralism and Social Context*, 1st edition (Chicago: University of Chicago Press, 1990), 103.

⁵⁶ Gilles Deleuze, “Postscript on the Societies of Control,” *October* 59 (January 1, 1992): 3–7.

⁵⁷ Deleuze, 5–6.

is not just the computer, but computerized information management that reflects the new, decentralized way of exercising power that Deleuze observed at the close of the twentieth century. The internet is, of course, the largest of such computerized systems of information management, and it is built around protocols, a set of rules and regulations that define the technical standards required for computer to computer communication. The protocols that determine these standards come from a series of highly formalized rules that are defined by a governing body; this requires an extensive documentation and commenting process that Galloway compares to the organized development of historical protocols for diplomacy. This analogy reveals that, while technical protocols are built around “logic and physics” rather than “consideration and sense,” they are conceptually similar to diplomatic protocols insofar as they are a system of voluntary regulation that exerts control over behavior within a heterogeneous environment; in this case, the computer network.⁵⁸

Modeling computer networks as systems of control contradicts the persistent myth that the internet is (or ever was) an untamed “electronic frontier,” a domain where action is both radically unrestrained and, due to the circulation of information, radically democratic. However, Galloway argues, this myth of computer networks as chaotic and ungoverned does not arise wholly from a misunderstanding of how they operate. Rather, computer networks are structured by a tension between hierarchical and distributed machines, and it is this opposition that produces the ideal environment for protological control.⁵⁹ The first section of chapter five focuses on *Carnivore* (2001), a work that exploits these protocols and the way that they facilitate

⁵⁸ Alexander R. Galloway, *Protocol: How Control Exists after Decentralization* (Cambridge, Mass.: MIT Press, 2004), 7.

⁵⁹ Galloway, 8.

surveillance on computer networks. *Carnivore* makes it possible for anyone with rudimentary programming skills to monitor traffic on a local network and convert that data into visuals, audio, or even a system that manipulates physical objects. It was produced by Galloway under the artist group name RSG in the midst of ongoing debates over the use of computer networks for government surveillance. These had been intensified first by the revelation of the FBI's "Carnivore" email tracking program (after which *Carnivore* is named), and then by the laws passed in the wake of the events of 9/11 that gave the US government sweeping new surveillance powers. The work inserted itself into these debates to argue that these systems of surveillance and protological control are not intrusions into the network but part of its very nature, the theater of visibility that is as much "Superpanopticon" as it is "electronic agora."

Chapter five then turns to *Life Sharing* (2000 – 2003), a project by Eva and Franco Mattes (also known as 0100101110101101.org) that takes a more optimistic approach to the network as a public space of exposure. For three years, the artists converted their home computer into a web server, making everything on it visible to anyone who browsed to their website. The work asks, if internet users embrace the theater of visibility, voluntarily offering up all of their personal information, can they elude these systems of control by stripping that information of its value? Moreover, *Life Sharing* suggests that embracing this state of visibility can allow internet users to create new pathways for distribution, and therefore new systems of value. The title of the project is a deliberate anagram of "file sharing," and the artists did not just make everything on their home computer visible. They made it all available for download, from in-process artworks to the operating system itself. The work thus introduces a third way in which the network is conceived as a public space: through an elision of spatial and juridical concepts of public domain. A domain is a physical space, a territory over which someone or something has exerted

control, but as Lefebvre emphasizes, in modernity physical space is also always social space. And in fact, a domain can also be a sphere of knowledge—the domain of history—or, following Habermas, the structure of the public sphere: “The public sphere itself appears as a specific domain—the public domain versus the private.”⁶⁰ Moreover, the phrase “public domain” also has a specific legal meaning. This definition of public domain began with what Habermas would describe as the public sphere of authority: property, the legal manifestation of the physical territory of the domain, is considered to be in the public domain when it is controlled by the state. But as legal historian James Boyle points out in his history of intellectual property, popular use of the term has also become conflated with what might more properly be called the commons. Now when something is said to be in the public domain, it is considered to be anti-property, a resource belonging to all.⁶¹ In *Life Sharing*, the public space of the network is a theater of visibility in which members of the public can be surveilled and controlled, but it is simultaneously a public domain over which they can exert control by voluntarily circulating not only their personal information, but also their art, literature, and ideas.

Chapter Six: Defining a New Platform for Publicity

The sixth chapter introduces the third and final axis along which net art has asserted the publicness of computer networks: as a unique platform for public speech, a new mass media potentially accessible to all. For ®TMark (pronounced “artmark”), the artist group at the center of

⁶⁰ Habermas, *The structural transformation of the public sphere*, 2.

⁶¹ James Boyle, *The Public Domain: Enclosing the Commons of the Mind*, first edition (New Haven: Yale University Press, 2008), xv. Boyle is one of the founders of Creative Commons, a non-profit that has created a widely-recognized, alternative copyright licensing system. See “Creative Commons,” accessed December 28, 2017, <https://creativecommons.org/>.

this chapter, it is more specifically a platform for publicity, a form of public speech that is not only directed toward the indefinite addressee that is the public, but also aims to inform and influence that public. Placing ®™ark’s *GATT.org* (1999) in the context of the group’s larger practice, the chapter will explore how ®™ark exploited that publicity function in an effort to challenge and redefine the digital public sphere.

As Habermas points out, the concept of publicity has undergone many transformations to get to what it means today. Going back to monarchies, Habermas locates publicity’s origins in what he calls the “publicity of representation,” in which the aura of authority is endowed in the body of the monarch and becomes public when this body is represented directly to the common people. Over time, Habermas observes, the common people become less important as participants in this process, but the publicity of representation remains dependent on the interaction between ruler and onlookers, regardless of their social class.⁶² This is the seed of contemporary publicity’s definitive relationship between speech act and indefinite addressee: speech is not publicity unless it is directed toward metaphorical onlookers, the readers or listeners who, in this interaction, become the public of the public speech. As noted above, Habermas then follows the concept’s shift from the publicity of representation into the publicity of the public sphere through the rise of the news as a commodity, which allowed the state to make pronouncements and promote their authority through these circulating texts.⁶³ Significantly, the public would not just read those statements, but also debate them, making them the “public as carrier of public opinion” and publicity a form of public speech that seeks to

⁶² Habermas, *The structural transformation of the public sphere*, 7–10.

⁶³ Habermas, 21.

influence that opinion.⁶⁴ Thus in the digital public sphere, the communication tools of computer networks become platforms for publicity insofar as they are used not only to circulate information, but also to influence the content of public discourse and debate.

It is important to remember that speech on computer networks does not truly become public speech until the appearance of the web, for the reasons noted above—it is not until content can be put on a website for any internet user to stumble across that it can truly be said to be directed to the indefinite addressee of the public. However, what distinguished the web from older forms of mass media that could also be used to address the public, like radio or television, was its unprecedented degree of accessibility. No other tool for public speech had ever had such a low barrier of entry for use by individuals, which made it appealing for many artists. Moreover, in the early years of the web unavoidable technical limitations meant that it was often impossible to tell the difference between amateur and professional design. This created an unusual leveling effect, in which the website of an artist group like *©TMark* could convey the same visual authority and legitimacy as the website of a large institution. Using the mode of parody, in which ironic repetition is used to signal critical distance, *©TMark* capitalized on this leveling effect to build websites that critiqued their targets and, in the case of *GATT.org*, challenged the authority of those targets' institutional voices in the digital public sphere.

GATT.org was a parody of the World Trade Organization (WTO) website, built as an online contribution to the protests at the WTO's 1999 Ministerial. The project was part of *©TMark*'s ongoing battle against what media historians Richard Barbrook and Andy Cameron

⁶⁴ Habermas, 2.

have labeled the “Californian ideology.”⁶⁵ This ideology equates the individual freedoms celebrated by concepts like the “electronic frontier” with the internet’s potential to support unregulated business activity. It emerged in the 1980s and 1990s as northern California’s thriving technology industry intersected with the region’s countercultural history. For example, Stewart Brand, who named The WELL BBS (short for The Whole Earth ‘lectronic Link) after his own late 1960s alternative culture publication *The Whole Earth Catalog*, described the internet as where he and his fellow hippies learned to translate “do your own thing” into “start your own business.”⁶⁶ Also known as cyberlibertarians, adherents to the Californian ideology advocated total deregulation of online business in support of a thriving new economy for the “knowledge age.”⁶⁷ Critics of this position described the cyberlibertarians as greedy and “cyberselfish.”⁶⁸ Even John Perry Barlow, whose own arguments were often aligned with this position in the early 1990s, recognized the damage caused to the economy by anti-regulatory attitudes that helped bring about the early 2000s stock market crash.⁶⁹ And in an analysis of the relationship between claims for a new, global public sphere and the elision of individual freedom with the free circulation of information and capital, Jodi Dean argued that what was actually developing was not a new form of democracy. Rather, Dean described the growth of

⁶⁵ Richard Barbrook and Andy Cameron, “The Californian Ideology,” *Science as Culture* 6, no. 26 (1996): 44–72.

⁶⁶ Brand, “We Owe It All to the Hippies.”

⁶⁷ Esther Dyson et al., “‘Cyberspace and the American Dream: A Magna Carta for the Knowledge Age,’ Release 1.2, Originally Published in Future Insight,” *The Progress & Freedom Foundation*, August 1994, <http://www.pff.org/issues-pubs/futureinsights/fi1.2magnacarta.html>.

⁶⁸ One of the most vocal critics of 1990s tech culture was journalist Paulina Borsook. See Paulina Borsook, *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech*, 1st edition (New York: PublicAffairs, 2000).

⁶⁹ John Perry Barlow, Trouble Ahead, Trouble Behind, Interview with John Perry Barlow for Tech News - CNET.com (Wayback Machine Archive), interview by Rachel Konrad, February 22, 2002, <https://web.archive.org/web/20020405163357/http://news.com.com/2008-1082-843349.html>.

“communicative capitalism,” in which mass communication dilutes and undermines the political efficacy of most publics, and wealth is so concentrated that financial markets become more powerful than governments.⁷⁰

For ®TMark, the trade positions promoted by organizations like the WTO were rooted in a similar ideology, and as chapter six demonstrates, the group’s strategies reveal a deeply critical approach to the invasion of this ideology into the digital public sphere. Under the conditions of communicative capitalism, publicity on the network resembles what Habermas called staged publicity, an attempt to manipulatively persuade the public rather than present an argument for consideration and debate. For Habermas, this was an inevitable result of the development of mass media, whose expanding audience was too large to engage in direct debate and too diverse to reach a consensus public opinion (a critique, as noted above, often leveraged at computer networks). Furthermore, mass media was too closely aligned with entertainment, capable only of producing passive consumers.⁷¹ As a result, “even the political realm is social-psychologically integrated into the realm of consumption,” and society is left with only a quasi-public sphere.⁷²

However, ®TMark’s use of the web’s public speech platforms to combat the corruption of those same speech platforms realizes Negt and Kluge’s more cautiously optimistic model of the role of mass media in the public sphere. Like Habermas, Negt and Kluge recognize that publicity in mass media is susceptible to being reduced to consumer interest. Using the terms “advanced media” or “advanced mass communication,” they focus on shifts in the means of media distribution, only some of which are related to changes in technology, like the movement from

⁷⁰ Dean, “Why the Net Is Not a Public Sphere,” 103. For her definition of communicative capitalism, Dean turns to Saskia Sassen’s research on economic globalism in Sassen’s 1998 book *Globalization and its Discontents*.

⁷¹ Habermas, *The structural transformation of the public sphere*, 192.

⁷² Habermas, 216–17.

standard television channels (a traditional form of media, in their model) to cable broadcasting. These forms of mass communication are “advanced” because of the commercial systems that have developed to manage them, what Negt and Kluge call “media cartels” (or, occasionally, “media conglomerates”), corporations that have the financial capacity to manage and distribute multiple forms of mass communication, often alongside traditional forms.⁷³ The total penetration of these cartels makes them a powerful part of the consciousness industry, able to sell the consumer a context of living that is not based on her own experience and therefore does not produce the relational public sphere of shared experience described above. Instead, these cartels offer a false unity defined by consumer identification, more analogous to Habermas’s quasi-public sphere or the illusion of democracy produced by communicative capitalism.⁷⁴ But Negt and Kluge diverge from Habermas in one very critical dimension: they do not see this condition as an inevitable result of mass media because they do not see its expanding audience as a necessary obstacle to the formation of a public sphere. Rather, their model allows for a multiplicity of public spheres to form as the public grows, defined along the horizons of shared experience. In fact, mass media’s expansive reach is a potential strength for Negt and Kluge, *if* citizens can deploy it in the construction of ideological “counterproducts” that offer alternatives to the products of the consciousness industry. They remain skeptical, however, that it is possible to compete with the distribution networks of advanced mass communication.⁷⁵ Thus rather than take the polemical position of either mass media’s most vocal supporters or its harshest

⁷³ Negt and Kluge, *Public Sphere and Experience*, 149–50.

⁷⁴ Negt and Kluge, 155–58.

⁷⁵ Negt and Kluge, 139–43.

detractors, Negt and Kluge treat such media as a critical site of contestation between commercial control of the public sphere and those who would seek to undermine that control.⁷⁶

Chapter six describes how, with works like *GATT.org*, ®™ark uses the web to enact such a struggle in the digital public sphere. In so doing, the group reimagines the digital public sphere in the model of what Negt and Kluge describe as a self-determined public sphere, in which “the structures that control what can be said and how and what cannot be said, which and whose experience is considered relevant and which irrelevant” are decided by the “experiencing subjects” themselves.⁷⁷ Although this remains aspirational for ®™ark, as it does for Negt and Kluge, the dissertation argues that their practice approaches publicity on computer networks as the site of a continuous struggle to achieve self-determination in the digital public sphere.

Chapter Seven: A Digital Speech (Toy) War

®™ark’s contestational approach to computer networks connected their work to a larger group of artist/activists working in and around net art. In chapter seven, the dissertation examines how many of them came together to defend the public speech function of computer networks in a series of on and offline actions that have collectively come to be known as *Toywar* (1999 – 2000). *Toywar* was initiated by a lawsuit in which US retail company eToys, Inc. attempted to take control of European artist group etoy’s domain name, www.etoys.com, because of its similarity to the retailer’s brand. The artists, however, had owned their domain for years before

⁷⁶ As Hansen points out in the foreword to *Public Spheres of Experience*, Negt and Kluge were writing around the same period that Marshall McLuhan was developing his theory of the “global village,” the new, more liberated society that would be formed by electronic media and which he articulated in several texts published throughout the 1960s. Their own evaluation of electronic media should thus be understood to be situated roughly between Habermas’s critique and McLuhan’s enthusiasm. Hansen, “Foreword (1991),” xl.

⁷⁷ Hansen, xxxi.

the company appeared online. The lawsuit was thus seen as an attack on etoy's speech rights, which was why many artists and activists took the cause on as their own. In so doing, *Toywar* participants did not just frame the website as a platform for public speech—the lawsuit would not have prevented the artists from moving the files that made up the site to another domain. Rather, they made the case that the domain name itself was also an important tool for public speech, as a marker of identity and a representative of the speaker in the digital public sphere.

This emphasis on the domain as an identifying mark was significant for etoy, although they were not actually involved in most of the *Toywar* interventions. This was partially for legal reasons, but it was also due to the group's desire to maintain distance between themselves and the anti-commercial positions of groups like ®™Mark, who helped to coordinate some of the campaigns. As chapter seven demonstrates, etoy's practice was focused less on the internet itself and more on the concept of lifestyle branding as a cultural form, with the abstraction of cyberspace serving as the ideal home for a brand without an object. As the center of their artistic/corporate identity, the domain itself was thus an essential component of their practice, so the group fought back against the lawsuit both in and out of court. But because of their focus on the etoy brand, the group preferred to frame the lawsuit as a clash between corporations rather than a battle over individual speech rights, and thus they kept their own activities separate from those being spearheaded by ®™Mark and their activist peers. As a result, *Toywar* was divided into those actions undertaken by outside artists and activists, which ranged from in-person protests to virtual sit-ins, and etoy's use of email campaigns and other communication networks to launch public relations attacks against eToys and attempt to control the narrative of events.

The internet's public speech platforms were critical for etoy's work in *Toywar*, as well as for their general practice. However, the group's use of corporate branding strategies did not just

put them in opposition to the other activists contributing to *Toywar*. These strategies were antithetical to concepts of the digital public sphere modeled after either Habermas or Negt and Kluge, both of whom viewed the discourses of consumption as a corrupting force. Chapter seven will argue that etoy's practice instead realizes what Michael Warner has described as the "mass-cultural public sphere." In this model of mass culture, the consumer publicity of branding provides a form of collective identification that is available to those many individuals who were excluded from the classical public sphere. The discourses of this public sphere are shaped by the languages of corporate branding and consumer choice, and its forms of mass publicity extend from the products we purchase to the magazines that we read—or, in the world of the etoy corporation, the websites we visit.⁷⁸ This model of publicness appears to succumb to the idea that it is only possible to expand the public sphere through consumption and staged publicity, what Negt and Kluge identify as the deceptive autonomy of "union through capital."⁷⁹ But Warner contends that the kind of subjectivity offered by the mass-cultural public sphere helps to alleviate the alienation produced by the universalizing claims of the classical public sphere, which in its pursuit of separating the personal from the public requires its participants to cleave themselves from the body and its particularities in a way that is only possible for an individual whose race, gender, class, and sexuality is already encoded as universal. The subject of the mass-cultural public sphere, on the other hand, can participate in the "collectivity of mass desires" in order to shed her individuality and become part of a public, while simultaneously resisting the alienation of her body through the "rhetoric of difference" offered by identifying with her specific choice of consumer goods among seemingly infinite options. In this way, the discourses of consumption

⁷⁸ Warner, "The Mass Public and the Mass Subject," 242–53.

⁷⁹ Negt and Kluge, *Public Sphere and Experience*, 158.

offer at least the possibility of a counterpublicity that can resolve one of the contradictions of the classical public sphere that makes it inaccessible to so many people. Warner points to subcultures, like graffiti, that have formed around the logic of mass publicity as an example of the kinds of counterpublics that can emerge out of the mass-cultural public sphere.⁸⁰ By using www.eto.com to construct a lifestyle brand that can be experienced and disseminated on the web, eto deployed both the website and the domain on which it is hosted as tools of mass publicity in a digital, mass-cultural public sphere.

Outlining the events of *Toywar*, the dissertation traces the unresolved tension between these two concepts of the digital public sphere, which each revolve around the internet's status as a new mass media platform for public speech. Following the model established in chapter six, chapter seven shows how ®™Mark and the other activist artists defending eto approached the internet's public speech tools as a site of struggle for self-determination, where publicity is used to combat the discourses of consumption. At the same time, chapter seven reveals how eto resisted this model, situating *Toywar* within their practice to demonstrate that the group instead approached the network as a site of mass culture, where the internet's public speech tools can be used to establish collective identification through the discourses of consumption.

Chapter Eight: New Net Aesthetics and the Digital Public Sphere

The first phase of internet art came to an end in the early 2000s, when many of the artists who had been focusing primarily on the internet began to either shift their practices away from computer networks or significantly alter the ways in which they deployed them. The initial wave

⁸⁰ Warner, "The Mass Public and the Mass Subject," 241.

of optimism surrounding the internet was faltering in the wake of the 2000 stock market crash, which meant that already meager financial and structural support for net art shrank further as the crash affected arts funding and museums became increasingly frustrated with the logistical challenges of collecting and exhibiting internet art. Some net artists turned to video, animation, music, and even digital games. Others continued to work with computer networks, but began producing installations that do not rely on the presence of a small computer monitor in the gallery, a shift that recalls video art's transition from television screens to multi-channel and architectural installations.⁸¹ Meanwhile, the use of computer networks as a source of material or subject of inquiry became more and more common in contemporary art, blurring the boundaries that had once made internet art a clearly distinct and separate practice. Around the same time, new technologies were bringing about significant changes to internet culture. For example, Myspace, the first widely popular social media site, appeared in 2003, just as easy to use blogging platforms were also becoming more popular. This was part of a broader "web 2.0" shift toward using commercial platforms for self-representation, social gathering, and self-publishing that transformed what it meant to be part of a public, gather in public spaces, or engage in public speech online.⁸²

⁸¹ Video installations started appearing in museums and galleries in the 1970s, but did not become common until the 1980s; Margaret Morse defines the still-new genre in an essay originally composed in 1989: Margaret Morse, "Video Installation Art: The Body, the Image, and the Space-in-Between," in *Illuminating Video: An Essential Guide to Video Art*, ed. Sally Jo Fifer and Doug Hall (New York, N.Y.: Aperture in association with the Bay Area Video Coalition, 1990), 153–67.

⁸² Tim O'Reilly, "What Is Web 2.0," *O'Reilly* (blog), September 30, 2005, <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>.

Some artists and scholars mark the end of the first era of net art as early as 1999, when several artists declared net art's optimistic and experimental years "dead."⁸³ Art historian Josephine Bosma observes a breaking point in how artists approached the internet around 2001, although the critical network practices that began well before even the web appeared are still in evidence today.⁸⁴ Net art was clearly in transition throughout the early 2000s, but this dissertation identifies 2003 as the end of the practice's first major phase because that year marks a moment when ongoing transformations in net art intersected with a significant shift in how the publicness of computer networks could be conceived. However, many of the conceptual questions that defined net art in the 1990s persist in contemporary art today, and claims for the internet's status as a digital public sphere have not gone away. Chapter eight examines the early 2000s transition period and then briefly explores the increasingly crowded field of net art that followed, highlighting how it has confronted changes in the online environment and their implications for the public status of that environment. Ultimately, the dissertation argues that net artists working in the 1990s and early 2000s helped to refine our understanding of the publicness of computer networks, and expand our narratives of public art to account for the digital public sphere.

Wherever possible, figures will accompany these analyses, but net art is best understood in its native environment—the internet. Appendix I offers a compilation of relevant links for quick reference, and the footnotes in each chapter of the dissertation also include links to current

⁸³ This statement was made in a pair of symposia at the Künstlerhaus Bethanien in Berlin that attempted to say goodbye to early net art and evaluate the path forward, which resulted in the following publication: Gerrit Gohlke et al., *Esc* (Berlin, Germany: Künstlerhaus Bethanien, 2002), <http://www.bethanien.de/en/publications/esc/>.

⁸⁴ Josephine Bosma, interview by author, December 15, 2015.

and/or archival versions of those works that were originally produced on the web. However, like performance, many internet-based works are temporary, time-based interventions whose afterlives exist only in documentation; in these cases, the footnotes provide links to as many internet-based collections as possible. Because figures can only show limited, snapshot views of the works in the dissertation, it is important to also visit these websites. Finally, readers should be aware that, as with many artistic practices from the 1990s and early 2000s that are just beginning to be historicized, no large archives have yet cohered around internet art and relevant institutional archives are relatively limited. A significant amount of historical documentation in the dissertation therefore comes from interviews with artists, curators, critics, and scholars, as well as these individuals' personal collections. By shedding light on these narratives and beginning to piece together their remains, the dissertation aims to become part of the ongoing process of coalescing net art's archives and making them more accessible to art history.

CHAPTER ONE: From Bulletin Boards to the World Wide Web

To understand how artists first began to experiment with computer networks, it is important to understand a few technical terms. A computer network is, essentially, a set of connected computing devices that can directly share information with each other, like a data storage facility and the servers it feeds, or even just a computer, a cell phone, and a printer on a home wireless network. The phrase “the internet” actually refers to an immense number of computer networks densely interconnected through physical cables, known as the “backbone” of the internet. And the web, in spite of common linguistic slippage, is *not* interchangeable with the internet, nor can it be understood in relation to physical objects, like the cables and computers that make up the internet. Rather, in the words of its inventor, the web is simply “a ‘space’ in which information could exist,” a system for structuring data on computer networks so that people can more easily view and navigate through it.⁸⁵ As noted in the introduction, computer networks and the infrastructure that makes up the internet had existed for decades before the web appeared. Modems that could directly connect mainframe computers were invented in the 1950s, and then during the 1960s and 1970s the foundation was laid for the modern internet with the development of the US Department of Defense funded ARPANET.⁸⁶ Meanwhile, the US

⁸⁵ Tim Berners-Lee and Mark Fischetti, *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor* (San Francisco: Harper San Francisco, 1999), 36.

⁸⁶ The Advanced Research Projects Agency Network (ARPANET) was the first computer network to use the same basic technical protocols for computer to computer communication on which the internet relies today; it was funded by the US Department of Defense, but based on designs by private and university researchers. The communication protocol it shares with today’s internet is called packet switching, which was first developed in the 1960s. The most common form of packet switching is TCP/IP (Transmission Control Protocol and Internet Protocol), which was built in the early 1970s and still structures much of today’s internet traffic. What is most important to understand about these protocols is that they are an essential part of what makes it possible for different kinds of devices to communicate with each other across computer networks. The Defense Department has released a report on the early years of ARPANET in Beranek Bolt and Newman, inc. (BBN), United States, and Defense Advanced Research Projects Agency, *A History of the ARPANET: The First Decade* (Arlington, Va: Bolt Beranek and Newman, 1981),

National Science Foundation (NSF) was also funding smaller computer networking endeavors. In the 1980s, they accelerated these efforts in order to facilitate supercomputer research, and by the end of the decade they had taken over a significant amount of the management of the internet and built up the network they called NSFNET, which would eventually become privatized and grow into the aforementioned backbone that supports the modern internet.⁸⁷

In the early 1970s, an ambitious group of technologists in Berkeley, California decided to adapt the ARPANET protocols to something that could perform a community service, helping local people connect and share information. They gained access to a mainframe computer and built Community Memory. It consisted of the central mainframe, which stored data, and several terminals that they placed in record stores and retail shops around area neighborhoods, through which people could retrieve and share information on the mainframe. The group described the project as “the world’s first public computerized bulletin board system:” a bulletin board because it allowed for posting messages to be shared, and public because it was one of the first attempts to make computer networks available outside of ARPANET-connected institutions.⁸⁸ From these beginnings, Community Memory’s founders imagined building a “nationwide public access

<http://www.dtic.mil/dtic/tr/fulltext/u2/a115440.pdf>. A more reader-friendly history of ARPANET is available in Janet Abbate, *Inventing the Internet* (Cambridge, Mass: MIT Press, 1999).

⁸⁷ Abbate, *Inventing the Internet*, 191.

⁸⁸ Computers linked to ARPANET were mostly only available at US universities, military sites, and some private computing research facilities, so the network’s reach remained limited—a map of all of ARPANET in 1973 shows that you could count the number of individual connection terminals by the dozens (Figure 1.1). However, later logical maps from the BBN report *A History of the ARPANET: The First Decade* show that the number of terminals had roughly doubled by 1977. Dr. Larry Press has collected scans of some of the 1960s and 1970s ARPANET geographic maps, which show similar growth patterns but are arranged around geographic location rather than terminal connections. See Larry Press, “ARPANET Maps,” accessed August 2, 2016, <http://som.csudh.edu/cis/lpress/history/arpamaps/>.

information net” (the global internet was not yet conceivable in the 1970s).⁸⁹ Although it would be another twenty years before the web would help to realize this vision of widespread network accessibility, the Community Memory organizers’ conviction that the publicness of computer networks hinges on their ability to connect people through information eventually became central to claims that the internet would be a new, digital public sphere.

The bulletin board model of public discourse reappeared years later as the basis for one of the first networked artworks, which integrated the Community Memory database. In 1984, artists Sherrie Rabinowitz and Kit Galloway, working under the temporary group name Mobile Image, were commissioned by the Museum of Contemporary Art, Los Angeles to produce *Electronic Café* for the Los Angeles Olympic Arts Festival, a ten-week event leading up to the Olympic Games. Rabinowitz and Galloway built workstations with computers, TVs, printers, video recording and transmission equipment, audioconferencing stations, and digital drawing tools known as “Telewriters” (Figure 1.2) that remained open for seven of those weeks. Using existing telephone lines, the artists constructed their own network to connect these stations, installed at five locations around the Los Angeles area. Four of the stations were placed in restaurants—the Gumbo House restaurant in Crenshaw, the Ana Maria restaurant in East LA, the 8th Street Restaurant in Koreatown, and Gunter’s Café in Venice—with the central database, built out of the Community Memory mainframe, placed at MOCA downtown (Figure 1.3).⁹⁰

⁸⁹ Community Memory co-creator Mark Szpakowski provides his recollections of the early years of Community Memory alongside flyers, newspaper inserts, and a user’s guide at Mark Szpakowski, “Community Memory,” The WELL, November 4, 2006, <http://www.well.com/~szpak/cm/>. For a more detailed history of the project’s development, see Joyce Slaton, “Remembering Community Memory / The Berkeley Beginnings of Online Community,” SFGate, December 13, 2001, <http://www.sfgate.com/news/article/Remembering-Community-Memory-The-Berkeley-2842143.php>.

⁹⁰ The Telewriters were an adaptation of a French technology that allowed people to draw on a surface that was projected onto the computer screen; there was a sheet of paper under the surface that would simultaneously be

Like the Community Memory organizers, Rabinowitz and Galloway associated the publicness of their network with its ability to connect a diverse and open-ended group of people.⁹¹ In this case, that group was anyone who might come into one of the work's far flung cafés and restaurants, as opposed to the more limited participants the artists would have reached if they had only installed terminals in the museum.⁹²

marked when people used it, leaving the artists with an enormous collection of paper records of the drawings. When the monitor on which the visitor was drawing was connected to the network, people using the terminals at the other locations could draw collaboratively, or access old drawings stored in the central database to edit and manipulate them (a very early example of the remixing practices that would become very common in internet-based art and music). Many of these drawings were used to build murals on the workstation walls, and some have been preserved in "Electronic Café Telewriter Papers," 1984, Sherrie Rabinowitz & Kit Galloway Archives. For a sketch of the components at each site and how Rabinowitz and Galloway connected them, see Figure 1.2. The museum workstation and main project database was hosted by MOCA's Temporary Contemporary, the downtown/Little Tokyo location that was renamed the Geffen Contemporary when it became one of MOCA's permanent sites.

⁹¹ Rabinowitz and Galloway had previously explored similar themes of communication and forming connections between open-ended groups of people with *Hole in Space* (1980). For this "public communication sculpture," the artists used satellite video to create an unexpected encounter between people at Lincoln Center in New York City and a shopping center in Los Angeles. People walking by either site would see and hear a live streaming video of people at the other site across the country, and could speak directly to their counterparts through the video recording equipment at their own site. Sherrie Rabinowitz and Kit Galloway, "Hole in Space, 1980," Telecollaborative Art Projects of Electronic Cafe International Founders, accessed October 24, 2017, <http://www.ecafe.com/getty/HIS/>. With *Electronic Café*, the artists began to consider how computer networks could facilitate more diverse and durational types of communication and interaction.

⁹² Rabinowitz and Galloway also deliberately installed the workstations in ethnically diverse LA-area neighborhoods so that the *Electronic Café* could function as a "vehicle for expressing and sharing the diverse cultural influences and images that make up Los Angeles." In other words, they saw computer networks as an opportunity not to flatten difference—a problem that, as we will see in chapter three, was endemic in visions of the digital public sphere—but rather as a means for communicating within and across difference. See Mobile Image, "In Context: Mobile Image The Temporary Contemporary An Olympic Arts Festival Project," April 1984, Sherrie Rabinowitz & Kit Galloway Archives. (The notion of using creative practice on the network to bridge, rather than erase, cultural divides was also discussed in Kit Galloway, interview by author, April 18, 2015.) In a recent analysis of *Electronic Café*, Cary Levine and Philip Glahn point out that this was part of the work's critical force in the context of the 1984 Olympic Games, in which *Electronic Café* was only one small element of a push to build out telecommunications infrastructure that included networks developed by companies like Motorola, IBM, and AT&T. Levine and Glahn argue that whereas these efforts were motivated by a growing "euphoria" over computing that was largely fueled by commercial interests, *Electronic Café* worked against the utopian spectacle of the games, offering an alternative vision for the role that computer networks might play. By building a network that was deliberately threaded through the complex sociocultural landscape of the city, handing the reins of control over to their visitors, and promoting the use of the network for multi-directional communication and collaborative art making, the artists reimagined these technologies not as tools that would construct new worlds for us, but "as the means by which subjects form the world and others, and are in turn formed by them." Cary Levine and Philip Glahn, "Interrogating Invention: Electronic Café and the Politics of Technology," *Panorama: Journal of the Association of Historians of American Art* 2, no. 1 (Summer 2016): np.

At the same time, *Electronic Café* expanded on Community Memory's original vision of using computer networks to connect people through information sharing by exploring how computer networks could connect people through art making. Each location had an operator, many of whom were local artists, and some also hosted artists-in-residence. In addition to sharing their own work, the artist-operators' job was to teach visitors how to use the workstations and to encourage them to engage in "creative conversation" between locations—they could draw together over the Telewriters, share performances on the video conference screens, contribute ideas and memories to the database, and so on (Figure 1.4).⁹³ This social and participatory model of artistic production would continue to play a significant role in net art. The appearance of the web also made it possible to dramatically scale up *Electronic Café*'s focus on collective production, or the creation of an artwork through the contributions of an open-ended pool of visitors rather than a set group of artists: when a work was on the web, it was much easier for more people coming from more places to find and add to it. As will be discussed in chapter two, in the mid- to late-1990s this led to the proliferation of artworks built through the accumulation of visitor contributions, a strategy that was flexible enough to allow artists to test several different means through which the web could connect internet users into the collective public(s) of the digital public sphere.

Of course, the bulletin board model on which Community Memory and *Electronic Café* were built is itself an accumulative model of public discourse. In the 1980s, artists began to

⁹³ Galloway recalls that kids who were repeatedly coming back to the *Electronic Café* sites were the most intuitive network users, and thus often became the workstations' de facto educators. Galloway, interview, April 18, 2015. Nevertheless, the artists played an important role as they put on their own performances and encouraged visitors to explore the workstations as a creative outlet. Some of the more well-known Los Angeles artists who participated in *Electronic Café* include Ulysses Jenkins, Hyun Sook Cho, Judith Baca, and Patty Valdez. Mobile Image, "In Context: Mobile Image The Temporary Contemporary An Olympic Arts Festival Project."

connect these models of collective production and collective discourse with pre-web communication platforms known, appropriately, as Bulletin Board Systems, or BBSes. Although there were other early messaging systems with which some artists also experimented, either as a creative outlet or simply an introduction to computer networking, the bulletin boards dominated efforts to articulate an internet-focused art practice before the web.⁹⁴ Like Community Memory, BBSes were built around the basic principle of posting and sharing messages with a group, rather than the direct communication offered by email, which is why the bulletin board metaphor persisted.⁹⁵ Microcomputers and smaller modems had appeared at the end of the 1970s, making it easier for early adopters to install computers in their homes and use them to access computer networks. This quickly led to the development of group messaging platforms, like the BBSes, that could be run by individuals. To run a BBS, an individual just needed to install a program on their computer, turning it into the system's server, and give other users its telephone number. People could use their modems and telephone lines to dial into that number and interact with each other, typically through message boards or chat rooms, although some also offered email services.⁹⁶ The appeal of all of these communication platforms was the opportunity they offered

⁹⁴ Besides the BBSes, other popular messaging systems that appeared in the 1980s include Usenet, known for their popular "newsgroups," Internet Relay Chat (IRC), and the text-based gaming and socializing environments called MUDs (multi-user domains) and MOOs (object oriented MUDs). In addition to these platforms, which tended to be individually-managed because they were based on widely available software, early internet users may also recall commercial pre-web services like CompuServe, Prodigy, or AOL. For a general introduction to the different kinds of communication platforms that flourished on the internet before the web, see Janet Abbate, "Chapter 6: Popularizing the Internet," in *Inventing the Internet* (Cambridge, Mass: MIT Press, 1999), 181–220. A wider survey of the pre-web platforms used by artists is available in appendix II.

⁹⁵ Although there is some controversy over who invented email and exactly when it emerged, early versions were available in the 1970s and it had started to spread by the 1980s. Don Reisinger, "The Curious War Over Who Founded Email," *Fortune*, March 7, 2016, <http://fortune.com/2016/03/07/who-really-invented-email/>.

⁹⁶ A former BBS administrator reminisces about the intimate social environment of these communication systems, and briefly outlines how they work, in Benj Edwards, "The Lost Civilization of Dial-Up Bulletin Board Systems," *The Atlantic*, November 4, 2016, <https://www.theatlantic.com/technology/archive/2016/11/the-lost-civilization-of-dial-up-bulletin-board-systems/506465/>.

to engage in group discussions with strangers who could, theoretically, be located anywhere. However, many actually had a relatively local user base because most services required people to pay normal phone charges every time they dialed in. Thus if a server was far away, this could mean steep long distance fees. Some BBS organizers went to great lengths to try to work around these problems, but for the most part BBS activity remained regional and the potential for truly long distance reach via computer networks was not realized until the web began to flourish.⁹⁷

However, this was not true of the first major arts board, which appeared in 1980, launched by Robert Adrian X, who was living in Vienna, along with fellow artist Bill Bartlett, who was living in Canada. It was initially called ARTBOX and it ran on the Canadian Mailbox platform, a commercial system that resembled a BBS but offered more international reach by connecting the individual boards through their central, private server. In 1982 Adrian X and Bartlett renamed it the Artists' Electronic Exchange System (ARTEX), and the board remained in operation until 1991.⁹⁸ Bartlett and Adrian X started ARTEX to facilitate group discussion and make it easier for artists from different regions to collaborate, a practical function of computer networks that, as noted above, resulted in collective, alternative authorship models becoming one

⁹⁷ A digital map that visualizes the geographic patterns that were reinforced by both the BBSes and the many in-person events associated with internet art (more on these below) is available at Megan Driscoll, "Online and Off: Interpersonal Networks and the Development of Internet Art," *Shift: Graduate Journal of Visual and Material Culture*, no. 9: Networks (November 2016), <http://shiftjournal.org/networks/online-and-off/>.

⁹⁸ It may be that few other boards used this international service because it was not widely available to individuals. The Canadian Mailbox service was part of a privately run, international network that I.P. Sharp Associates (IPSA) had built for their business clients. Bartlett gained access to it for his 1979 *Interplay* project, and through these connections was able to get the ARTBOX boards incorporated into the network as a "special interest group." A brief history of ARTBOX/ARTEX and some miscellaneous documentary records, including flyers and an early membership list, can be found at Robert Adrian X, "ARTEX - Artists' Electronic Exchange System 1980-1990," accessed December 12, 2017, <http://alien.mur.at/rax/ARTEX/>. The 1982 membership list uploaded on that page shows participants from the US, the Netherlands, Austria, Canada, Australia, and the UK, including names that are recognizable from the field of net art and criticism that developed later. While the international reach of ARTEX makes it sound expansive, the total membership at this time was only a little over 30 user accounts, and there is no indication that it ever grew significantly beyond those numbers.

of the hallmarks of net art. ARTEX was also significant because it helped to build a bridge between existing artistic experimentation with telecommunications technologies like television, fax, and radio and the burgeoning landscape of computer networks.⁹⁹ Art critic and historian Tilman Baumgärtel would later attribute this pattern of practice to an interest in the mobility of information itself, as opposed to the technologies through which it flows, part of conceptual art's broader investigation into the dematerialization of the artwork.¹⁰⁰

Meanwhile, BBSes had proliferated throughout the 1980s and early 1990s, from relatively popular general internet culture boards, like The WELL in California and Echo BBS in New York, to an uncountable number of niche interest groups, including quite a few art-specific boards.¹⁰¹ For example, the Art Com Electronic Network, which included a sub-board on The

⁹⁹ Even outside of ARTEX, Adrian X was influential in connecting computer networks to existing telecommunications art practices, a field he entered in the 1970s. For example, Adrian X worked on *Planetary Network*, a collaborative installation at the 1986 Venice Biennale organized by Roy Ascott that blended slow scan TV, fax, email, and computer conferencing. See Robert Adrian X, "Planetary Network - Venice Biennale 1986," accessed December 12, 2017, <http://alien.mur.at/rax/UBIQUA/index.html>. He also helped to theorize the relationship between the emerging field of net art and the history of telecommunications art practices with the ZERONet project, a combined BBS and curatorial initiative that he launched with artist and curator Gerfried Stocker in the early 1990s as ARTEX was coming to a close. ZERONet concluded with a short series of symposia addressing the question, "Is telecommunication technology capable of sustaining artistic activities?" See Gerfried Stocker, "ZERONET: The Network," in *On Line: Kunst Im Netz Katalog*, ed. Helga Konrad, ZERO - The Art of Being Everywhere (Vienna: REMAprint, 1993), np. Even decades later, well after establishing a more internet-focused practice, Adrian X still insisted that computer networking is ultimately "all about the telephone." Robert Adrian X quoted in Manuela Naveau, "Robert Adrian X Turns 80 - 'In Any Case, It's All about the Telephone,'" *Ars Electronica Blog* (blog), February 21, 2015, <http://www.aec.at/aeblog/en/2015/02/21/robert-adrian-x-turns-80/>.

¹⁰⁰ Tilman Baumgärtel, "On the History of Artistic Work with Telecommunications Media," in *Net_condition: Art and Global Media*, ed. Peter Weibel and Timothy Druckrey (Graz, Austria : Karlsruhe, Germany : Cambridge, Mass: The MIT Press, 2001), 152–61.

¹⁰¹ The WELL was started in the San Francisco Bay area in 1985 and developed into a sprawling network of boards, growing from a few hundred users to eight thousand by 1993, an enormous number of people for a single network in those years. A detailed history of The WELL's early years is available in Rheingold, *The Virtual Community*. Its current iteration can be explored in: "What Is The WELL?," The WELL, accessed December 13, 2017, <https://www.well.com/about-2/>. Stacy Horn founded Echo BBS in 1990 in New York City; it was the first large-scale internet group based on the east coast and is still running today as a web-based email and hosting service. Horn wrote her own history of the project at Stacy Horn, *Cyberville: Clicks, Culture, and the Creation of an Online Town* (New York: Grand Central Pub, 1998). Horn is also one of the women who influenced the development of personal computing and computer networking discussed in journalist Claire Evans's recent history: Claire Lisa Evans, *Broad Band: The Untold Story of the Women Who Made the Internet* (New York, NY: Portfolio/Penguin, 2018).

WELL, and the Dutch TAM-Bulletin Board both connected computer networking to existing mail art practices.¹⁰² And groups like these popped up all over the world. In Italy, a large network of BBSes developed out of the intersection of art and politics nurtured by 1980s cyberpunk literature.¹⁰³ In the UK, artist Heath Bunting started the Cybercafé BBS, a predecessor to the influential net art collective that later formed around his website, irational.org.¹⁰⁴ In Montreal, Le Musée Standard declared itself to be the world's first online art museum because its communication platform, Alextel, allowed for some image sharing.¹⁰⁵ Alextel was a Canadian adaptation of the French Minitel platform, which used the videotex network to offer a more graphics-intensive alternative to BBSes.¹⁰⁶ The videotex network was adopted as Videotexto in Brazil, where it attracted a growing group of South American artists interested in computer

¹⁰² For more on ACEN, an arts network that eventually extended beyond the founders' interest in mail art, see Carl Loeffler, "Telecomputing Und Die Digitale Kultur," *Kunstforum International (Im Netz Der Systeme)*, September 1989. TAM founder Ruud Janssen describes the development of the TAM-Bulletin in Ruud Janssen, "History of the TAM-Bulletin," International Union of Mail Artists, 1997, http://iuoma.org/blog_new_2015/2015/06/17/tam-bulletin-history/. Florian Cramer briefly discusses the link between mail art and the BBSes in Chiara Moioli, "Neoism Now & Then. In Conversation with Florian Cramer," *Issuu*, 2015, https://issuu.com/linkeditions/docs/cramer_prova/11. And MoMA explored mail artists' adaptation to the internet in a recent exhibition, Museum of Modern Art, "Analog Network: Mail Art, 1960–1999," MoMA, 2014, <https://www.moma.org/calendar/exhibitions/1482?locale=pt>.

¹⁰³ Curator and historian Tatiana Bazzichelli describes the cultural and political BBSes in Italy and their relationship to net art in Tatiana Bazzichelli, *Networking: The Net as Artwork* (Aarhus: Aarhus Universität, 2009), 76–84.

¹⁰⁴ Cybercafé briefly became a website before it was transferred over to irational.org; an archive of its activities is available at Heath Bunting, "Cybercafe Net Art Projects," accessed December 13, 2017, <http://www.irational.org/cybercafe/>.

¹⁰⁵ There is limited information remaining online about Le Musée Standard, but it is addressed in a recent publication on La Société de Conservation du Présent, who were associated with starting it; a summary is available at l'Agence TOPO, "(La Société de Conservation Du Présent) 1985-1994," 2015, <http://www.agencetopo.qc.ca/wp/en/events/event/la-societe-de-conservation-du-present/>.

¹⁰⁶ Videotex (closely related to teletext) was a system that could deliver information to an end-user on a monitor, usually a "dumb terminal" or television screen, and receive responses through basic chat functions. It was never very popular outside of the Minitel system in France and Videotexto in Brazil, but it did attract some artists because it offered basic graphics capability well before most other networked platforms. UNESCO released a description of videotex and teletext technologies and a review of their implementation in different parts of the world in UNESCO, "A Decision Maker's Guide to Videotex and Teletext (Preliminary Edition)," January 9, 1986, UNESCO Archives, <http://unesdoc.unesco.org/images/0006/000689/068919eb.pdf>.

networks.¹⁰⁷ In Germany, a bulletin board network called Bionic became a central hub for artists interested in communicating with computer networks.¹⁰⁸ And back in New York, a pair of artists launched ARTNET, a short-lived BBS focused on discussing and sharing visual art that relied on relatively new software that allowed users to embed digital image files directly into the boards themselves, rather than just sharing links to downloadable those files.¹⁰⁹

The single most influential BBS on the development of net art was THE THING. It was started by artist Wolfgang Staehle in New York in 1991 and had several nodes in Germany, where Staehle was originally from, as well as in Austria, Switzerland, and Sweden (Figure 1.5).¹¹⁰ THE THING was never a very large BBS; Staehle describes it as a small haven that primarily attracted artists who were also interested in net culture. However, the board became

¹⁰⁷ For example, artist Julio Plaza organized an exhibition of Brazilian Videotexto artists for the 1983 Bienal de São Paulo. Brazil's Videotexto culture has recently seen renewed scholarship, including an essay that accompanied the release of Eduardo Kac's *Reabracadabra* (1985) on Rhizome's Net Art Anthology: Daniel Hunt, "Brazil's 'Telematic Revolution': Net Art at the End of the Dictatorship," Rhizome, December 5, 2016, <http://rhizome.org/editorial/2016/dec/05/tropical-minitel/>.

¹⁰⁸ In Germany, bulletin boards were known as Mailbox systems, but they more closely resembled US BBSes than the private Canadian Mailbox system on which ARTEX ran. Art historian Josephine Bosma briefly touches on BIONIC and its relationship to other European pre-web internet cultures in Josephine Bosma and Stefan Heidenreich, "Missing Links," *Frieze d/E*, May 2014, <http://frieze-magazin.de/archiv/features/missing-links/?lang=en>. One of the artists who co-founded BIONIC reflects on the project in Rena Tangens, "Art d'Ameublement and Zerberus - from Erik Satie to the Mailbox," in *On Line: Kunst Im Netz Katalog*, ed. Helga Konrad, ZERO - The Art of Being Everywhere (Vienna: REMAprint, 1993), 93–102.

¹⁰⁹ Even with the new software ARTNET was using, embedding images in a BBS was so clunky that few other boards bothered, but for founders Remo Campopiano and Robbin Murphy this was critical to their board's mission: to help New York area artists share their work with each other online. However, they shifted to the web as soon as they were able to get access to the early Mosaic web browser (see below), building the Artnetweb site in late 1993 and shutting down the BBS soon after. Remo Campopiano, interview by author, June 16, 2016. The no longer updated site is available at Remo Campopiano, "Artnetweb," 2000, <http://artnetweb.com/>.

¹¹⁰ Although this multi-continental network was one of the draws for THE THING's participants, Staehle recalls that sharing discussions between nodes was awkward and inefficient. Because the long distance charges to connect his New York server to the European nodes were quite high, Staehle would log on in the middle of the night when he could get the lowest rates, batch download messages, and transfer them out the next day, creating (at best) a 24 hour gap in conversations. Wolfgang Staehle, interview by author, February 8, 2016. This international network also meant that language was an issue—like with so many of the international online groups, people ended up defaulting to using English to cross language barriers. Media scholar Geert Lovink reflected on the effects of the dominance of English a few years into the web in Geert Lovink, "Nettime: Language? No Problem.," January 5, 1997, <http://www.nettime.org/Lists-Archives/nettime-l-9701/msg00004.html>.

enduringly important for net art because of the many dialogues it fostered about the nature of artistic practice online.¹¹¹ Some of these discussions focused on the alternative distribution pathways created by computer networks. For example, in 1992 THE THING hosted one of the first online art exhibitions by distributing media files that users could download, starting with images of physical artworks and then expanding to include born-digital works. And in 1993, artist Peter Halley created an unlimited edition digital artwork called *Superdream Mutation* that was only available via the BBS (Figure 1.6). There was considerable debate on the boards about whether any of these projects represented a medium-specific way of using computer networks for art.¹¹² However, all participants agreed that what was most significant was the new, non-institutional circulation path being opened by computer networks, which remained very important for artists throughout the 1990s. And as noted in the introduction, once the web made it easier for artists to share their work with anyone online and not just members of a specific bulletin board, this accessibility outside of museums and galleries formed the basis for claims that all art on the internet was also public art.

Members of THE THING also explored the proposal that online communications were themselves works of art, a social way of defining a practice that is native to the network, although there was very little agreement about what aspects of online communication should be

¹¹¹ A brief history of THE THING and discussion of efforts to rescue its archives from technological obsolescence can be found in Janus Kopfstein, “‘The Thing’ Reloaded: How a BBS Changed the Art World and Came Back from the Dead,” *The Verge*, March 15, 2013, <https://www.theverge.com/2013/3/15/4104494/the-thing-reloaded-bringing-bbs-networks-back-from-the-dead>. Art historian and media critic Charlotte Frost argues that the discussions about art happening in boards like THE THING represent a first phase in internet-based art criticism, which shifted to email discussion lists and blogs after the web. Charlotte Frost, “Digital Critics: The Early History of Online Art Criticism,” *Leonardo*, October 31, 2016, https://doi.org/10.1162/LEON_a_01379.

¹¹² Debates about the internet-specificity of artworks like Halley’s *Superdream Mutations* were common on THE THING, and one of the reasons that the board became so influential for artists looking for a way to integrate computer networks into their practices. Many of these discussions art can be found on the selectively archived “Art” thread in THE THING BBS archives: THE THING BBS, “Art.”

considered art.¹¹³ The idea that communication could be a form of artistic practice connected platforms like ARTEX and THE THING to early attempts to integrate computer networks into individual artworks, like *Electronic Café*, and became a central tenet of net art in the 1990s. Moreover, by framing computer networks as a “medium for creation and also *exchange*” (emphasis added), participants in the bulletin boards connected art making on computer networks to the construction of a digital public sphere.¹¹⁴ Invoking artist Joseph Beuys, Staehle commented that, “What mattered to Beuys was the social sculpture, an artistic production made jointly by a group or a community. ‘THE THING’ is just such a sculpture: it realizes the Beuysian idea of direct democracy, of political community as social structure.”¹¹⁵ Communication and exchange thus became the foundation of both an internet-specific art practice and a new “political community,” the basic principle out of which the concept of the digital public sphere was emerging.

As political scientist Jodi Dean has pointed out, the idea that the internet was a digital public sphere became popular in the midst of a general 1990s revival of interest in Jürgen Habermas’s seminal history of the public sphere.¹¹⁶ As described in the introduction, the classical public sphere arose out of the circulation of information in the newly ascendant press,

¹¹³ Debates about whether BBSes were simply a passive vehicle for discussing art (Barry Schwabsky, message #6357), or if those discussions could, following artist Joseph Kosuth, be considered art because they were happening in the context of artistic practice (Jordan Crandall, message #6908) can be found in the “Art” thread of THE THING’s archives (see above). The idea that communication-as-art is part of a larger “infosocial” economy developing on computer networks is explored in the “Transactivism” thread, a month-long, art and activism online symposium organized by artist Jordan Crandall: THE THING BBS, “Transactivism,” THE THING Archive, 1993, <http://old.thing.net/html/trans.html>.

¹¹⁴ Donald Newman, message #2071 in THE THING BBS, “Art.”

¹¹⁵ Staehle in Daniels, “The Art of Communication: From Mail Art to the E-Mail.” More recently, Staehle has observed that whether or not the BBS discussions themselves were art (or social sculpture) was ultimately beside the point; the fact that THE THING provided a supportive platform for people to explore what it meant to make art native to computer networks was what made it so critical for the growth of net art. Staehle, interview.

¹¹⁶ Dean, “Why the Net Is Not a Public Sphere,” 96.

and the discourses and debates about that information happening among citizens in public gathering places like coffee houses and *salons*.¹¹⁷ With the arrival of computer networks, many observers looked at the way that information and discourse circulated online and argued that a new, digital public sphere was emerging. Even back in 1974, an advertisement for Community Memory asked readers to imagine a “national news network” that would offer “a means of coordination for national political action” (Figure 1.7). But in the era of bulletin boards and chat rooms, before the web, the notion of a public computer network was still mostly theoretical. Because you had to connect directly to a specific platform and could only exchange messages there with other people on that platform, it was difficult to say that the texts, or artworks, that you shared were addressed to or circulating among the indefinite, open-ended group of people that is “the public.” This meant that the communication system on the network did not yet rise to the level of a public sphere—after all, while Habermas’s public sphere was limited to the bourgeois in practice, it was only a public domain insofar as it was understood to be, at least in principle, universally accessible.¹¹⁸

This all changed when the World Wide Web (the web’s original, proprietary name) came along. The first commercial internet service provider (ISP) had already appeared at the end of the 1980s. This made it possible for individuals to connect to the central internet backbone rather than to the scattered networks described above, even if they did not have access to an institution connected to one of those central networks, like NSFNET. However, the technical barriers to

¹¹⁷ Habermas narrates the development of the public sphere and the respective roles of the press, the debating public, and social institutions like the coffee houses in sections I and II of Habermas, *The structural transformation of the public sphere*.

¹¹⁸ As noted in the introduction, Habermas argues that the bourgeois classes understood that the reach of their debates was limited in this way, but conceived of themselves as representatives of a larger public, not a replacement for it. Habermas, 36.

using the internet remained high for most people, and participation thus remained low. Computer scientist Tim Berners-Lee conceived of the web out of a desire to construct a way for people to access the internet that is both easy to use and universal, meaning that all content should be readable to any connected device and accessible no matter where that device and the server to which it is connecting are located. To accomplish this, he designed a set of three relatively simple technical protocols (HTTP, URIs, and HTML) that make it easier to visualize and interconnect data, constructing a layer, or “web,” through which we can access information on the internet.¹¹⁹ Berners-Lee released these protocols in 1991; in 1992, researchers started to develop the first web browsers, which, as their name suggests, make it easy to browse content on the web; then in 1993, Mosaic, a very basic browser, was released to any interested users.¹²⁰ Now instead of sending your message to a specific bulletin board or chat room where it would only be seen by people choosing to participate in that individual platform, you could put something on a website where anyone, anywhere could just stumble (or browse) across it, effectively “turning the Net inside out.”¹²¹ However, the web did not really catch on until late 1994, when members of the Mosaic team split off to form their own company and launched the first widely-distributed, commercial web browser, Netscape Navigator. Microsoft quickly

¹¹⁹ HTTP stands for Hypertext Transfer Protocol, and it is the protocol through which links (short for hyperlinks) exchange information on the web. URI stands for Uniform Resource Identifier, and it is a string of identifying characters. The most well-known URIs are URLs (Uniform Resource Locators), or web addresses. HTML stands for Hypertext Markup Language, and it is the most basic coding language through which websites are structured.

¹²⁰ Michael Calore, “April 22, 1993: Mosaic Browser Lights Up Web With Color, Creativity,” *WIRED*, April 22, 2010, <http://www.wired.com/2010/04/0422mosaic-web-browser/>. The NSF, which, as noted above, had started to take over centralized management of the internet in the 1980s, also changed its acceptable use policy in 1991, allowing the first commercial internet traffic. Then in 1995, the NSFNET internet backbone was decommissioned, accelerating the process of privatizing the infrastructure that makes up the internet. National Science Foundation, “A Brief History of NSF and the Internet,” NSF - National Science Foundation, August 13, 2003, https://www.nsf.gov/news/news_summ.jsp?cntn_id=103050. As will be discussed in chapter six, early internet users, including many net artists, felt that this had a significant effect on net culture.

¹²¹ Negroponte, “WIRED 4.05 - Caught Browsing Again.”

followed, packaging the Internet Explorer browser with their 1995 release of the Windows operating system, and these free and easy to use web browsers started bringing waves of people online.¹²²

With the web, communications on computer networks could be circulated among anyone in the rapidly growing group of internet users, thereby making internet discourse—and internet art—feel public for the first time. Moreover, while many of the earlier platforms required users to pay normal phone charges to dial into their servers, which meant that you could incur steep long distance charges if the servers were far away, the web rendered distance irrelevant. Once someone is connected to the internet, it makes no difference where the server hosting the files that make up the content of the website(s) they are visiting is located; those files will reach the person’s computer just the same. This seeming collapse of geographic distance and expansion of the sphere of discourse inspired claims by many that cyberspace existed outside of geopolitical borders, and that it would usher in a new, radically democratic era of globalization, constructing a worldwide, all-inclusive public sphere.¹²³ However, the growth in internet use that followed the web was not, in fact, global, nor did it transcend existing borders. Instead, it reinforced many pre-existing economic imbalances between nations and geographic regions. Figure 1.8 shows a

¹²² A detailed history of the development and rise of the web can be found in Berners-Lee and Fischetti, *Weaving the Web*. However, while Berners-Lee conceived of the web and developed the protocols on which it is based, Marc Andreessen is the developer who is widely credited with its popularity. This is because he was the driving force behind both the early Mosaic browser and the later commercial release of Netscape Navigator, as well as its popular beta version, Mozilla. Bloomberg TV explored this history with their 2011 *Game Changers* series documentary on Andreessen; the video is no longer available on their website, but information about it can be found at Bloomberg, “Bloomberg Game Changers: Marc Andreessen,” Bloomberg TV, 2011, <https://web.archive.org/web/20120527082122/https://www.bloomberg.com/video/67758394-bloomberg-game-changers-marc-andreessen.html>.

¹²³ For example, in his 1996 description of the network as a new, global social space, John Perry Barlow wrote: “I declare the global social space we are building to be naturally independent of the tyrannies you seek to impose on us... Cyberspace does not lie within your borders.” Barlow, “A Declaration of the Independence of Cyberspace.”

map of the estimated percentage of the population by country using the internet in 1996, two years after the appearance of commercial web browsers. This map vividly demonstrates how weighted the “global” network was toward wealthier areas like North America and Europe, which had already been building internet infrastructure for decades. Or to put it in numbers: the International Telecommunication Union and World Bank estimate that the number of internet users worldwide went from approximately 0 to 1% of the population between 1993 and 1996. In the United States, the percentage of internet users grew from about 2% to 16% in the same period.¹²⁴

In part because they were more likely to have the resources to get online, artists from Europe and North America (primarily the US) also dominate histories of early internet art. Of course, there are important exceptions. A few of the influential artists and artist groups who emerged in East, South, and Southeast Asia during the early years of net art include the Raqs Media Collective, which formed in India in 1992; Young-Hae Chang Heavy Industries, a duo that started working together in South Korea in 1999; the Singaporean collective tsunamii.net, who worked together between 2001 and 2005 and performed *alpha 3.4* at documenta 11 in 2002; and Takuji Kogo, a Japanese artist who has been working with computer networks since the mid-1990s and is perhaps best known for his collaborative Candy Factory platform.¹²⁵ In Central and

¹²⁴ International Telecommunication Union, “Individuals Using the Internet (% of Population).”

¹²⁵ The Raqs Media Collective describes their artistic, curatorial, and publishing activities at “Raqs Media Collective,” accessed December 14, 2017, <http://www.raqsmediacollective.net/>. Young-Hae Chang Heavy Industries offers an archive of their web-based work at Young-Hae Chang Heavy Industries, “YOUNG-HAE CHANG HEAVY INDUSTRIES PRESENTS,” accessed December 14, 2017, <http://www.yhchang.com/>. (It is worth noting that the two members of Young-Hae Chang Heavy Industries, one of whom is Korean and one of whom is American, met while working in Paris, although they did not form their net art partnership until after moving back to South Korea. This helps to demonstrate how important geographic mobility remained in the 1990s for forming partnerships and sharing strategies and ideas among artists interested in computer networks, no matter how much virtual mobility was also offered by the internet.) A graduate student has constructed an archive of tsunamii.net’s practice at Kenneth Tay, “FLAT.SPACES,” accessed December 30, 2017, <https://tsunamiinet.tumblr.com/>. Their

South America, Brazilian artists like Eduardo Kac started exploring computer networks before the web through the popular Videotexto platform, described above, and Brian Mackern's *netart_latino database* project tracks a group of Central and South American artists who worked with computer networks after the rise of the web, from the late 1990s into the early 2000s.¹²⁶ Net art also started to gain some traction in Australia after they launched a government funding program for art and technology in the 1980s, which helped artists gain access to computers, software, and eventually the internet, sparking a wave of technology-oriented arts practices in the region.¹²⁷ While this brief outline in no way approaches a complete list of net artists working outside of North America and Europe in the 1990s and early 2000s, it helps to demonstrate that wherever internet infrastructure was available, there were artists exploring computer networks. Overall, however, the home countries of net artists who gained notoriety for their work in the 1990s and early 2000s skew heavily toward the US and European nations, which was only partially because internet access was easier to get in these areas. Equally important is the fact that net art practices also tended to cluster geographically around certain kinds of art world

work *alpha 3.4* can be viewed in Rhizome's Net Art Anthology at Rhizome, "Tsunami.Net's Alpha 3.4," Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/alpha-3-4>. As early as 1996, Kogo was working on international collaborations with artists like Martine Neddam, the creator of *Mouchette*; in 2002 he also worked with Young-Hae Chang Heavy Industries on *Halbeath*. Current Candy Factory projects can be found at Takuji Kogo, "*Candy Factory Projects," accessed December 19, 2017, <http://artonline.jp/candyfactory.html>.

¹²⁶ Rhizome, "Eduardo Kac's Reabracadabra," Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/reabracadabra>. Brian Mackern, "Netart_latino Database," 2005, <http://netart.org.uy/latino/index.html>.

¹²⁷ For example, as will be discussed in chapter three, Australian artist group VNS Matrix was very influential in the development of the concept of cyberfeminism, which they explored in a 1991 work that was distributed in part on pre-web chatting and gaming platforms. They discuss the formation of their group and their experiences with Australian media arts organizations in Claire L. Evans, "An Oral History of the First Cyberfeminists," *Vice Motherboard*, December 11, 2014, <http://motherboard.vice.com/read/an-oral-history-of-the-first-cyberfeminists-vns-matrix>. Julianne Pierce, a member of VNS Matrix, outlines the history of Australian media arts funding in Julianne Pierce, "Update: Support for Australian Media Arts," *Artlink Magazine*, September 2001. By the late 1990s, Australia had also become a hub for internet-based experimental radio, a practice that, as Australian and New Zealander net art/radio group radioqualia co-founder Honor Harger recalls, was not really distinguished from other forms of net art until later. Honor Harger, interview by author, October 12, 2016.

infrastructure that were mostly found in these areas.¹²⁸ The interchanges and collaborations that nurtured net art did not just happen on bulletin boards; festivals, symposia, and conventions that interwove art and tech culture provided important venues for in-person interactions and the development of creative exchanges that were often continued online. Although they typically attracted international attendees, these events were mostly hosted by European countries and the US, reinforcing the perception that these regions, and the artists who hailed from them, formed the centers of net art.¹²⁹

Another crucial piece of the offline infrastructure that shaped net art in the 1990s centered around access to training and resources. Even as the web made the internet easier and less expensive to use, a certain amount of technological savvy and determination was still required to get online during these early years. This fostered a culture of peer-education that branched out of people's living rooms and into media centers and internet cafés where interested individuals could gather to learn how to use internet-connected computers. Many of these centers were run by artists, and this attracted other artists who wanted to incorporate computer networks into their practices.¹³⁰ Notably, these types of centers helped contribute to the growth of

¹²⁸ As noted above, a digital map of the major centers of net art practice during the 1990s and early 2000s is available at Driscoll, "Online and Off: Interpersonal Networks and the Development of Internet Art." This map shows that the core centers of net art were not evenly distributed in the US. Like in many other fields of contemporary art, their activities were most intensified in coastal areas, particularly California and New York, with several events appearing in the Midwest around the Minneapolis-based Walker Art Center, which was very active in net art in the late 1990s and early 2000s because of its Gallery 9 initiative, curated by Steve Dietz.

¹²⁹ More detail on the festivals, symposia, conventions, and parties that helped to promote net art during the 1990s can be found in appendix II.

¹³⁰ For example, Sherrie Rabinowitz and Kit Galloway took their *Electronic Café* model and translated it into the Electronic Café International in Santa Monica, California. Open from 1990 to 1999, the Electronic Café offered a space for socializing, learning about computers, and making art both in-person and across the network. See Don Snowden, "An Electronic Kaffeeklatsch: With Videos, Computers, Fax Machines and Java, Patrons at the Electronic Cafe Are Creating a High-Tech Artistic Network," *Los Angeles Times*, October 28, 1990, sec. Technology, http://articles.latimes.com/1990-10-28/entertainment/ca-4782_1_electronic-cafe. This is just one of many similar art, technology, and social centers; those that are either still open or have been well documented in archives were almost

computer networking among central and eastern European artists, who took on an outsized role in early net art as the internet started to open up new lines of communication between eastern, central, and western Europe during the reunification process after the fall of the Iron Curtain.¹³¹ As Slovenian net artist Vuk Ćosić emphasizes, the simple availability of the internet is not, however, sufficient to explain why so many artists from this region quickly shifted from using computer networks for communication to using them to make internet art. One likely factor was pragmatic: Ćosić points out that as long as you can get to a computer, net art requires relatively little equipment.¹³² But perhaps more importantly, internet art was also crystallizing into a

all located in the US and Europe, reinforcing the geographic dominance of these areas in histories of net art. More information on these centers can be found in appendix II and Driscoll, “Online and Off: Interpersonal Networks and the Development of Internet Art.”

¹³¹ In the mid-1990s, as part of a general push to help rebuild infrastructure in central and eastern Europe, George Soros’s Open Society Institute, now known as the Open Society Foundations, launched the Soros Centers for Contemporary Art (SCCAs), which came out of an earlier initiative in Budapest. (Octavian Eșanu, founding director of the SCCA in Moldova, has published a detailed history of the SCCAs at Octavian Eșanu, “The Transition of the Soros Centers to Contemporary Art,” *Contemporary.Org* (blog), 2008, <http://www.contemporary.org/project/view/10>.) Funding and management for OSI initiatives was decentralized, which meant that local interests dictated specific activities at the centers; they therefore each created relatively unique programs, and over time the ones that stayed open separated entirely from the OSI and became independent local arts centers (see appendix II). The OSI/OSF has, however, come under some criticism for imposing US and western European ideas about the “right” form of democracy and political participation through its funding programs, including those focused on media and the arts. See Geert Lovink, “The Art of Being Independent: On NGOs and the Soros Debate,” May 13, 1997, <http://www.ljudmila.org/nettime/zkp4/11.htm>. One of the problems was that internet infrastructure was not evenly developed across central and eastern Europe, reinforcing existing imbalances in access to resources for artists, an issue that came up repeatedly in the Budapest-based MetaForum net art conferences organized by Geert Lovink, Diana McCarty, and János Sugár between 1994 and 1996. See Geert Lovink, Diana McCarty, and János Sugár, “MetaForum Conference Series,” 1996, <http://www.mrf.hu/metaforum.html>. Gary Schaal underscores this point in a critique of the tendency to import US and western European ideas about the link between information technology and democratic participation into the eastern European context where, he argues, unequal internet distribution simply built up existing hierarchies around access to information and the ability to convert that access into political participation. Gary S. Schaal, “Democracy and Censorship in the Net: The Internet in Eastern Europe,” in *Media Revolution: Electronic Media in the Transformation Process of Eastern and Central Europe* (German Title: *Ost-West Internet*), ed. Stephen Kovats (Frankfurt/M., Germany, and New York, NY: Bauhaus 6, Campus Verlag, 1999), 152–57.

¹³² Lev Manovich makes a broader, but related argument, in his essay “Avant-Garde as Software,” in which he describes how a whole suite of digital technologies that have been lumped together as new media—web sites, but also computer games, software applications, hypertext-based applications, etc.—have taken up not only the claims of radical newness that emerged from 1920s Russian and German cinema and photography, but also the call for a new way of understanding the world through emerging technologies. But whereas movements like New Vision in cinema and photography demanded that we revise our perception of form in response to the way that the lens

specific field of artistic practice just as central and eastern European countries were undergoing significant social and political upheaval and restructuring following the collapse of the Soviet Union and surrounding socialist governments. This, Ćosić argues, created a context in which many artists were receptive to change and eager to find alternative routes of circulation for their practices.¹³³ And many central and eastern European net artists were optimistic that the practice of net art would offer an opportunity for the region to reassert itself in the global arena of contemporary art.

The significant presence of central and eastern European artists in net art was also remarkable for other net artists, particularly those from western Europe, because of the same sociopolitical changes.¹³⁴ Restrictions on travel and communication had kept Soviet artists fairly isolated during the Cold War, and even artists living on the outskirts of the Soviet Union in

perceives the world, Manovich claims that new media accepts that we have reached the limit of new forms of perception and instead directs our attention to new forms of distribution and retrieval, from data mining to digital manipulation to the structure of the database itself. See Lev Manovich, "Avant-Garde as Software," in *Media Revolution: Electronic Media in the Transformation Process of Eastern and Central Europe (German Title: Ost-West Internet)*, ed. Stephen Kovats (Frankfurt/M., Germany, and New York, NY: Bauhaus 6, Campus Verlag, 1999), 48–61.

¹³³ Vuk Ćosić, interview by author, February 17, 2016. Recently, scholars from Slovenia have started an archival project to build a more detailed history of conceptual art practices in central and eastern Europe; although it does not look specifically at net art, it helps to piece together the broader context within many of these artists were working: Zdenka Badovinac et al., "Conceptual Art and Eastern Europe: Part I," *E-Flux*, no. 40 (December 2012), <http://www.e-flux.com/journal/40/60277/conceptual-art-and-eastern-europe-part-i/>.

¹³⁴ Artists like Ćosić also insisted on using the social networks building around net art to increase attention not only to central and eastern European artists who were bringing their work to western Europe, but also to activities happening in the region itself. This was part of a deliberate effort to counter the historical tendency to focus on western European art centers and marginalize activities happening in central and eastern Europe. For example, in 1997 Ćosić organized "Beauty and the East," a Slovenian conference centered around the nettime email list that was initiated as a half-joking rejoinder to a panel called "V2_East" at a Dutch conference that some artists felt unintentionally reinforced the tendency to only be interested in central and eastern European art practices as they could be related to activities in the west. See Vuk Ćosić, "Nettime May Meeting Beauty and the East," 1997, <http://www.ljudmila.org/~vuk/nettime/>. However, in our interview Ćosić emphasized that participants in both events were all friendly, and that both events resulted in many satisfying artistic exchanges. More on the "V2_East" event, and related initiatives run by Dutch media research facility V2_Lab for Unstable Media, is available at V2_Lab for Unstable Media, "Media Art in Eastern Europe," V2_, accessed December 7, 2015, <http://v2.nl/events/media-art-in-eastern-europe>.

places like Belgrade, where there was a lively local arts scene and travel and communication was less restricted, had not been well represented outside of central and eastern Europe.¹³⁵ As a result, many European artists report growing up feeling like there was an insurmountable gulf between the two sides of the continent that was as much cultural as it was political. Thus when the internet made regular communication and collaboration across Europe not only possible, but easy, the psychological effects of bridging that gulf were acute. In the words of Italian artist duo Eva and Franco Mattes, it was as though Europe had suddenly doubled in size.¹³⁶ Although most artists remained skeptical of the globalizing rhetoric surrounding the internet, the fact that the geographic and cultural divides of the Cold War were falling away around the same time that the web began to facilitate long-distance, multi-directional communication at an unprecedented scale tended to reinforce the perception that a new public sphere was developing worldwide.¹³⁷

¹³⁵ In our interview, Slovenian artist Vuk Ćosić described his experience in the 1980s, traveling easily but noticing the relative lack of representation of non-western European artists. This reflects most narratives of the isolation of artists working in and around the former Soviet Union during the Cold War, and the anecdotal reflections of artists from western Europe, who reported feeling quite closed off from practices in those regions. However, recent art historical scholarship has pointed out that these narratives ignore the fact that there were some artistic exchanges happening across the Iron Curtain, and that more attention to specific practices happening in central and eastern Europe during the twentieth century may further trouble this divide. Mathilde Arnoux, “To Each His Own Reality: How the Analysis of Artistic Exchanges in Cold War Europe Challenges Categories,” *Art@s Bulletin* 3, no. 1 (June 24, 2014), <http://docs.lib.purdue.edu/artlas/vol3/iss1/4>.

¹³⁶ Eva and Franco Mattes, interview by author, January 19, 2016. Computer networks were equally important for communication within central and eastern Europe after the collapse of socialist governments and the outbreak of war in the former Yugoslavia resulted in a dramatic loss of other infrastructure. For example, the German BIONIC Mailbox network described above had built an outpost in the former Yugoslavia, called Zamir-Net, that remained active during the war and helped keep personal lines of communication open. See Masha Gessen, “Balkans Online,” *WIRED*, November 1, 1995, <https://www.wired.com/1995/11/zamir/>. rena and padeluun, the artists who ran Bionic, cite Zamir-Net as one of the reasons they kept Bionic running for so long in Tilman Baumgärtel, “Die Künstler Als Katalysatoren,” *Telepolis*, June 26, 1997, <http://www.heise.de/tp/artikel/6/6156/1.html>.

¹³⁷ All of the artists I interviewed on this topic, including the Matteses, were careful to describe the cultural gaps of the Cold War in nuanced terms, pointing out that there were significant differences across the central and eastern parts of Europe—the highly isolated, communist Soviet regions felt much farther away to people in Italy or the Netherlands than places like socialist Yugoslavia. Moreover, these artists were very aware of the fact that internet infrastructure was still spotty within central and eastern Europe, particularly in the areas affected by the Balkan Wars, thereby reinforcing patterns of regional and economic imbalance rather than creating a truly global network. Nevertheless, as critic and historian Erik Kluitenberg has emphasized, the polarizing rhetoric around the east/west

For net artists, one of the most significant new lines of communication that opened with the web were group email lists, which took over where the bulletin boards left off.¹³⁸ Made more easily accessible by websites that were no longer tied to regional servers like the BBSes had been, these lists not only helped to integrate central and eastern European artists, they began to build connections between artists all over the world. As a result, the lists became a crucible for the development of net art following the rise of the web because they functioned as a kind of international, mobile studio, facilitating interactions between artists, activists, and theorists that helped to contextualize the practice and broaden its scope.¹³⁹ If the BBSes were where artists first started to contemplate the possibilities for network-specific practices, these lists were where artists started to recognize their own work as net art—scholar and artist Alexander Galloway describes them as the sites where “pure network aesthetics (Web site specificity) emerged.”¹⁴⁰ One of the first and most influential was nettime, a net culture list launched in 1995 during the Club Berlin event at the Venice Biennale.¹⁴¹ This list, which deliberately situated itself within

divide meant that the relatively sudden ability to interact with artists from these regions was remarkable (and remarked upon), contributing in part to the perception that early net art was dominated by central and eastern European artists. Eric Kluitenberg, interview by author, May 6, 2016. In terms of sheer numbers, email list archives suggest that this is not entirely accurate, but certain central and eastern European artists—in particular, Alexei Shulgin, Vuk Ćosić, and Olia Lialina—were exceptionally prolific and vocal during these years, which likely also contributed to this perception.

¹³⁸ Email list distribution software like Listserv and Majordomo had actually existed since the 1980s and early 1990s, respectively, but these lists did not take over from the BBSes as the primary communication centers for net art until the mid-1990s, after the rise of the web. This may simply be because more people—and artists—were getting online after the web, and as BBSes became less useful, email lists took over as the natural replacement for group communication.

¹³⁹ Vuk Ćosić, “[6] A Net.Art Text,” *Free Janez Janša* (blog), April 29, 2015, <http://free.janezjansa.si/blog/2015/04/6-a-net-art-text/>.

¹⁴⁰ Galloway, *Protocol*, 215.

¹⁴¹ nettime is still quite active. The archives (which, as you will see throughout the dissertation, offer a rich and important record of the conversations shaping net art during the 1990s) can be viewed and the list can be joined at “Nettime Mailing List,” accessed December 14, 2017, <http://nettime.org/>. The list’s history is found under the “info” link on this page.

aesthetic as well as technical and political discourses, became, in the words of art critic and historian Josephine Bosma, “*the* network connecting [artists] to the world, outside traditional cultural, national and institutional structures.”¹⁴² And a proliferation of lists followed. Some followed nettime’s model of focusing on discussion and critical theory, while others were more deliberately unstructured, functioning as sites where artists could experiment with the format and structure of email itself.¹⁴³ These lists also helped to promote collaborative practice as a characteristic of net art that becomes network-specific through the long reach and element of chance offered by the web and web-based email lists. For example, in 1997 a European artist stumbled across the names of several net artists on a syllabus for a class being taught at the University of California, San Diego by artist and professor Natalie Bookchin. UK-based artist Heath Bunting posted an assignment from the syllabus to one of the lists, and after several people completed it, Bookchin agreed to grade them.¹⁴⁴ The result was *Homework* (1997), a work that, in Bookchin’s analysis, resides in the performative act of collective action and collaboration across computer networks.¹⁴⁵ The social exchanges that happened on the lists also produced many ongoing artist associations and collaborations, the most prominent of which was the mostly

¹⁴² Bosma, “Net.Art: From Non-Movement to Anti-History,” 135–36.

¹⁴³ For example, the Dutch and Belgian artist duo JODI.org liked to send ASCII art through the list, riff on the rapidly growing spam industry by writing messages in semi-coherent strings, and “bomb” lists with cryptic codes sent in the subject lines that had the potential to crash email programs when opened. (ASCII art is, essentially, the arrangement of text characters into a larger image.) More on JODI.org’s practice is available in Florian Cramer, *Words Made Flesh: Code, Culture, Imagination* (Rotterdam: Piet Zwart Institute, 2005), 95–98, http://cramer.pleintekst.nl/00-recent/words_made_flesh/html/words_made_flesh.html. The duo often used Heath Bunting’s short-lived 7-11 list for these experiments; nettime, 7-11, and other important lists for the development of net art theory and praxis during the 1990s are explored in more detail in appendix II and Driscoll, “Online and Off: Interpersonal Networks and the Development of Internet Art.”

¹⁴⁴ For a brief summary of this project, see Natalie Bookchin et al., “Homework (Documentation),” Text, Natalie Bookchin, September 28, 2015, <https://bookchin.net/projects/homework/>.

¹⁴⁵ Bookchin described the process of making the work and the relationships it built, which eventually led to European net artists presenting their work on the US west coast for the first time, in Natalie Bookchin, interview by author, February 15, 2016.

European, loosely associated net.art group (note the crucial, and historically specific, dot), which dissolved by the early 2000s, although its members are mostly still practicing artists. Coming together through nettime in the mid-1990s, all of the net.artists had very distinct styles; net.art is neither a formal descriptor, nor a strategic or procedural category of internet art. Rather, the net.artists were a playful social group who liked to experiment with the collective ethos of net art and promote an often tongue-in-cheek mythology about their own status as an avant-garde movement, which, Bosma argues, ultimately helped to provoke more serious debates about the nature of artistic practice online.¹⁴⁶

Tracing the pathway from proto-network experiments like *Electronic Café* through the bulletin boards and into the international collaborations promoted by email lists reveals how the original motives for bringing the internet outside of a research context—to connect people, circulate information, and create an environment for productive exchange—shaped the development of both internet-specific art and the concept of the digital public sphere. Artists were thus well-positioned to enter into the debates over the viability of such a public sphere by investigating the conditions of computer networks that do (and do not) produce publicness. In the following chapters, the dissertation will examine specific artworks that turn to those networks in order to reflexively refine, critique, and reimagine the elements of a digital public sphere: the

¹⁴⁶ The net.art group was never a set list of artists, but the ones who were most frequently represented by the label are Heath Bunting, Vuk Ćosić, the JODI.org duo, and Russian artists OIia Lialina and Alexei Shulgin; others working relatively frequently under the net.art label include Rachel Baker, Walter van der Cruijsen, Luka Frelj, Pit Schultz, and Akke Wagenaar, although quite a few other net artists participated in their collaborations. Bosma delves deeply into the history, mythos, and influence of the group in Bosma, “Net.Art: From Non-Movement to Anti-History.” *Introduction to net.art* (1999), a combined online project and gallery installation produced by Shulgin in collaboration with Natalie Bookchin and Blank & Jeron (note that these collaborators are already not part of the “core” net.art group—the association was truly quite flexible), demonstrates the net.art group’s playful attitude and their self-awareness of the mythology that surrounds them: Alexei Shulgin, Natalie Bookchin, and Blank & Jeron, “Introduction to Net.Art (1994-1999),” 1999, <http://www.easylife.org/netart/>.

people who make up its publics, the environments that construct its public spaces, and the platforms it offers for publicity, or public speech.

CHAPTER TWO: Imagining a New Public on the Network

“Come closer get into the lens / let me see you / We are about to create together...the World’s first...” With these words, Douglas Davis introduced *The World’s First Collaborative Sentence*. It was Davis’s first work of net art, produced for his retrospective *Douglas Davis: InterActions 1967-1981*, which opened in late 1994 at the Lehman College Art Gallery.¹⁴⁷ The principle was simple. The “sentence” was a web page to which anyone could contribute texts, images, or even sound files, with only one rule: no periods so that the sentence never ends. Appearing at almost exactly the same time as the first popular commercial web browser, the work captured the excitement that was building around the growth of the internet as the web made it easier for more people to go online. “*WHO ARE YOU?*” Davis’s introduction page inquired—but never mind, “... you don’t have to worry about how to answer this question, either. At every step as you move through these words, images, and pages, you’ll find ways to tell not only me...but the entire World (Wide Web).” By putting the *Sentence* on the web, Davis imagined, the work’s pool of potential audience/co-creators, its readers and its writers, might bloom outward to include anyone, anywhere in the world.¹⁴⁸

In the 1970s, Davis used satellite to explore how telecommunications technologies could expand the reach of his work with video performances like *The Last Nine Minutes* (1977), a live

¹⁴⁷ The *Sentence* is in the collection of the Whitney Museum of American Art, and can be viewed at Whitney Museum of American Art, “Douglas Davis, The World’s First Collaborative Sentence (1994),” Artport, accessed November 16, 2017, <http://whitney.org/Exhibitions/Artport/DouglasDavis>.

¹⁴⁸ Douglas Davis, “Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World’s First Collaborative Sentence,” Whitney Artport, 1995, <http://artport.whitney.org/collection/DouglasDavis/historic/>.

broadcast from documenta VI.¹⁴⁹ When he pressed his body against the camera, hands reaching for his audience, Davis presaged the desire that would later draw him to the web, the urge to cross time and distance to break through to “you, the viewer on the other side of the then-imperial TV screen.”¹⁵⁰ As noted in the previous chapter, many of the artists who came to computer networks before the web were interested in them because of how easily they facilitated such long distance, multi-directional exchanges, what curator Christiane Paul has called the “many-to-many distribution networks” of online platforms.¹⁵¹ But early on, the scope of these communications remained limited. Technical and financial barriers kept many people from going online altogether, and platforms like the BBSes required direct dial or log in, restricting potential audiences to those who voluntarily and consciously visited a particular bulletin board or joined a specific channel. The web made connecting to the internet much easier and less expensive, bringing large numbers of people online anywhere there was access to internet infrastructure. And web browsing, that activity of clicking potentially aimlessly from page to page discovering whatever one may find, “turn[ed] the Net inside out.”¹⁵² By the mid 1990s, it seemed to artists like Davis that anyone in “the entire World (Wide Web)” could stumble across one’s site to find one’s work—and, better yet, to talk back to it.

¹⁴⁹ *The Last Nine Minutes* followed live video performances by Nam June Paik and Joseph Beuys, which together marked the opening of documenta VI. The works were produced as a nod to the recent launch of satellite broadcasting by German television. More information on *The Last Nine Minutes*, including a video excerpt, is available at ZKM, “Davis, Douglas: The Last Nine Minutes: Live Performance for International Satellite Telecast, Documenta VI,” Media Art Net, accessed November 21, 2017, <http://www.medienkunstnetz.de/works/last-9-minutes/>.

¹⁵⁰ Davis, “Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World’s First Collaborative Sentence.”

¹⁵¹ Christiane Paul, “Digital Art/Public Art: Governance and Agency in the Networked Commons,” *First Monday*, no. special issue 7 (September 2006), http://firstmonday.org/issues/issue11_9/paul/index.html.

¹⁵² Negroponte, “WIRED 4.05 - Caught Browsing Again.”

With *The World's First Collaborative Sentence*, Davis celebrated "...THIS MEDIUM, the InterNet/Web, where **you** take over from **me....**," almost totally relinquishing control to the viewer-turned-collaborator.¹⁵³ The bulk of the project is page after page (after page after page) of visitor contributions, collecting one after the other without the artist's intervention, endlessly adding to the work. Artist Cornelia Sollfrank recalls that, even when the actual number of internet users was tiny, the ability to communicate instantly with a potentially infinite group of strangers seeming to lurk just beyond the computer screen was one of the most exciting discoveries of going online.¹⁵⁴ Davis's strategy of accumulation thus quickly became a popular method in net art because it visualized the web's unique potential, if not ability, to connect the user to the entire world. Moreover, as an expansive form of data collection, accumulation via the web made the digital traces being produced by that world available to artists; information itself could be treated as an artistic material. Some of the other works from the period of the dissertation that relied on this strategy include Muntadas's *The File Room* (1994), Komar & Melamid's *The Most Wanted Paintings on the Web* (1995), Heath Bunting's *Project X* (1996), Auriea Harvey's *An Anatomy* (2000), Marek Walczak and Martin Wattenberg's *WonderWalker* (2000), and Mark Napier's *net.flag* (2002).¹⁵⁵ What these works accumulate varies widely—*The*

¹⁵³ Davis, "Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World's First Collaborative Sentence."

¹⁵⁴ Cornelia Sollfrank, interview by author, January 19, 2017. This excitement about the potential for far-reaching communication and connection with strangers came up repeatedly in artists' conversations with me about using the internet in the 1990s.

¹⁵⁵ Muntadas, "The File Room (1994)," accessed December 4, 2017, <http://thefileroom.org/>. Komar & Melamid, "The Most Wanted Paintings on the Web (1995)," Dia Art Foundation Web Projects, accessed December 6, 2017, <http://awp.diaart.org/km/index.html>. Auriea Harvey, "An Anatomy (2000)," Gallery 9 - Walker Art Center, accessed December 6, 2017, <http://gallery9.walkerart.org/bookmark.html?id=10587&type=object&bookmark=1>. Marek Walczak and Martin Wattenberg, "WonderWalker (2000)," Gallery 9 - Walker Art Center, accessed December 6, 2017, <http://wonderwalker.walkerart.org/index.html>. Mark Napier, "Net.Flag (2002)," Guggenheim, January 1, 2002, <https://www.guggenheim.org/artwork/10703>. Note that Heath Bunting's *Project X* will be discussed below.

File Room is a collection of censorship reports, *An Anatomy* uses changes in sound and graphics to register the arrival of another website visitor, and *net.flag* is an image of a flag continuously transformed by visitors' design choices. But what these diverse projects share is the use of the web to realize at scale the potential for collective production that early experiments like *Electronic Café* and THE THING identified as a key characteristic of art on computer networks. In so doing, they underscore the fact that what was so exciting about the world beyond the screen was not the network itself, but the people that it connected.

This chapter focuses on two accumulation-based works of net art: Douglas Davis's *The World's First Collaborative Sentence* and Heath Bunting's *Project X*. The dissertation will argue that these works do not simply visualize those interpersonal connections, but also interrogate different models through which the collective group of internet users is understood to be a public. All accumulative works of net art suggest the presence of *the* public of the internet, what Michael Warner has defined as a social totality that can include all the citizens of a nation, or even all of humanity.¹⁵⁶ The *Sentence* and *Project X*, however, examine how this social totality becomes the public of the digital public sphere. The *Sentence* tests whether the rhythms of online communication can produce the dialogic exchange through which a reading public is formed. This is the kind of public that, Warner argues, emerges through its shared participation in a field of discourse.¹⁵⁷ As noted in the introduction, it was the bourgeois reading public that helped to shape Habermas's classical public sphere, and it is a reading public that is imagined by those who define the digital public sphere through the internet's capacity to circulate information and discourse. *Project X*, however, explores an alternative proposal: that, following Negt and Kluge,

¹⁵⁶ Warner, "Publics and Counterpublics," 65.

¹⁵⁷ Warner, 66.

individuals can become members of a public through shared social experience, and publics are formed online when individuals use the web to register that shared experience.¹⁵⁸

Where You Take Over From Me

“cows, cows, cows, nothin’ here but cows.” This musing wraps up the historic version of Douglas Davis’s *The World’s First Collaborative Sentence*, which was divided into 22 separate webpages, or “chapters,” before it stopped being able to receive new contributions.¹⁵⁹ Visitors in these earlier years could contribute via email, phone, mail, fax, or simply filling out a web form to see their text immediately appear. Clicking back and forth between the *Sentence*’s pages fills the browser window with line after line after line of black text on a white background—a color pattern that becomes, as the final commenter observed, strangely cow-like—broken up by the different font sizes and styles achieved by contributors with a little bit of HTML savvy.¹⁶⁰ Blue links periodically pop out of the page, and changes in text justification work alongside elements

¹⁵⁸ As noted in the introduction, Negt and Kluge argue that the individual’s diverse life experiences form a “context of living,” which becomes public (the public sphere of experience) when it connects her to society as a whole. Negt and Kluge, *Public Sphere and Experience*, 5–6.

¹⁵⁹ Although the text of the *Sentence* is intended to read continuously, in order to make it easier to navigate Lehman College Professor Robert Schneider, who maintained the work in its first several years, periodically broke the website up into separate pages by inserting a “next” link at the end of the current page and loading all of the subsequent contributions onto the next page (and the next, etc.). Thus when a visitor clicks to enter the main sentence text they are on page one, then when they reach the bottom they can click to visit page two, etc. Davis referred to these pages as chapters. Douglas Davis, “Email with Revised Formal Statement and Description of The World’s First Collaborative Sentence,” January 19, 2000, 2–3, Douglas Davis: Artist File, Gansevoort Library, Whitney Museum of American Art. As a result of changes in technology over time and problems with movement between web servers, the *Sentence* stopped functioning, but in 2012 the Whitney Museum, which now owns the work, undertook major restoration efforts. As a result, visitors can view an archived version of the historic *Sentence* and both view and add to a live, functioning version on the Whitney’s Artport net art hosting site, which also contains documentation of the preservation efforts. See Whitney Museum of American Art, “Douglas Davis, The World’s First Collaborative Sentence (1994).” Because the core time period of this dissertation ends before the restoration efforts began, my observations are primarily based on the historic version, although I have cross-referenced the updated version where it is necessary to view content correctly displayed.

¹⁶⁰ HTML stands for Hypertext Markup Language, the most basic language used for encoding the structure and appearance of websites.

like big paragraph breaks and horizontal rules to give shape to the scrolling blocks of letters. Some enterprising contributors even managed to carefully space their texts to create patterns reminiscent of simplified concrete poetry (Figure 2.1). More dramatic visual changes appear partway through, ranging from pink text to blue backgrounds to tables with multi-colored cells. Davis once observed that one can see more internet users gaining basic web coding skills over time as the *Sentence*'s contributors start to incorporate these visual elements (Figure 2.2).¹⁶¹ On page six, large swaths of wingdings appear; these broken characters are the result of an incorrectly encoded Korean character set.¹⁶² The Korean writing they mask indicates when Davis brought the "multi-media, multi-user digital performance" to an installation in the 1995 Gwangju Biennale in South Korea, where he dedicated it to his sometime-collaborator Nam June Paik (Figure 2.3).¹⁶³ The wingdings that were once Korean text fill the majority of the next six pages, sprinkled with English interjections and references to Gwangju. Although the Korean text is now illegible, these records of its presence still visually reinforce the ambitious claim asserted by the work's title: this collaborative sentence is being co-written by the entire, multi-lingual world, whether its collaborators are finding it through word of mouth on the web or Davis's efforts to promote it in international exhibitions. A few years later the artist installed the work again at the

¹⁶¹ Davis, "Email with Revised Formal Statement and Description of The World's First Collaborative Sentence," 3. Browsing through the pages of the historic version of the *Sentence* feels a bit like taking a tour through the early web as the viewer passes by various color patterns and page elements that were immensely popular in mid-1990s website design. The Artport page even offers screenshots of what the work looked like in an early version of the Netscape browser: Whitney Museum of American Art, "Douglas Davis, The World's First Collaborative Sentence (1994)."

¹⁶² The incorrectly encoded Korean character set was one of the problems that the Whitney Museum was unable to solve when they restored the *Sentence*. Visitors to the *Sentence* website should note that various web browsers display the broken characters differently. For example, while the Firefox browser uses wingdings to indicate the incorrectly encoded Korean characters, the Chrome browser uses a mixture of Chinese characters and wingdings. The Whitney's Artport page for the *Sentence* confirms that the original text was entered in Korean: Whitney Museum of American Art, "Douglas Davis, The World's First Collaborative Sentence (1994)."

¹⁶³ Douglas Davis, "Flyer for The World's First Collaborative Sentence at the 1995 Gwangju Biennale," 1995, The World's First Collaborative Sentence: Object File, Gansevoort Library, Whitney Museum of American Art.

net_condition exhibition at ZKM in Germany, and by early 2000 he estimated that the *Sentence* had received over 100,000 separate contributions in at least a dozen languages.¹⁶⁴

The actual sentence of *The World's First Collaborative Sentence* is prefaced by the artist's introduction (Figure 2.4). At the top of the page sits a grainy, out of focus image of Davis holding a camera at what appears to be a mirror, with the lens pointed at the viewer. Across the image is printed: "Come closer get into the lens / let me see you / We are about to create together...the World's first..." The screen shot is excerpted from one of Davis's earlier videos, as readers learn further down the page. Together, the image and text reinforce the artist's excitement that this new platform has finally given him the ability to not simply communicate back and forth across the barrier of the screen but to "create together," cracking the separation between artist and audience. "Well, we have broken that screen down many times then," he exults as the introduction goes on, "'we' being the early video artists determined to destruct the big lie that TV was a 'mass' **one-way** medium, *you*, impatient viewer who lusted for something better (and finally got it, in lots of ways), and the inexorable roll of technological innovation, moving us finally into the digital era and THIS MEDIUM, the InterNet/Web, where **you** take over from **me....**" The artist describes his own role as simply the "temporary author-artist of these lines," and while he is careful to name the many people whose technical expertise and

¹⁶⁴ Davis, "Email with Revised Formal Statement and Description of The World's First Collaborative Sentence," 3. To install the work in a gallery, Davis set up internet-connected computer terminals for people to view and contribute to the *Sentence*. The installation plans for the 1995 Gwangju Biennale are available at Whitney Museum of American Art, "Douglas Davis, The World's First Collaborative Sentence (1994)." Artport documentation shows that he also sometimes printed out pages and pages of the *Sentence* to paste on the wall, conveying the enormity of the text much more concretely than simply scrolling down the pages on a web browser. Years later, artist Kenneth Goldsmith relied on a similar contrast for *Printing Out the Internet* (2013), an attempt to convey a sense of materiality of the vastness of the content that can be found online. Orit Gat explores this work and the surprisingly common urge to reframe our relationship to the virtual circulation of ideas through physical printing in Orit Gat, "To Bind and to Liberate: Printing Out the Internet," Rhizome, May 1, 2014, <http://rhizome.org/editorial/2014/may/01/printing-out-internet/>.

curatorial support made the work possible, he interrupts his own acknowledgements to remind readers that "...credit for THE WORLD'S FIRST COLLABORATIVE SENTENCE goes to **You**, as you will see..." This introductory text reveals that, for Davis, what distinguishes the *Sentence* from anything that came before it is not just its global reach—after all, in 1994 there were still many places without robust internet infrastructure—but the fact that the web allows him to fully hand the means of production over to his audience. Once Davis arranged the framework of the project, including the general infrastructure of the website as well as its introductory and instruction pages, he could let the sentence itself, the core content of the work, emerge entirely from the mouths, or keyboards, of his "impatient viewers."¹⁶⁵

As noted, simply by registering the collective presence of the work's "impatient viewers," the *Sentence* visualizes *the* public of the internet, that indeterminate number of people who might at any time be online. And by being available to anyone online, the *Sentence* highlights the network's potential to, in words of one contributor, "bypass the art market or the exhibition" in order to "destroy the normal public for art, and invent another," a proposal that seems to have resonated with Davis.¹⁶⁶ However, in its emphasis on the collective production of a text, the *Sentence* also considers the possibility that its viewer/collaborators might represent a

¹⁶⁵ Davis, "Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World's First Collaborative Sentence." Davis did not write the code for the *Sentence* website himself. He credits Gary Welz for building the website for its first installation, and Lehman professor Robert Schneider and gallery director Susan Hoeltzel for maintaining it after that exhibition ended. Douglas Davis, "Artwork Accession Form, The World's First Collaborative Sentence," 1995, Douglas Davis: Artist File, Gansevoort Library, Whitney Museum of American Art.

¹⁶⁶ Near the beginning of the *Sentence*, a contributor wonders: "how to a means of artistic distribution to bypass the art market or the exhibition? how to destroy the normal public for art, and invent another? how to make art 'popular?'" (See Douglas Davis et al, "Historic Page 1," The World's First Collaborative Sentence, accessed November 17, 2017, <http://artport.whitney.org/collection/DouglasDavis/historic/Sentence/sentence1.html>.) This line of questioning seems to have appealed to Davis. In an annotated print out of the *Sentence* that the artist provided when the work was acquired by the Whitney Museum, he underlined this section, noting that "I quote this all the time." Douglas Davis, "Print out of The World's First Collaborative Sentence, Annotated," January 22, 1995, 3, The World's First Collaborative Sentence: Object File, Gansevoort Library, Whitney Museum of American Art.

reading public, in the formation of which the *Sentence* itself plays a dual role. First, a visitor to the *Sentence* becomes a part of its reading public simply by encountering the work's text. Second, when visitors contribute to this text they help to construct the discourse that surrounds the work and connects it to the rest of the web, thereby directing attention to the ways in which claims for the public status of the internet hinge on its ability to facilitate communication. Of course, these claims rest on the assumption that the communication function of computer networks can circulate a discourse that is specifically public, without which a text on the internet could not construct a reading public. And as noted in the introduction, the proposal that the internet is forming a new, digital public sphere also relies on the network's ability to circulate information and ideas among the members of that public. Thus by homing in on how the web's communication platforms can both form and reveal connections between people, Davis's *Sentence* tests whether the general public of the internet, as it is revealed by an accumulative work of net art, can also coalesce around a specific text to form a reading public.

The *Sentence* asserts its own status as public discourse from the outset when it exhorts its contributors to speak to "the entire (World) Wide Web." With this command, the work coalesces the indefinite world behind the screen into the reading public of this text and declares its own status as public discourse through the act of conjuring that public into being. This circularity is one of characteristics of public discourse—a reading public only comes into being when it is addressed, but a text is only public when it addresses a public.¹⁶⁷ By constructing a platform through which members of its reading public can also speak, the *Sentence* makes this process visible. In other words, the collection of contributors' texts becomes evidence of their

¹⁶⁷ Warner, "Publics and Counterpublics," 67.

participation as members of each other's, and the work's, reading publics. Moreover, when people contribute to the *Sentence* they cannot know to whom their speech is addressed, other than the amorphous audience that is the work's reading public, which is another characteristic of public discourse. By orienting itself toward the *indefinite* addressee that is the (or a) public, whose members by definition cannot be known in advance, public texts form a "relation among strangers."¹⁶⁸ Or, as Davis sums it up in his introduction to the *Sentence*: "*WHO ARE YOU?*"

As noted in the introduction, the web's ability to create the conditions for indefinite address is one of the qualities that distinguished it from older online platforms and motivated claims that the network was becoming a digital public sphere. Because participation in online discourse required people to log onto specific pre-web communication platforms, like THE THING BBS, these discourses by nature had a definite addressee. Then the web came along and inverted the communication function of the network, making it possible for someone to publish a text online that could be stumbled across by anyone. Now an internet-based work like the *Sentence* could truly be said to be speaking to an indefinite addressee, a group of people who relate to each other simultaneously as the specific audience of current readers of the *Sentence* and the open-ended, unknown, and unknowable public of its potential readers. This stranger relationality highlights the difference between a text like the *Sentence*, which speaks specifically to the public, and the many discourses that circulate online among semi-public, semi-private platforms, like the web forums and email lists used to share information among niche interest groups. No matter how intimate its subject matter, a public text may be experienced by the reader as personal—addressed to "*YOU*," the individual reading the text—but it is always

¹⁶⁸ Warner, 74.

simultaneously impersonal—addressed not just to everybody in a given forum or email list, but to “the entire World Wide (Web),” that indefinable group of strangers that is the public.¹⁶⁹

This group of strangers becomes a text’s *reading* public by participating in its discourses. Participation can be as simple as visiting the *Sentence* website; this still distinguishes someone who is a member of the general public of the internet because they have internet access from someone who is a member of the reading public of the *Sentence* because they specifically grant it their attention.¹⁷⁰ This is why Davis could project that the “InterActions” produced by the retrospective of that name for which he created *The World’s First Collaborative Sentence* would remain “...STILL ALIVE, HERE AND NOW, ON THE WEB, ON YOUR TERMINAL” well after the show ended as long as the website itself could still be viewed.¹⁷¹ However, it is clear that the *Sentence* prioritizes the act of adding to the text over simply giving it attention: “...credit for THE WORLD’S FIRST COLLABORATIVE SENTENCE goes to **You**, as you will see...”

This emphasis on collective production is how accumulative artworks like the *Sentence*

¹⁶⁹ Warner describes the personal/impersonal address of public discourse, and how that distinguishes it from “modes of address” like gossip that circulate like public discourse but presume too restrictive of an audience to produce stranger-relationality, in Warner, pp.76-86.

¹⁷⁰ Warner argues that a reading public is “constituted through mere attention” in Warner, 87.

¹⁷¹ Davis, “Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World’s First Collaborative Sentence.” I am glossing over the distinction between “interactions” and “actions” here because the concept of interactivity has become so heavily overused that, as Lev Manovich points out, it has turned into a tautology in discussions on almost any technology-related art practice—insofar as the act of humans using machines is, by definition, a form of interaction, to simply call a work interactive tells us nothing about the nature or import of the interaction. Lev Manovich, *The Language of New Media* (Cambridge, Mass.: MIT Press, 2001), 71. In this case, Davis is using “interaction” to refer to that aforementioned thread running throughout the different elements of his practice: the desire to crack through the screen of representation in order to create a condition in which artist can communicate with viewer, viewer can directly respond, viewer can communicate with viewer, and so on. It is worth noting that Davis himself was likely aware of the overuse of the concept of interactivity and its proximity to online marketing strategies already by 1995. In a letter to Eugene Schwartz, who purchased the work along with his wife Barbara Schwartz, Davis observed somewhat sarcastically: “Right off the bat it occurs to me that big networks like Prodigy, America OnLine, and Compuserve might very well pant to be associated with *The World’s First Collaborative Sentence*, since it shows how hip & exciting they are, & vividly demonstrates the totally interactive nature of the Web” (emphasis in original). Douglas Davis, “Letter to Eugene (Gene) Schwartz,” circa 1995, *The World’s First Collaborative Sentence: Object File*, Gansevoort Library, Whitney Museum of American Art.

distinguish themselves from any other public text on the web. These works not only speak to the public, they are also produced by that public in an act that is at least somewhat more affirmative than mere attention: adding text to a never-ending sentence, submitting your case studies to a collective knowledge base, rearranging a set of shapes and symbols to communally create and recreate an image, and so on.¹⁷² Thus while the *Sentence* is able to reflexively examine how all reading publics are formed on computer networks because it operates as a text, it is only because it is constructed through the accumulated contributions of the public that the *Sentence* describes itself as a work of public art, produced on “THIS MEDIUM, the InterNet/Web, where **you** take over from **me**.”

The *Sentence* thus demonstrates that speech on the network can conjure a public into being when it circulates on the open horizon of the web, and that art can materialize this process by revealing that public’s collective actions. However, the *Sentence* reveals some uncertainty about whether the contributions of the internet’s public can actually construct the field of discourse that is required to produce a reading public. It is not enough for a text to simply exist for it to be said to be public discourse; it must enter an ongoing exchange that assumes both the existence of a preceding discourse and the fact that responses will follow it.¹⁷³ This unfolds over time, but one of the major differences between the internet and older publishing platforms is the temporal rhythm of circulation on the web. From daily newspapers to the extended publication cycles of academic texts, these older platforms had a punctuated temporality that, Warner argues,

¹⁷² In addition to Davis’s *Sentence*, the other two accumulative works of net art whose contribution procedures I’ve described here are, in order, Muntadas’s *The File Room* (1994) and Mark Napier’s *net.flag* (2002).

¹⁷³ Warner, “Publics and Counterpublics,” 90.

is crucial for tracking the progression of a discourse.¹⁷⁴ On the web, however, time seems to collapse. The combination of near instant publication, 24/7 access, and no inherent markers of order or change can make all information appear to exist simultaneously on the internet. Of course, some online communication platforms do make an effort to produce markers of time—a web forum, for example, will typically have a time and date stamp for a post and for all comments on that post. Newspapers also establish the dates and times of their online publications, and most newer user communication platforms, like social media networks, have some method for indicating the progression of exchanges over time.¹⁷⁵ But in the mid-1990s, when the *Sentence* was first produced, these practices were less common.

The *Sentence* itself banned periods, thereby attempting to forbid markers of even the end of a distinct idea (of course, some contributors found ways to use question marks and other symbols to end their own phrases, which irritated other contributors to no end). The text that the *Sentence* asks its writers to construct thus seems to more closely resemble the free-associative collaborations of an exquisite corpse than the exchange of ideas over time through which public discourse, and therefore a reading public, is produced: "... how many more people like me will stumble upon the longest collaborative sentence in the world and add their twopence worth and then trot off to continue there lives as before who can say what will happen to this sentence to the people who have contributed to it who can tell become alive, like william shatner's hairpiece,

¹⁷⁴ Warner, 94.

¹⁷⁵ In spite of these efforts to use time stamps, many people do complain that the fact that some social media platforms, like Facebook and Twitter, use an algorithmic equation rather than chronology to determine the order in which users see posts makes these feeds less useful for tracking public discourses like, for example, conversations about unfolding news events. Will Oremus, "Twitter's New Order," *Slate*, March 5, 2017, http://www.slate.com/articles/technology/cover_story/2017/03/twitter_s_timeline_algorithm_and_its_effect_on_us_explained.html.

and pursue the two-fold thought just be free...”¹⁷⁶ This rumination, which is about as representative of the content of the *Sentence* as any other block of text found therein, may resemble the cacophonous voice of *the* internet public shouting all at once, but it does not establish a field of discourse. Like most of the *Sentence*, it neither responds to the rambling texts before it nor provokes a response itself, revealing how the *Sentence* fails to produce an environment in which the exchange of ideas can unfold over time. The *Sentence*, of course, exaggerates the chaos of online discussions by preferring collectively produced speech; even without the consistent use of time markers, at least some texts on the web more closely resemble conversations than these free associations. Nevertheless, the work points to a structural challenge for defining online discourse as public discourse, and internet publics as reading publics, at least in the early years of the web: its rhythms of communication may simply not be suited to producing the kinds of dialogic exchange that can cohere into a field of discourse.

Insofar as the digital public sphere is modeled after Habermas’s classical public sphere, which was formed by the bourgeois reading public, the idea that reading publics can form through the circulation of discourse on the internet is, as noted in the introduction, one of its central claims. In his reflections on the project, Davis alludes to the idea that the public of the *Sentence* might also be the internet’s “public as carrier of public opinion,” that group of people who come together to articulate the citizenry’s collective interest by engaging in rational critical debate: “In any sense, it allows the world a space in which to speak its collective and its

¹⁷⁶ Douglas Davis et al, “Historic Page 18,” *The World’s First Collaborative Sentence*, accessed November 17, 2017, <http://artport.whitney.org/collection/DouglasDavis/historic/Sentence/sentence18.html>. This chunk of text was chosen almost entirely at random; clicking through the pages of the *Sentence* shows that reflecting back on the act of contributing and the nature of the work itself appears to be of the most popular topics among contributors.

individual mind.”¹⁷⁷ Thus while the principle of continuous speech that structures the *Sentence* may resist the punctuated rhythm of back and forth exchange required to produce a field of public discourse, it nevertheless reveals a desire to generate collectivity through discourse. And it is this same desire that motivates attempts to model the publics of computer networks as participants in a digital revision of the classical public sphere.

Davis articulates this aspiration when, writing about the *Sentence* six years after it was released, he chides art critics for ignoring its contents and points out that its contributions “address such concerns as art, literature, sexuality, religion, the nature of play, the meaning of the ‘sentence,’ and the vast subject of life itself, as well as death.”¹⁷⁸ In other words, Davis is arguing that the *Sentence* does contain the kinds of critical exchanges that belong in the public sphere. Picking carefully through the text, a reader of the *Sentence* will indeed find these topics; in fact, as noted above, there are even contributions reflecting on how internet-based works like the *Sentence* might affect the meaning of publicness in art. But by haphazardly selecting any random passage out of the *Sentence*, one is equally, if not more, likely to find somewhat random, often vulgar streams of consciousness. There are even contributions that express overt skepticism that the network can reproduce the classical public sphere’s conditions of interpersonal exchange and public debate, that the *Sentence* is not simply “more friendly, empty, faux-personal communication intended to create the illusion of human interaction.”¹⁷⁹ This more closely resembles the web’s tendency to “distract and dispel” that, as noted in the introduction, caused

¹⁷⁷ Habermas defines “the public” as the “carrier of public opinion” in Habermas, *The structural transformation of the public sphere*, 2. Davis describes the *Sentence* as a space in which the world can speak its collective mind in Davis, “Email with Revised Formal Statement and Description of The World’s First Collaborative Sentence,” 3.

¹⁷⁸ Davis, “Email with Revised Formal Statement and Description of The World’s First Collaborative Sentence,” 3.

¹⁷⁹ Davis et al, “Historic Page 1.”

critics like Mark Poster, Jodi Dean, and Habermas himself to reject the idea that the internet is a digital public sphere.¹⁸⁰ Of course, the *Sentence* is different from those bulletin boards and web forums where one might find “ordinary citizens posting messages, raising questions, sharing information, offering arguments, changing minds.”¹⁸¹ Its structure is designed to encourage continuous writing rather than critical debate or exchange, although there is nothing stopping contributors from choosing to respond to the texts that come before them (and some do). Nevertheless, as will be revealed in chapter four with the chat room discussions that Ben Rubin and Mark Hansen collect for *Listening Post*, the chaotic, collective voice of the *Sentence*, with its failure to cohere into any clear form of critical exchange, is a microcosm of the kinds of discussions that commonly occur in communication platforms across the network.

The *Sentence* contributor who wonders about the “illusion of human interaction” in the work, and on the web generally, reflects another common critique of the digital public sphere: Can keyboards and screens really replace the in-person interactions of the coffee houses, *salons*, and table societies? As noted in the beginning of the dissertation, critics like Mark Poster say no, but Davis, as the architect of the *Sentence*, seems to unequivocally say yes.¹⁸² In his introduction, Davis describes not just breaking the screen, as he attempted to with video, but using the web to finally achieve a direct connection through it as he encourages his reader to “Wait just a few

¹⁸⁰ Habermas used the phrase “distract and dispel” in Habermas, *Essays*. Poster and Dean laid out their respective critiques of the idea that the internet could produce the unified public opinion of a public sphere in: Poster, “The Net as a Public Sphere?” And Dean, “Why the Net Is Not a Public Sphere.”

¹⁸¹ Katz, “The Age of Paine.”

¹⁸² Poster argued that the anonymity of online communication could not replicate the trust created in face to face interaction, and thus mediated communication was unlikely to produce critical dialogue. Poster, “The Net as a Public Sphere?”

pages....hold out your hand there...yes, I think I got it...your fingers...hand in hand...”¹⁸³ The beginning of the *Sentence* itself also reflects this sense of intimacy achieved through the screen. Davis chose to open it with a comment made by artist Nathalie Novarina, who had been chatting online with Davis from a gallery in Geneva as part of *Discours Amoureux*, another work performed for the retrospective. Her words suggest a similar experience of quasi-physical co-presence: “I DID NOT FEEL SEPARATED I FELT VERY CLOSE EVEN THOUGH WE WERE THOUSANDS OF MILES APART AND I WAS SURROUNDED BY PEOPLE HERE I FELT CLOSE” (Figure 2.5).¹⁸⁴ Of course, the intimacy of human contact is deeply subjective, and there was more than one doubting contributor to the *Sentence*: “Alone, yes, i felt alone though the world was supposed to be collaborrating here i sat typing frantically, isolated, sobbing out the world’s frustrations while my fingers rang out sparks from the keyboard.”¹⁸⁵

However, the level of interpersonal intimacy projected by Davis’s introduction to the *Sentence* may not actually be necessary to achieve the same quality of critical exchange that was produced by in-person interactions in Habermas’s classical public sphere. As noted in the introduction, James Bohman argues that what makes dialogue in the public sphere effective is “the mutual expectation of uptake,” or the idea that participants in a discussion do not just speak back and forth, they absorb each other’s ideas and engage in debate about them. A common assumption is that the personal quality of face-to-face interaction is required to produce this condition, and that mediated communication will therefore necessarily fall short. Bohman,

¹⁸³ Davis, “Breaking Out (of the Virtual Closet): Introduction to the Historic Version of The World’s First Collaborative Sentence.”

¹⁸⁴ Davis et al, “Historic Page 1.”

¹⁸⁵ Douglas Davis et al, “Historic Page 20,” The World’s First Collaborative Sentence, accessed November 17, 2017, <http://artport.whitney.org/collection/DouglasDavis/historic/Sentence/sentence20.html>.

however, points out that public dialogue is actually by nature always impersonal because it must admit the possibility of not-yet-known interlocutors in order to be said to be public. Moreover, mediated communication was already an integral part of the classical public sphere because of the central role of the press.¹⁸⁶ What matters, then, is not the intimacy of the exchange, the “illusion of human interaction,” but whether individual actors approach exchanges on computer networks with the expectation that they can engage in critical debate. Whether or not the text of the *Sentence* can be considered public discourse thus ultimately does not rely on how personal its interactions are, whether the participants in the *Sentence* “FELT VERY CLOSE” or “felt alone.” Rather, it relies on whether those participants felt like their contributions would be read, absorbed, and debated in a process of exchange. And so the fact that the *Sentence* is made up of “musings, rants, lyrical poems, political and spiritual tracts, fragments of thought, and philosophical speculation, as well as occasional vulgarities,” but no sustained dialogue, suggests that the *Sentence* has not revealed the presence of a unified, digital public sphere on the web.¹⁸⁷ Instead, the *Sentence* uncovers something closer to what Jodi Dean has described as the chaotic nature of online discourse, a public that paradoxically achieves collectivity through conflict.¹⁸⁸

In its accumulation and circulation of the network’s “collective and individual mind,” the *Sentence* does assert the agency of the voice of the social totality that is the internet’s general public, whether or not those voices ultimately cohere to form a public sphere. Anticipating the logistical challenges of maintaining the website, Davis actually had not originally expected to leave the *Sentence* open-ended forever. When he first launched the project, Davis planned to add

¹⁸⁶ Bohman, “Expanding Dialogue,” 133–34.

¹⁸⁷ Davis, “Email with Revised Formal Statement and Description of The World’s First Collaborative Sentence,” 3.

¹⁸⁸ Dean, “Why the Net Is Not a Public Sphere,” 108.

its final period on February 15, 1995, when he knew he would be in Poland for a series of performances and lectures that would take his attention away from the work's maintenance. Davis arrived in Warsaw and entered his anticipated period, but then took another look at its growing contents and decided, "I did not own this work anymore and therefore did not deserve to stop it no matter how long it got."¹⁸⁹ So the artist added a P.S. after the period, marking the moment in which he fully handed over the work to the never-ending accumulation of the voices of the digital public: "P.S. LET THE SENTENCE NOW REMAIN OPEN UNTIL THE WORLD AT LAST IS FINISHED WRITING FOREVER warsaw feb.16" (Figure 2.6).¹⁹⁰

By that summer, the project's managers at Lehman College estimated that there had been about 50,000 hits to the website, although they had no way to effectively measure the number of separate contributions.¹⁹¹ As noted above, over the next several years the work received periodic revivals of international attention from its installation appearances, first at the fall 1995 Gwangju Biennale and then again at the 1999 – 2000 *net_condition* exhibition at ZKM. Although the patrons who had purchased the work while it was still being produced donated it to the Whitney Museum in 1995, it was still on the Lehman College web servers and remained there until 2005. Over the years, the project became increasingly difficult to add to, and eventually even to read. The contributions made during the work's appearance in Korea were not displaying correctly because the website did not have the right encoding to display Korean text; changes in web browser standards meant that some coding errors in early visitor contributions were no longer

¹⁸⁹ Etienne Barral, "Email Interview with Douglas Davis," August 2, 1995, 2, *The World's First Collaborative Sentence: Object File*, Gansevoort Library, Whitney Museum of American Art.

¹⁹⁰ Davis et al, "Historic Page 1." The work has grown quite a bit since then—the P.S. just appears on page 1, but the historic version made it up to page 22 and as of the time of this writing the live version is onto page 104.

¹⁹¹ Barral, "Email Interview with Douglas Davis," 2.

being compensated for, causing the work to slow down significantly; link rot significantly altered the intended content of many contributions (“link rot” refers to the tendency for hyperlinks to no longer connect to their intended sites as websites either change or are simply taken down); and finally, when the work was migrated to the Whitney’s web servers they omitted important scripts required for the web submission form to work, stopping new submissions.¹⁹² So in 2012, the Whitney embarked on a major preservation project to resurrect the *Sentence*. In an effort to meet archival demands while allowing the work to remain editable, the museum created both an historic, static version whose back end has simply been updated to display correctly, and a live version that mimics the appearance of the original, but to which users can, and still do, contribute.¹⁹³ As of this writing, page 104 had just been started with the cryptic and slightly self-conscious declaration: “reacadabra ! x5y4df78phjopnbv it wasn’t me, i suppose.”¹⁹⁴

In its archival version, the *Sentence* offers an historical record of the collective presence of strangers that first drew so many people—and artists—to the internet. By tracing the desire to communicate with that world lurking behind the screen, the project also interrogated whether the

¹⁹² In an attempt to solve the problem of browser context for all web-based artworks, in which changes to both browser technology and the look and feel of the browser frame significantly alter the visual frame of the work, net art research and curatorial organization Rhizome sponsored Old Web. The project draws on several internet archival databases and an emulator of an older browser to allow you to surf through the closest possible approximations of older websites: Rhizome, “Oldweb.Today,” accessed November 24, 2017, <http://oldweb.today/>. Rhizome themselves have used Old Web to help reconstruct many of the projects conserved in their Net Art Anthology that were originally browser-based.

¹⁹³ As noted, the improperly encoded Korean characters were never fixed; the restoration efforts (and this failure) are outlined on the Whitney’s Artport page for the *Sentence* at Whitney Museum of American Art, “Douglas Davis, The World’s First Collaborative Sentence (1994).” I have been using the historic version for my analysis in this chapter because the work was not restored until well after the timeframe of the dissertation, but I recommend visiting the Artport page to view—and contribute to—the live, ongoing *Sentence*. Comparing the two also offers some interesting opportunities for internet archaeology. Links in the historic version now go to the closest possible version of the original site from the Internet Archive, while links in the live version have been allowed to remain mostly “broken” in an acknowledgement of the pace of change on the web. However, some of the linked websites remain live and have simply been updated, making it possible to track changes in website design practices over time.

¹⁹⁴ Douglas Davis et al, “Live Page 104,” The World’s First Collaborative Sentence, 104, accessed November 24, 2017, <http://artport.whitney.org/collection/DouglasDavis/live/Sentence/sentence104.html>.

act of collective production could become a form of discourse that would fulfill claims that the general public of the internet was also the reading public of a digital public sphere. The stakes of such a claim have changed since the work first launched. The scattered web forums and chat rooms of the mid-1990s have given way to today's sprawling social media platforms, where this collective presence of strangers seems commonplace. Thus by reopening the *Sentence* to contributions in this new environment, the Whitney has altered the terms of its interrogation. For example, now that internet users are accustomed to representing their offline identities when they speak online, how is the collective voice affected when individuals return to anonymity to contribute to a work like the *Sentence*? It is impossible to know if the resources will be available to keep the work functioning as web protocols continue to change, but as long as the *Sentence* can continue to accept contributions, it will have the opportunity to both register and enter the changing stream of public discourse online.

Making Public and Making the Public

In 1996, two years after Davis launched the *Sentence*, Heath Bunting began his own accumulative work, *Project X*. The artist describes it as a “Graffiti Street Internet Interface” (Figure 2.7 & Figure 2.8).¹⁹⁵ Whereas the *Sentence* defines itself as the collaborative production of a text, creating the possibility (if not reality) of exchange, *Project X* takes a different approach to registering the collective presence of internet users. Visitors use the site not to speak directly

¹⁹⁵ The project is no longer considered “live” because the scripts required to accept submissions are no longer functioning. The original submission form is available at Heath Bunting, “Project X Form,” accessed November 24, 2017, <http://www.irational.org/x/>. For research purposes, the artist has supplied me with a direct link to the page that visitors would have seen after submitting their own contributions. Keeping in mind that this is now an archival record and not an ongoing, updated project, readers can view that page at Heath Bunting, “Project X Survey Results,” accessed February 18, 2016, <http://www.irational.org/cgi-bin/x/x.cgi?where=&why=&who=>.

to one another, but to record a shared experience that brought them from far-flung geographic locations to one common website, using that website to mimic the mark of graffiti on a wall. Thus while the work does explore the textual logic of graffiti—the collective force of marking that “we were here”—it does not rely on a discursive field of exchange to produce a public. Instead, *Project X* asks whether the web can produce the horizon of shared experience that, according to Negt and Kluge, connects the individual to the public sphere.

Bunting turned to graffiti to explore these questions because, by the mid-1990s, he had already established both a street graffiti practice and a net art practice. For the latter, he spent several years running the UK-based BBS Cybercafé, which he eventually turned into the collective net art studio and hosting site *irational.org*.¹⁹⁶ As the web started to take off, it occurred to Bunting that he could bridge the worlds of graffiti and computer networks in order to gain a better understanding of the invisible audiences who were viewing his work in its different contexts.¹⁹⁷ Starting in the Embankment London tube station, Bunting began chalking the web address *www.irational.org/x* in random places he found himself as he traveled, ranging from tube stations to library bathrooms to pub walls to the undersides of bridges (Figure 2.9). Visitors to that address were greeted with a graphic of Bunting’s handwritten URL, which helped to verify the connection between this web page and the similarly handwritten graffiti that brought them there. Underneath the URL was a short form that asked where, precisely, the visitor saw the

¹⁹⁶ Bunting has described *irational.org* as both a distribution platform and a portable studio for making artwork in a period of his life when he was very mobile. Because the social relationships formed online were so critical to net art, he also wanted the site to function as a collective where other artists could share their work, run collaborative projects, organize and promote events, etc. *irational.org* still exists as a web server hosting quite a few projects, but the collective is no longer functioning. Heath Bunting, interview by author, February 19, 2016.

¹⁹⁷ Specifically, Bunting described his motivation to start *Project X* as a desire to build “a gateway between the streets” (his graffiti practice) and “a new kind of medium” (the web, with its more open-ended audience). Heath Bunting, interview by author, February 18, 2016.

address, why they thought it was written there, and who they thought made the mark. When it was still working, filling out the form would take visitors to a simple, text-based results page where the answers accumulated into a record of the artist's travels, a reminder that the online networks being built by many internet artists still relied heavily on in-person relationships. Responses in the "where" row spread across the UK and into continental European cities like Amsterdam, Ljubljana, Berlin, Prague, and Riga (all, notably, places where media labs and net art festivals were located), as well as more far-flung locales like Winnipeg, Canada, Santiago, Chile, Novosibirsk, Russia, and even Klamath Falls, a very small town in the US.¹⁹⁸ However, Bunting's choice to track the locations of the URLs based on the responses of people who had seen them, rather than just creating the records himself, suggests that the "where" was not intended to function as simply a map of the artist's travels. Rather, it was a map of a random sample of internet users, emphasizing the locational specificity of the expanded human networks being created on the internet by insisting on connecting individuals' virtual presences to the physical sites in which their bodies reside. *Project X* thus vividly demonstrated the extended reach of computer networks that inspired claims that the digital public sphere would be a "*global*

¹⁹⁸ In our interview, Bunting recalled that the Embankment Station was the first place he chalked the *Project X* URL, noting that the locations became more international as his artistic practice became more successful and he started traveling farther; see Bunting. The rest of the specific locations that I have noted are based on archived results from the now-defunct web form, and therefore assume that site visitors were honest about where they saw the marking. See Bunting, "Project X Survey Results." Miwon Kwon has connected the growing trend of artist itinerancy in the 1990s to the increasing demand for site-specific installations that not only require intensive engagement with each site, but also ask for the artist's physical presence for each major phase of site development. This effects an elision of the identity of the artist with the meaning of the work, which results in a globe-trotting schedule in order to allow artists to keep up with ongoing installations. Kwon, *One Place after Another*, 46–47. For net artists, the frequent travel requirement was not usually connected to installation, although site specific installations that rely on input from computer networks started to become more commonplace in the 2000s. However, in the 1990s there were already many conferences and festivals that demanded artists' presence, not only for exhibiting their work, but also for building and reinforcing the social relationships that, as noted in chapter one, were critical for the development of net art. This created a similar pattern of itinerancy for many net artists. For more on the close connection between the on and offline networks that nurtured early net art, see Driscoll, "Online and Off: Interpersonal Networks and the Development of Internet Art."

effortful engagement, then made those actions visible by accumulating the participant's responses to a series of questions about the process. "Why do you think it was done?" the form asks. "To colide the known with the emergent. / To see the real sphere of influence of the net. / Just to see. Just to see if..." And, "who do you think did it?" "Somebody with a piece of chalk. / An activist. / some student or a technophile / somebody here." In this way, *Project X* shifts attention away from communicative exchange to shared experience as the basis of the formation of a public. After seeing "www.irational.org/x" scrawled on a "tower in Bristol on a hill" or in a "bathroom stall/Johannesburg International," entering the URL into a web browser, then filling out the form they found there, participants would reach a results page that offered an accumulative record of everyone else who had gone through the same process. In this way, *Project X* attempted to visualize the sprawling, anonymous network forming between people who now shared this specific set of experiences.²⁰¹

The cumulative records of participating in *Project X* do not represent a conversation, nor are they an act of collective production akin to adding to a sentence. Rather, *Project X* functions as a register of co-presence rather than co-production, a quality it shares with many other works of accumulative net art. For example, Auriea Harvey's aforementioned *An Anatomy* is a website that changes in front of its viewers in response to the presence of new visitors. Such works seem more interested in simply materializing the human presence behind computer networks than revealing the publics of a digital public sphere, at least insofar as those publics are formed through discursive exchange. However, by constructing a specific experience and then creating an environment online where individuals can both mark their experience and see a record of the

²⁰¹ All of the direct quotes in this chapter from the form responses in *Project X*: Bunting, "Project X Survey Results."

connections they now share through that experience, *Project X* explores another model through which a group of internet users can be defined as a public. As noted in the introduction, Negt and Kluge have argued that publicness can occur not just through acts of communication, but through relationality. The life experiences of a subject accumulate to create a context of living, and when those experiences connect her to society they become public experiences. This, for Negt and Kluge, is a public sphere of experience—a public, not *the* public, because society’s many contexts of living can connect the individual to many different public spheres.²⁰² *Project X* asks whether by registering shared experience on the web such a public can be formed online, a digital public sphere of experience. Thus rather than focus on the discourses that shape the “global social space” of the internet, or the “virtual community” of a specific communication platform, *Project X* examines the relational networks that connect individual internet users to digital publics through their common experience.²⁰³

In *Project X*, the social experience that connects the person in Ohio, who thought that the work’s URL was left at 1600 N. Limestone St. “to be known,” to the person who dismissed its presence on the watershed media center in Bristol as the result of “boredom,” does not offer the fully developed social connection created by the complexity of such a context of living that Negt and Kluge probably had in mind.²⁰⁴ Nevertheless, the work does attempt to visualize how

²⁰² Negt and Kluge, *Public Sphere and Experience*, 5–6.

²⁰³ John Perry Barlow describes the internet as a “global social space” in Barlow, “A Declaration of the Independence of Cyberspace.” Howard Rheingold describes the internet’s social platforms as “virtual communities” in Rheingold, *The Virtual Community*.

²⁰⁴ Bunting, “Project X Survey Results.” Very few of the “where” responses to the *Project X* forms offer complete addresses, but those that do provide interesting opportunities to think about how the relationship between on and offline spaces changes over time. In this case, a search in Google Street View reveals that, as of March 2009, 1600 N. Limestone St. Springfield, OH, USA had become an empty field, producing a kind of metaphorical link rot between the records of the *Project X* URL’s locations and the contemporary conditions of those buildings (or, over

computer networks can give form to some kind of shared experience that both registers collective presence and articulates the connections between individuals and the collective that transform a group of internet users into a public. When *Project X* accumulates and displays the records of the shared act of seeing a URL and following it online, the work encourages its viewer/participants to become more consciously aware of how their experiences connect them to other people than they would be if they had, for example, simply glanced at graffiti written on a wall and walked by it. And Bunting reinforced this awareness when he asked his participants to not only report on where they saw the URL, but also reflect on why it was left there and who might have written it, giving them the opportunity to imagine the other human presences behind those reflections.²⁰⁵ (“Why do you think it was done?” “A Public Service. Publicity. Both Making Public and Making the Public.” “Who do you think did it?” “Obviously, you or one of your associates.”) By using a website to both accumulate and distribute those reflections, *Project X* suggests that when participants share these individual experiences online, they form a relation between themselves and the open-ended group of other participants that marks them as members of this public.

The principle of connecting people is at the center of Negt and Kluge’s understanding of the public sphere, which they argue is “the only form of expression that links the members of

time, lack thereof). “Google Street View: 1600 N. Limestone St. Springfield, OH, USA,” Google Maps, March 2009, <https://goo.gl/maps/tHharFS2s9E2>.

²⁰⁵ This is part of why Bunting felt that *Project X* was “destroyed” when he started receiving some notoriety for it: instead of an opportunity to reflect on what it means to give enough sustained attention to a mark on the wall that you follow it onto a website, and then to think about who made that mark and who else is seeing it, the form became an opportunity to either flaunt one’s insider knowledge of net art (Bunting’s name comes up on the results page more and more as the viewer scrolls down, moving forward in time, as do the names of other famous net artists to whom he was connected), or simply make cynical comments about “publicity.” He therefore put a temporary moratorium on chalking the address, returning to it after he felt the attention had died down. Bunting, interview, February 18, 2016.

society to one another by integrating their developing social characteristics.”²⁰⁶ Thus when they reorganize publicness around social experience, Negt and Kluge are looking for a way to think about the formation of publics through the open-ended process of relationality rather than the more narrow function of communication, what Frederic Jameson has described in an analysis of their texts as “a bringing into the open, an expressing and making public.”²⁰⁷ In other words, it is when they connect the individual to other human beings that the individual’s experiences enter into the public domain of social experience. This kind of human relationality is, of course, the motivating force behind the entire internet. Computers are connected into networks so that people can connect across those networks and, as noted in chapter one, it is that desire for interpersonal connection that first brought many people, including artists, online. But it is not simply discourses on the internet that could not be said to be public until the web offered the possibility of indefinite address. The relations constructed across the network also could only start to form publics once the web offered the possibility of relationality on a larger scale, opening individual internet users to connections with an indefinite, and potentially infinite, group of people.²⁰⁸ So by using the web to visualize how computer networks can orient individual

²⁰⁶ Negt and Kluge, *Public Sphere and Experience*, 2. The theme of relationality takes on a sense of urgency in *Public Sphere and Experience* because, for Negt and Kluge, human relationships ultimately seem to offer the only possibility for forming an autonomous public sphere outside of that which serves the interest of the ruling classes. Or, as Hansen puts it, “what is at stake [for Negt and Kluge] is the very possibility of making connections.” Hansen, “Foreword (1991),” xxxiv.

²⁰⁷ Fredric Jameson, “On Negt and Kluge,” in *The Phantom Public Sphere*, ed. Bruce Robbins (Minneapolis: University of Minnesota Press, 1993), 71–72.

²⁰⁸ As noted with the *Sentence*, being directed toward an indefinite addressee is what distinguishes a public text from the texts on the many special-interest communication platforms of the web, from Listservs to themed web forums, on which discourse assumes a circumscribed audience, similar to that of the BBSes before the web. Likewise, *Project X* orients itself more toward a general internet public than the many niche special interest groups who have also benefited immensely from the relationality offered by computer networks. While the group of people who could connect through *Project X* is practically limited because of the geographic locations of the tagged URLs (although that range was expanded by its exposure in magazines and on net culture email lists, as well as in classes discussing net art: “Where: teacher’s presentation (MICA), balimore, md / Why: to spread net art / Who: the kid who coded

experience toward the broader horizon of social experience, *Project X* invites the work's infinite potential pool of viewer/participants to encounter themselves not only as part of a group that has shared a singular experience, but as part of a public that is formed through the open-ended accumulation of that shared experience. The work thus reveals how the relational horizon of the web allows an individual to connect her personal experience not just to other individuals, but to society, thereby forming a public shaped by that shared experience.

Project X's attempt to represent this public of the internet was also, for Bunting, a move to assert the publicness of the network itself. Reflecting on his graffiti practice from the 1990s, Bunting observed that marking walls was his way of enforcing the publicness of any space to which he, as a member of the public, could gain access. Likewise, Bunting felt that it was up to the anonymous, open-ended group of people on the internet to declare and maintain the publicness of computer networks by registering the force of their collective presence.²⁰⁹ When its

irational.org”), Bunting took care to leave enough tags scattered across enough easily accessible places that anyone could, in theory, come across them, thereby constructing a pool of potential contributors as indefinite as the number of people who could have simply stumbled across the website on their own, and imagining them all, collectively, as the work's public.

²⁰⁹ Bunting, interview, February 18, 2016. During our conversation, Bunting observed that as a UK resident in the mid-1990s he was living in a socialist country whose public assets were slowly being privatized, which meant that, for someone who was poor and itinerant like himself (at the time), more and more spaces and resources were being closed off. Under those conditions, to mark the wall of a bridge or a tube station or a bathroom or a tower felt like preserving even a small piece of the basic right of public access, regardless of the legal status of the wall itself or the degree to which it was ever intended to be publicly accessible. Meanwhile, the relatively unstructured environment of computer networks in the early years of the web made it feel to Bunting like the welcoming, publicly accessible spaces that he had lost. In fact, several of his works explore this relationship between computer networks and the different ways in which we attempt to enforce the publicness of physical space. For example, for *cybercafé @ King's X* (1994) Bunting used his BBS to distribute the telephone numbers for a bank of phone booths and encouraged people to call in on a specific day and time in the hopes of producing a “temporary cybercafé” for the people who might be willing to answer the phones. See Heath Bunting, “King's X Press Release,” Cybercafé Net Art Projects, 1994, <http://www.irational.org/cybercafe/xrel.html>. And in 2003, Bunting created *BorderXing Guide*, a website that documents his attempts to cross EU political borders at unguarded locations. When the site was first launched Bunting used IP blocking to allow only people using a specific list of computers to enter it, an inversion of the expectation that our virtual movement will be unfettered even when our physical movement is restricted. The work critiqued the clamp down on human migration that was happening in the late 1990s in Europe even as computer networks were making it easier and easier for capital to flow across borders. See Megan Driscoll, “Remapping the (Virtual) Landscape: Heath Bunting's BorderXing Guide” (Art History Graduate Student

form was still working, *Project X* encouraged people to do so by reproducing Bunting's physical act of mark making with the digital act of filling out a form, which would allow you to not only declare your individual presence on the web—*I am here*—but also add the weight of that presence to the growing number of internet users whose marks were accumulating like the thickening of graffiti on a bathroom wall.

Bunting kept periodically chalking the *Project X* URL on walls all over the world until the late 2000s, well after he officially gave up net art.²¹⁰ Over time, however, the tenor of the form responses changed. In part this tracked changes in Bunting's own life. As he went from being a relatively impoverished young artist who mostly moved around the UK and continental Europe to a mid-career artist who traveled the world, the toilets in which he left his marks went from dive bars to comfortable hotels, and random tube stations became international airport bathrooms. Meanwhile, URLs in outdoor spaces were also becoming a commonplace part of the advertising landscape, diluting the effect of the shared experience through which the work's public is united. By the time the web form stopped working, the bulk of the responses had trailed off into a mix of gibberish and vague, often cynical observations (Why: "prank?" Who: "hipsters"), sprinkled with signs that the project's primary routes of circulation had inverted as it gained notoriety. Rather than being coaxed onto the web by a chalked URL, people were now starting with *Project X* on the web, approaching it not as a digital accumulation of this movement

Association Annual Symposium, University of California, Los Angeles, October 21, 2017). *BorderXing Guide* can be viewed at Heath Bunting, "BorderXing Guide," Tate Intermedia Art Net Art Archive, 2003, <http://www2.tate.org.uk/intermediaart/borderxing.shtm>.

²¹⁰ Bunting still interrogates technology in his practice, but in the early 2000s he officially gave up net art. Or, as he put it in our interview, he wanted to get off computer networks and go back to the forest, so he gradually quit his internet activity and began to quite literally walk out into the forest. Bunting, interview, February 19, 2016. A video in which he reflects back on the "ruins and remains" of his internet-based work is available at Heath Bunting, *Memorial Stone*, 2011, <http://dvblog.org/?p=8154>.

between off and online experience, but as a work that lived solely online and only alluded to the mysterious presence of marks somewhere out there in the physical world (Where: “in a digital space called www.iration.org/heath/x/” Why: “To reference the physical artform”). Ultimately, *Project X* accumulated a little over 1,000 responses, with no way to determine how many might be from repeat participants.²¹¹ This is an extremely small collective by today’s internet standards, when the sheer volume of people using computer networks has radically changed what it means to think about the horizon of shared experience online. But the work still stands as a record of how the web could, as the internet was growing, reveal the connections that computer networks make between people and thus open their individual experiences onto the social field of the digital public sphere.

²¹¹ Bunting stopped tracking the *Project X* website in the mid-2000s, and is not certain when the form stopped functioning. However, we can assume it had to have been after 2005 because of one respondent’s reference to video hosting site YouTube (“Where: nuremberg ADBK / Why: KUNST / Who: YOU TUBE”), which was first launched at the end of 2005. See Todd Wasserman, “The Revolution Wasn’t Televised: The Early Days of YouTube,” Mashable, February 14, 2015, <http://mashable.com/2015/02/14/youtube-history/>.

CHAPTER THREE: Counterpublics of the Digital Public Sphere

During the 1990s, most models of the digital public sphere defined it as a universal domain. Like in the classical public sphere, the internet seemed to offer the opportunity for an individual to escape her subjectivity and act as a ““common human being.”” As noted in the introduction, Habermas argues that such an assumption of universality created a condition of parity in the public sphere that people may not have encountered elsewhere.²¹² Likewise, the individual’s ostensible ability to leave behind personal characteristics like gender, race, class, sexuality, and even disability when she went online was perceived to be radically democratic, a key element of the utopian aspiration for pure equality in the disembodied realm of cyberspace.²¹³ This ideal motivated Howard Rheingold’s claim that “...virtual communities treat [people] as they always wanted to be treated—as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking...”²¹⁴ Similarly, John Perry Barlow asserted that the internet’s global social space is “...a world that is both everywhere and nowhere, but it is not where bodies live. We are creating a world that all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth.”²¹⁵ Of course, just as the universalizing ambitions of the classical public sphere

²¹² Habermas, *The structural transformation of the public sphere*, 37.

²¹³ A humorous (and somewhat more skeptical) version of this claim can be found in the famous 1993 *New Yorker* cartoon by Peter Steiner that proclaims: “On the Internet, nobody knows you’re a dog.” Michael Cavna, “‘Nobody Knows You’re a Dog:’ As Iconic Internet Cartoon Turns 20, Creator Peter Steiner Knows the Joke Rings as Relevant as Ever,” *Washington Post*, July 31, 2013, https://www.washingtonpost.com/blogs/comic-riffs/post/nobody-knows-youre-a-dog-as-iconic-internet-cartoon-turns-20-creator-peter-steiner-knows-the-joke-rings-as-relevant-as-ever/2013/07/31/73372600-f98d-11e2-8e84-c56731a202fb_blog.html.

²¹⁴ Rheingold, *The Virtual Community*, 11.

²¹⁵ Barlow, “A Declaration of the Independence of Cyberspace.” Even as understandings of the relationship between subjective identities and online experiences have changed over time, the perception that digital technologies can

in reality excluded those bodies that did not have ready access to the “rhetoric of disincorporation,” claims that the digital public sphere also eclipsed individual identity ignored the experiences of those individuals whose identities permanently mark them as subjective, an “other” against which the universal public is defined.²¹⁶ Artist group VNS Matrix drove this point home when they reoriented the language of technology toward the visceral, feminine body in their 1991 *Cyberfeminist Manifesto*: “...we are the virus of the new world disorder / rupturing the symbolic from within / saboteurs of big daddy mainframe / the clitoris is a direct line to the matrix / ... / terminators of the moral code / mercenaries of slime / ... / corrupting the discourse / we are the future.”²¹⁷ With this manifesto, the group identified and forcefully rejected the masculinization of technology, including the “matrix” of cyberspace and its association with the universalizing, disembodied “moral code” and “discourse” of the digital public sphere.

A universal concept of the public sphere leaves little room for public discourses that address these other(ed) subject positions because it is, by extension, a singular public sphere. If

confer equality by abstracting us from these identities persists today in the myth of meritocracy in the technology industry. As Jocelyn Goldfein points out, this myth comes from a similarly sincere desire to believe that old-fashioned problems of discrimination can be solved by the apparent objectivity of technology: Jocelyn Goldfein, “Tech’s Meritocracy Problem,” *Jocelyn Goldfein on Medium* (blog), October 10, 2014, <https://jocelyngoldfein.com/techs-meritocracy-problem-a6e5e0a56157>.

²¹⁶ As noted in the introduction, Michael Warner argues that participating in the universal model of the classical public sphere required being able to access a “rhetoric of disincorporation” that cleaved the individual from those personal characteristics. This rhetoric, however, was not available to those whose personal characteristics, like femininity, already marked them as other. Warner, “The Mass Public and the Mass Subject,” 239–40.

²¹⁷ This text is excerpted from *A Cyberfeminist Manifesto for the 21st Century*, first written by VNS Matrix in 1991. The artists printed it on posters and billboards, faxed it to influential feminist media artists and scholars Sandy Stone and Kathy Acker, and distributed it electronically via a wide range of pre-web internet platforms, including MOO/MUD social gaming environments and IRC chat channels. Billboards carrying the *Manifesto* also visually promoted this visceral, feminine notion of technology. They were decorated with images of a topless woman flexing her muscles, arrows beaming out of her eyes as she floats in front of what appears to be blown-up molecular diagrams, their glinting spheres alternately resembling breasts and fish eggs. Down the left side of the billboard image is a row of computer-generated images, almost fractal-like, whose vertical curves suggest a technological labial design (Figure 3.1). Historical documentation, images, and the full text of the *Cyberfeminist Manifesto* is available at Rhizome, “VNS Matrix’s A Cyberfeminist Manifesto for the 21st Century,” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/a-cyber-feminist-manifesto-for-the-21st-century>.

one assumes that anyone can access the public sphere, then that is where all public activities occur. For Habermas, such a singular public sphere is ideal because it produces the conditions for working toward consensus, which, as observed above, the web lacks. He argues that the growth of competing spheres of discourse in the nineteenth and twentieth centuries is part of what led to the bourgeois public sphere's decline. As noted in the introduction, both Nancy Fraser and Michael Warner have pointed out that Habermas's history ignores the empirical existence of publics formed by those groups that were excluded from the classical public sphere, but always operated alongside it. Fraser uses the term "subaltern public" to describe how these oppressed groups constructed public spheres through the circulation of their own specialized discourses.²¹⁸ Warner, however, uses the term "counterpublic" to describe how marginalized groups circulated discourses that were not only specialized, but actually regarded as hostile by the mainstream public.²¹⁹ In other words, the discourses of a counterpublic mark them as not simply outside of the universal public sphere, but in direct opposition to it.

This chapter focuses on two works of net art that helped to shape such oppositional counterpublics in the digital public sphere. It begins with Cornelia Sollfrank's *Female Extension* (1997), a feminist work of institutional critique that played a pivotal role in introducing existing cyberfeminist discourses, which were more broadly focused on technology, into the specific context of the internet. The chapter will briefly outline cyberfeminism's critiques of the dissociation of technology from the body, then demonstrate how *Female Extension* worked in conjunction with Sollfrank's broader artistic practice to demand that these discourses of gender and identity be confronted in the digital public sphere. The chapter will then turn to Mendi +

²¹⁸ Fraser, "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy," 10–11.

²¹⁹ Warner, "Publics and Counterpublics," 118–19.

Keith Obadike's *Black.Net.Art Actions* (2001 – 2003), a three part suite of works that deconstructs both the semantic and technical languages of the web to reveal how racial discourses structure almost every point of contact between humans and computer networks. In so doing, the *Actions* argued that the conversations about race that were happening among a marginalized group of internet users were not only relevant to the digital public sphere, they were essential to it.

A Cyberfeminist Extension

As noted in the introduction, cyberfeminist art and literature identifies its roots in an essay by Donna Haraway, the “Cyborg Manifesto,” originally published in 1985. Haraway uses the piecemeal, constructed, neither/nor metaphor of the cyborg to challenge what she argues are patriarchal dichotomies dividing nature from culture and body from machine.²²⁰ The idea that a feminist politics of technology should thus reunite the body with the machine resurfaced in the aforementioned work by VNS Matrix, which is credited with being one of two points of simultaneous invention of the term “cyberfeminism” in 1991.²²¹ The other inventor was Sadie Plant, a British cultural theorist who further developed the concept in an influential book published several years later.²²² Plant’s book was criticized for promoting a brand of cyberfeminism that had an overly essentialist perspective on female identity, and an overly optimistic view of the emancipatory power of technology.²²³ However, what Plant shared with

²²⁰ Haraway, “A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century.”

²²¹ Evans, “Feminist Worldbuilding in the Australian Cyberswamp.”

²²² Sadie Plant, *Zeros + Ones: Digital Women and the New Technoculture* (Fourth Estate, 1998).

²²³ Alexander R. Galloway, “A Report on Cyberfeminism: Sadie Plant Relative to VNS Matrix,” *Switch New Media Journal* 4, no. 1 (nd), <http://switch.sjsu.edu/v4n1/alex.html>. Cornelia Sollfrank offered a similar perspective on the

Haraway, VNS Matrix, and other cyberfeminist artists and authors was an insistence on defining technology in relation to the body, and in particular the feminine body.

VNS Matrix produced *A Cyberfeminist Manifesto for the 21st Century* in 1991, before the rise of the web. Thus while the work was distributed on some online communication platforms, as well as by fax, on billboards (Figure 3.1), and in magazines, it could not yet be properly said to be oriented toward a digital public because it lacked the open-ended address of public speech that only became possible online with the appearance of the web. Then in the mid-1990s, as net art began to crystallize alongside claims for the development of a disembodied digital public sphere, artists began to think about how cyberfeminist critique might operate in this new context.²²⁴ In the summer of 1997, Cornelia Sollfrank was invited to produce an event for the Hybrid Workstation at documenta x.²²⁵ Sollfrank decided to host the First Cyberfeminist International, an event that invited people to gather and think critically about what it meant for the “history, ideology, and evangelism” of the two concepts of “cyber” and “feminism” to come together.²²⁶ Around the same time, cyberfeminist social and curatorial collectives began to

problems with essentialism in some cyberfeminist theory, arguing that this actually reduced their political efficacy. Cornelia Sollfrank, “Revisiting the Future: Cyberfeminism in the Twenty-First Century,” in *Across & Beyond: A Transmediale Reader on Post-Digital Practices, Concepts, and Institutions*, ed. Ryan Bishop et al. (Berlin: Sternberg Press & transmediale e.V., 2016), 232.

²²⁴ In 1995 and 1996, curator Kathy Rae Huffman organized a series of lectures and exhibitions that addressed the experiences of women online. Huffman discusses these events with Sollfrank in Kathy Rae Huffman, ...it always goes back to feminism, interview by Cornelia Sollfrank, May 8, 1998, http://www.obn.org/boys/kathy_i.htm. One of the first cyberfeminist artist collectives also formed in 1995, the Cyberfemin Club in St. Petersburg: Experimental Sound Gallery, “Cyber-Femin Club History,” ESG, accessed December 3, 2017, <http://soundmuseums.spb.ru/en/about/161-cyber-femin-club>. As noted below, Sollfrank helped to form the OBN cyberfeminist collective in 1997, and in 1998 a group of artists formed subRosa: subRosa, “A Cyberfeminist Art Collective,” 2015, <http://cyberfeminism.net/>.

²²⁵ The Hybrid Workstation was a room in Kassel where the documenta x (1997) curators installed computers, and then handed the organization of events over to media theorist and cultural critic Geert Lovink, who was the one who invited Sollfrank to produce an event that summer. Sollfrank, interview.

²²⁶ Cornelia Sollfrank, “First Cyberfeminist International Call for Contributions,” Old Boys Network, 1997, <http://www.obn.org/kassel/call.html>.

flourish, including Sollfrank's own ironically-named Old Boys Network (OBN).²²⁷ In addition to supporting the exhibition of cyberfeminist art, these groups helped to both produce and circulate cyberfeminist critiques of technology and computer networks. It was in this environment that Sollfrank also undertook the project that became *Female Extension*. Although originally conceived as a work of institutional critique, the project's use of gendered discourses to critique narratives of online cultural practice meant that it also functioned as a challenge to the claim that gender was irrelevant in the digital public sphere.

In 1997, Sollfrank had just returned to Germany from an extended stay in New York City.²²⁸ She had a well-established practice exploring the intersections between mediating technologies, performance, and gender, but had only recently begun considering computer networks for her work. She had secured a grant and spent the better part of a year intensively exploring internet-based art practices with groups like Rhizome and THE THING, as well as the many small galleries and artists and curators who were popping up around net art in New York.²²⁹ Back home, Sollfrank found herself the recipient of a disconcerting fax: a call for

²²⁷ The history of OBN, which includes an extensive collection of cyberfeminist literature in its "reading room," is available at "Old Boys Network," OBN, accessed December 31, 2017, <http://obn.org/>. Another important cyberfeminist group that appeared in the summer of 1997 is FACES, a still-active email list that provides a platform for networking among female-identified artists and scholars and was very influential among early cyberfeminists. Diana McCarty et al., "FACES – Gender, Technology, Art," accessed December 1, 2017, <https://www.faces-l.net/>.

²²⁸ Sollfrank, interview. The trip to New York was itself sparked by a 1996 conference Sollfrank attended at the Soros Center for Contemporary Art in Budapest, at which Sollfrank was introduced to many of the European artists and scholars who were deeply involved in net art at the time. This anecdote is a reminder that net art truly is a practice shaped as much by geographic mobility and in-person interactions as by the virtual mobility and social connections facilitated by computer networks. It is also notable that the conference was held at the Budapest SCCA; the fact that these centers keep popping up—as gathering and exhibition sites, funders, resource-providers, etc.—in so many narratives of internet-based art across the European continent clarifies why the OSI itself, and the regions of central and eastern Europe in which they invested, have such an outsized presence in histories of 1990s net art.

²²⁹ As an art student in Hamburg in the early 1990s, Sollfrank formed the all-female Frauen-und-Technik collective, a performance group that experimented with technology and that was invited to contribute to an art television program in which participants used modems to connect their cameras to a shared interface. Although this was before the web, and well before she became interested in focusing on computer networks in her work, it was Sollfrank's

entries for *Extension*, a contest sponsored by the Hamburger Kunsthalle to promote their new Galerie der Gegenwart (Gallery of Contemporary Art) with support from *Der Spiegel* magazine and the Philips electronics company. Imagining the internet as an “extension” of the gallery space, the Hamburger Kunsthalle was soliciting browser-based internet art for a juried competition whose winners would be displayed as part of the gallery’s opening events. Submissions had to be static, wholly contained websites so they could be stored on the museum’s own server.²³⁰ The language describing the competition focused on how net art could serve existing arts institutions, asking questions like: “What meaning can the Internet have for the museum? What can this extension mean to the traditional museum, and what can the museum contribute? What relationship can evolve between Internet and museum?”²³¹

To someone who had recently immersed herself in net art theory and practice, these were all the wrong questions. Like many of her colleagues, one of the things that drew Sollfrank to net art was its use of computer networks as an *alternative* distribution system rather than an extension of existing ones. This meant not just circulating images of one’s work more freely but finding ways to exploit the network itself and its reliance on, and responses to, the connections constantly being made between servers, computers, and the people sitting in front of them, all

first exposure to computer networks and when she began to realize how much they could extend the reach of communication, socializing, and artistic collaborations. She continued this work after graduation with the –Innen feminist performance and technology group. Sollfrank.

²³⁰ The original announcement of the contest is still available on the *Der Spiegel* website at “Extension,” Spiegel Online, March 1, 1997, <http://www.spiegel.de/spiegel/spiegelspecial/d-8673079.html>. By asking artists to submit only works that could be transferred as fully contained sets of files onto their own web servers, the Hamburger Kunsthalle was essentially asking them to produce a frozen, archival version of a work outside of its original context, which, as will be discussed below, tends to strip the internet from internet art.

²³¹ The competition website was also hosted by the *Der Spiegel* servers, and although this site has long been taken down, the competition and its more detailed call for entries (including the institution’s own English translation) is still available via the Internet Archive at Hamburger Kunsthalle, “Extension - Call for Entries,” Spiegel Online, May 3, 1997, <http://web.archive.org/web/19970503203103/http://www.spiegel.de/extension/>.

without requiring the mediation of outside institutions like a museum. Moreover, influenced by her background in performance, Sollfrank felt strongly that the significance of the internet to internet art lay in the mobility and contingency of the human to network to human connections, whether they involved live communication (like the BBSes), ongoing accumulation (like the *Sentence* or *Project X*), or simply the unpredictable context provided by the open-ended field of the web itself.²³² The Hamburger Kunsthalle contest appeared to the artist to be at once trivializing net art as a mere promotional tool and, by demanding that all submissions function as self-contained sets of data, stripping the practice of anything resembling internet-specificity.²³³ And so Sollfrank set out to produce a work that would register her concern that the museum was treating net art as a mere novelty, depriving the practice of its potential critical force. Her intervention became *Female Extension*, a work of institutional critique that, as the project developed, turned its focus from the museum to net culture itself, examining how perceptions of artistic skill had become entangled with gendered narratives about technological competence. In the process, *Female Extension* engaged the marginalized discourses on gender and technology

²³² A web-based work that is static is basically a website that is entirely self-contained and not intended to substantively change over time. This is what the Hamburger Kunsthalle required for the *Extension* contest in order to allow them to store the works on their own web servers. Many artists created static websites as browser-based works, but on an artist's own site they have the ability to make changes in response to changing browser technology, reframe the context of the work by changing linking to and from it, or simply have the work encountered by viewers through unexpected browsing routes, opening the work onto the web's potentially infinite contextual field. When museums accession works and take responsibility for their long term care, storage on their servers makes sense, but using only such a contained version of a work for a contest strips it preemptively of much of its contextual field and treats it as an already-archived project for the purposes of the contest.

²³³ Sollfrank, interview. Sollfrank's claim that the *Extension* competition was more motivated by interest in publicity than net art itself was reinforced by event organizer Frank Barth in an interview he gave her for *Telepolis* during the competition (and before she had revealed her intervention), in which he described it as an "advertisement" for the new Galerie der Gegenwart. Frank Barth, EXTENSION - die virtuelle Erweiterung der Hamburger Kunsthalle, interview by Cornelia Sollfrank, June 19, 1997, <https://www.heise.de/tp/features/EXTENSION-die-virtuelle-Erweiterung-der-Hamburger-Kunsthalle-3441117.html>.

that were fueling the ongoing development of cyberfeminism, and helped to introduce their critiques into the digital public sphere.

In lieu of submitting a single website under her own name, as the *Extension* rules dictated, Sollfrank flooded the contest with so many submissions that she might actually “crash the project.”²³⁴ In order to register those submissions, Sollfrank developed individual names and identities for every one of her artists, all of whom were female. She gave each of them working email addresses with the help of her net art friends who ran their own servers, and supplied phone numbers and physical addresses to match, distributing their origins across seven different countries.²³⁵ Sollfrank initially constructed the websites for her fictitious artists by copying and pasting semi-randomly selected chunks of HTML from sites she stumbled across on the web, a process that resulted in a chaotic pastiche of web design trends. Colors ranged from somber gray to neon pinks and greens, chunks of cropped images floated haphazardly on pages, popular layout elements like horizontal rules and bordered tables sat in the middle of text blocks, links displayed arbitrary (or, perhaps, occasionally mischievous) phrases, like “[Next] [Up] Stallions at Stud” (Figure 3.2 & Figure 3.3).²³⁶ The near-randomness of Sollfrank’s websites was designed

²³⁴ Sollfrank initially thought that she might be able to send in so many submissions that the judges would not be able to process them. However, she discovered that there was an automated system for registering as a competitor and uploading artwork, so she just set out to distort, or “crash,” the judging process itself. Sollfrank, interview.

²³⁵ Many of the email servers were connected to regionally-specific organizations, including Ljudmila in Ljubljana, THE THING in New York, DDS in Amsterdam, and Internationale Stadt in Berlin (for more on these organizations, see appendix II). A detailed description of how Sollfrank produced *Female Extension* can be found in Cornelia Sollfrank, “Performing the Paradoxes of Intellectual Property: A Practice-Led Investigation into the Conflicting Relationship between Copyright and Art” (The University of Dundee Duncan of Jordanstone College of Art and Design, 2011), 18–30. Sollfrank also describes the work on her own archival site for the project, Cornelia Sollfrank, “Female Extension,” artwarez, 2010, <http://artwarez.org/femext/>. (A complete list of the artist identities she created are available on this site at <http://artwarez.org/projects/femext/content/liste.html>.) And the work has been entered into the Rhizome Net Art Anthology at Rhizome, “Cornelia Sollfrank’s Female Extension,” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/female-extension>.

²³⁶ These visual descriptions are coming from randomly selected sites from the final submission list that Sollfrank supplies at Sollfrank, “Female Extension.” (Direct link to the site list: <http://artwarez.org/femext/content/liste.html>;

to challenge the expectations of the museum. The judges of the contest likely found themselves wondering if they had stumbled upon a new pastiching trend or parodies of the experimental and sometimes awkward aesthetics of early web-based net art. By the end of the intervention, Sollfrank had created 127 separate websites. However, the copying and pasting process proved too labor-intensive, and so with the help of a programmer friend Sollfrank built an automation engine that she later called the *net.art generator*.²³⁷ This shift refined the critique of net aesthetics introduced into *Female Extension* by Sollfrank's initial, semi-random design process. Having now completely replaced the artist's hand with automation, repetition, and chance, the work began to interrogate the parallel narratives about the relationship between genius and artistic labor in traditional art and the relationship between genius and technical skill in many areas of digital and internet-based art. It is important to note that chance and deskilling were actually not uncommon areas of inquiry in net art during the 1990s. Deploying programming to introduce automation, experimenting with text-based graphic styles like ASCII, making code visible and/or producing intentional glitches, and even just relying on the relatively simple visual tools still offered by the web were all strategies that artists used to critique the privileging of the artist/technician's hand and the sleek aesthetics associated with digital visual culture. However, Sollfrank's use of all female artists for *Female Extension* recontextualized the work's inquiry,

the "Stallions at Stud" link text can be found at <http://www.obn.org/femext/12.htm>.) Many of the images used on the sites are broken file links now, but they offer a sense of the repetitive visual effects of the process.

²³⁷ The *net.art generator* is a tool that can be used to collect and rearrange materials scraped from the internet to produce a new website or image. It marked a major turning point in Sollfrank's practice, which has since been primarily focused on the relationship between art, automation, and myths of originality. The tool is still available; its current iteration (and projects related to it) can be viewed at Cornelia Sollfrank, "Net.Art Generator," accessed December 1, 2017, <http://net.art-generator.com/>.

focusing its critique on the specific influence of gender on the privileging of genius in both art and technology.

As Sollfrank had predicted, the high number of female artist submissions surprised the museum. They even highlighted it in press releases produced near the end of the contest, and again in anticipation of the winners' unveiling.²³⁸ It is the basis of this very surprise that Sollfrank's work prods. By assigning female identities to all of the artists to whom she was attributing *Female Extension's* automated submissions, Sollfrank requires us to examine how gendered narratives of artistic and technical skill influence our evaluations of net art. If the internet is assumed to be a "world that all may enter without privilege or prejudice," then is internet art (and the tech cultures and industries to which it is adjacent) perceived to be male-dominated because women simply possess less technological ability?²³⁹ Is this presumed lack a question of innate skill, or should one follow Linda Nochlin's directive to attend to who has access to the resources required to produce greatness? In her groundbreaking 1971 essay, "Why

²³⁸ In July and September 1997, the museum and its competition co-organizers sent out press releases boasting that, among other things, one-third of the 280 submissions were from female artists. (This number is a bit lower than the number of submissions that Sollfrank links to in her project documentation. It is unclear if some were rejected out of hand, or if "one-third" was simply very general math.) They also celebrated their many different countries of origin, a number that was also partially inflated by the care Sollfrank took to regionally diversify her fictional artists. Hamburger Kunsthalle, *Der Spiegel*, and Philips Electronics, "Gelungener Start des EXTENSION-Wettbewerb - 120 Megabyte Kunst im Internet," July 1997, Cornelia Sollfrank Personal Archive. Hamburger Kunsthalle, *Der Spiegel*, and Philips Electronics, "Wettbewerb 'Extension - Kunst im Internet' entschieden," September 1997, Cornelia Sollfrank Personal Archive.

²³⁹ Over time, more and more female identified artists have come forward to talk about their work with computer networks during the 1990s. Anecdotally, this suggests that while much of the recognition may have gone to male identified net artists during this period, the perception of gender imbalance in the practice of net art should be historically revised. Nevertheless, the narrative still persists that net art was, overall, as male-dominated as the rest of tech culture and industry. For example, this claim is made in many surveys of internet and digital art, including Cat Hope and John Charles Ryan, *Digital Arts: An Introduction to New Media*, annotated edition (New York: Bloomsbury Academic, 2014), 130. And Rachel Greene, *Internet Art* (New York, N.Y: Thames & Hudson, 2004), 62. Sollfrank herself does report finding that, although she felt very welcomed by other net artists, all of the social milieus that were blossoming around internet culture in the mid-1990s as she began her practice—from arts festivals to media centers to underground nightclubs—were dominated in both presence and voice by white, cis-gendered men. Sollfrank, interview.

Have There Been No Great Women Artists?,” Nochlin points out that the myth of the genius artist conceals the immense amount of time, labor, and resources required to cultivate artistic skill, as well as the social conditions that, historically, prevented most women from pursuing those skills.²⁴⁰ By the late 1990s, the landscape of artistic production described by Nochlin had begun to change, but Sollfrank observed that the dominance of men in the technology industry and, by extension, many areas of digital and internet-based art seemed to be emerging from a similar lack of access to training and resources. For example, she recalled being excluded from university computer labs as a student on the assumption that she and her female peers would simply find it too challenging.²⁴¹ *Female Extension* used strategies of automation and chance alongside its manipulation of gendered expectations to undermine masculinized notions of the relationship between genius and artistic production, and to decenter the privileging of technical competence in digital and internet-based art in favor of a more conceptual approach.²⁴² In so doing, the work examined the relationship between access to resources, the value of certain kinds of labor, and gender imbalance in technology-oriented arts practices. And thus when Sollfrank’s intervention was revealed, the work brought the gendered discourses of cyberfeminism into the digital public sphere.

²⁴⁰ Linda Nochlin, “Why Have There Been No Great Women Artists?,” in *The Feminism and Visual Culture Reader*, ed. Amelia Jones, In Sight (London ; New York: Routledge, 2003), 229–33.

²⁴¹ Sollfrank, interview.

²⁴² It is important to note that Sollfrank was not the only artist interested in how net art could be reframed as a conceptual, rather than a technological, practice. For example, in the manifesto for the 1999 Trash Art Festival, the organizers write: “Network art in the Internet demonstrates the new democratic and progressive form of communication. Today it is necessary to revive the original radicalism of the media-technologies. This is not the problem of technology, but the problem of philosophy and ideology. We are interested in projects, that revolt against the technology itself.” Moscow MediaArtLab, “Trash Art Festival: Manifesto,” MediaArtLab, 1999, http://www.mediaartlab.ru/books/east/english_version/concept.htm.

Soon after the First Cyberfeminist International concluded, Sollfrank took *Female Extension* public. She had originally expected her hoax to be uncovered; there was just enough of a pattern in the effects of randomly generating websites that an attentive eye may have noticed the large cluster of related submissions. Instead, the museum responded enthusiastically, issuing the aforementioned press releases and reinforcing one of the assumptions that *Female Extension* sought to undermine, that there were few women capable of making internet art. When Sollfrank realized that her subterfuge would remain undiscovered, she prepared a press release of her own to distribute at the event at which the winners were unveiled.²⁴³ Sollfrank's announcement shifted a significant amount of the attention the museum had hoped to generate for its new gallery onto her intervention, earning her both accolades (*Die Woche* declared her to be the "Hacker of the Week") and derision (perhaps unsurprisingly, given their involvement in the competition, *Der Spiegel* accused her of lacking originality).²⁴⁴ The Hamburger Kunsthalle seemed particularly stung by Sollfrank's argument that they failed to critically engage with net art as a practice, the fundamental critique that had first motivated Sollfrank's project. The museum dropped their plans to pursue future net art competitions and exhibitions, and eventually removed the whole endeavor from their website.²⁴⁵ The project's criticism of the museum's

²⁴³ The *Extension* winners included neither real nor fake female identified artists, although the work that received an honorable mention was produced by a (real) woman. Given the strangeness of the results of Sollfrank's website-producing process for *Female Extension*, it is unsurprising that none of them received a prize, nor, in fact, was that the point of the intervention. However, the absence of awards for any female artists was made more noticeable because the museum had highlighted the number of female artists in those two press releases.

²⁴⁴ Sollfrank has archived copies of press releases and articles on *Female Extension* that are not available elsewhere online. A celebration of the project can be found at "Hackerin Der Woche: Künstlerin Im Internet," *Die Woche*, September 26, 1997, http://www.artwarez.org/femext/content/review_2.pdf. And *Der Spiegel*'s critique, via their *Spiegel Online* magazine, is available at "FEMALE EXTENSION - Die wundersame Vermehrung," *Spiegel Online*, September 15, 1997, http://www.artwarez.org/femext/content/review_1.pdf.

²⁴⁵ The site the Hamburger Kunsthalle produced for the project, including information on the prize winners and jury and essays produced for the project, has, however, been preserved via the Internet Archive: Hamburger Kunsthalle

institutional blindness to the specificity of the network in net artworks thus worked in tandem with its interrogation of the gendered implications of technological competence as an artistic standard; both demanded a more rigorous accounting of the environments in which net art circulates and the discourses that form around it.

In its reimagining of scientific and technological narratives of mastery around the uncontrollable effects of automation and chance, the work was an essential part of the process of bringing cyberfeminist analyses of the coding of masculinity and femininity in technology into the specific context of computer networks, contradicting claims that gender is irrelevant to activity on these networks. As noted above, Sollfrank produced *Female Extension* at a time when cyberfeminist artists were beginning to focus their critiques of the disembodiment of technology on computer networks. They circulated these critiques through online communities like the Old Boys' Network, events like the First Cyberfeminist International, and artworks like *Female Extension*. The principle of disembodiment was, however, a central claim of the universal model of the digital public sphere, and thus to circulate such gendered and embodied discourses was to oppose the mainstream digital public. In other words, by using cyberfeminist discourses to challenge the idea that gender was irrelevant to the digital public sphere, *Female Extension* helped to produce one of the counterpublics of that sphere.

Race and Color in the Digital Public Sphere

Gendered discourses were not, of course, the only discourses excluded from the mainstream digital public sphere. As noted in the introduction, questions of race were not only

Galerie der Gegenwart, "extension - Internet als Material (Wayback Machine Archive)," January 1, 2010, http://web.archive.org/web/20100101013518/http://www.hamburger-kunsthalle.de/_aext/wettb.htm.

deemed irrelevant in the global social space of computer networks, they were also ignored by scholars who argued that the universal, race-blind quality of digital public discourse meant that race simply did not affect the individual's experience on computer networks.²⁴⁶ For example, in the introduction to one of the few scholarly analyses of race on the internet published during the period of this dissertation, the editor recounts the forceful rejection of dialogues about race amongst scholars online. In defense of the book's attention to this subject, the editor feels compelled to assert that "...in spite of popular utopian rhetoric to the contrary, we believe that race matters no less in cyberspace than it does 'IRL' (in real life)."²⁴⁷ Thus like the cyberfeminists, those artists who did address the relationship between racial identity and computer networks formed a counterpublic whose discourses worked against dominant claims in the digital public sphere.

It is important to note that, in spite of the inattention of scholars to issues of race online, by the end of the 1990s there was a thriving niche of racially-oriented social websites. These included BlackVoices, Netnoir, UrbanMagic, and BlackPlanet, which was owned by a media company that also ran the website AsianAvenue.²⁴⁸ Although many of these networks emerged out of an entrepreneurial interest in previously ignored markets for e-commerce, they still served

²⁴⁶ Christopher McGahan draws attention to the absence of analyses of race before the late 2000s in a detailed meta-analysis of scholarship on the internet: McGahan, "Introduction: Racing Cyberculture," 5–8.

²⁴⁷ Beth Kolko, Lisa Nakamura, and Gilbert Rodman, "Race in Cyberspace: An Introduction," in *Race in Cyberspace* (New York: Routledge, 2000), 5. The discussion of internet-based art practices is fairly limited in this collection, but Jennifer González does address the phenomenon of racial fantasies and play in avatars and other online visual assemblages in Jennifer González, "The Appended Subject: Race and Identity as Digital Assemblage," in *Race in Cyberspace*, ed. Beth Kolko, Lisa Nakamura, and Gilbert Rodman (New York: Routledge, 2000), 27–49.

²⁴⁸ The history of the Community Connect network, parent company of BlackPlanet and AsianAvenue, is explored in Jeffrey Gangemi, "A MySpace That Speaks Your Language," *Bloomberg.Com*, September 19, 2006, <https://www.bloomberg.com/news/articles/2006-09-19/a-myspace-that-speaks-your-language>.

as important hubs for critical discussions about race online.²⁴⁹ For example, BlackPlanet was founded in 1999 and was one of the most successful social sites online before most were eclipsed by Myspace. It hosted conversations on topics like racial profiling and police violence alongside dating services, job postings, and general personal chatter. Some contemporary artists even cite BlackPlanet as the first place they encountered the possibility of making art online.²⁵⁰ These proto-social networks make it clear that plenty of internet users were cognizant of the persistent importance of race and racial discourses when they went online, in spite of claims that race was being made obsolete by the digital public sphere.²⁵¹ Artists Mendi + Keith Obadike engaged these discourses with the *Black.Net.Art Actions*, a three part suite of works they produced between 2001 and 2003. However, as the dissertation will demonstrate below, the works did not simply take up the question of racial identity online. Rather, they delved into both the semantic language used to describe the web and the technical languages that structure the web to argue that racial discourses are not just relevant to computer networks, they are embedded into the very

²⁴⁹ The growing demand for investment in specifically African American markets in e-commerce is discussed in Roger O. Crockett, "Attention Must Be Paid," *Bloomberg.Com*, February 6, 2000, <https://www.bloomberg.com/news/articles/2000-02-06/attention-must-be-paid>.

²⁵⁰ Although it is not nearly as active as today's most popular social networks, like Facebook, BlackPlanet and a newer version of its forums can still be found at "BlackPlanet.Com," accessed January 3, 2018, <http://www.blackplanet.com/>. Older conversations are no longer available in the forum archives, but details of the site's early history can be found in profiles of its founder, Omar Wasow, who has since become a prominent scholar focusing on politics, race, and the media. See: Cate T. Corcoran, "BlackPlanet's Universe," *Stanford Alumni Magazine*, April 2004, https://alumni.stanford.edu/get/page/magazine/article/?article_id=36178. BlackPlanet's influence on later social networks is explored in Jenisha Watts, "Interview: BlackPlanet's Founder Talks Myspace, Why He Was Skeptical of Twitter, and If Facebook May Have Peaked," *Complex*, March 23, 2011, <http://www.complex.com/pop-culture/2011/03/interview-blackplanet-founder-talks-myspace-twitter-facebook>. Contemporary artist Chris Paul Jordan cites his adolescent years experimenting with designing personal pages on BlackPlanet as his first encounter with creative practice online. Chris Paul Jordan, interview by author, February 13, 2018.

²⁵¹ I am using "proto-social network" here to emphasize the difference between these sites, which were just a few of the more prominent forums among many competing social websites, and the monolithic environments that have become associated with social networking since Myspace shifted the balance toward a smaller number of platforms with many more users.

fabric of those networks. In so doing, the *Actions*, like *Female Extension*, actively opposed the disembodied, universal model of the digital public sphere, thereby forming one of the counterpublics of that sphere.²⁵²

The first of the three works, *Blackness for Sale*, is the most well-known of the Obadikes's net art projects, and one of the most enduringly influential works of art on race and technology.²⁵³ In 2001, the artists put Keith's *Blackness* up for sale on eBay in the Fine Arts and Black Americana categories. It received twelve bids over four days before eBay shut the project down, calling the item "inappropriate."²⁵⁴ The description featured a long list of benefits and warnings like "This *Blackness* may be used for making jokes about black people and/or laughing at black humor comfortably," "This *Blackness* may be used for dating a black person without fear of public scrutiny," and "This *Blackness* may be used for instilling fear;" or "The Seller does not recommend that this *Blackness* be used during legal proceedings of any sort," "The Seller does not recommend that this *Blackness* be used while making intellectual claims," and "The Seller does not recommend that this *Blackness* be used while voting in the United States or Florida" (Figure 3.4). Although the listing described the item for sale as "Mr. Obadike's *Blackness*," the description also scrupulously avoided gendering the potential buyer, introducing

²⁵² Sections of the following text are adapted from Megan Driscoll, "Color Coded: Mendi + Keith Obadike's *Black.Net.Art Actions* and the Language of Computer Networks," *The Black Scholar* 47, no. 3 (July 3, 2017): 56–67, <https://doi.org/10.1080/00064246.2017.1330110>.

²⁵³ In addition to its inclusion in the recent 1990s survey exhibition *Come As You Are*, *Blackness for Sale* is frequently cited as a significant influence for contemporary artists dealing with issues related to race and technology. See, for example, Martine Syms, "Black Vernacular: Reading New Media," 2013, <http://martinesyms.com/black-vernacular-reading-new-media/>.

²⁵⁴ A short description of the work is available on the artists' current website at Mendi + Keith Obadike, "Blackness for Sale," Mendi + Keith Obadike: Work, accessed December 3, 2017, <http://obadike.squarespace.com/#/blackness/>. You can view an archived version of the original eBay page at Mendi + Keith Obadike, "EBay Item 1176601036(Ends Aug-18-01 16:08:53 PDT) - Keith Obadike's Blackness (Wayback Machine Archive)," December 21, 2001, <http://web.archive.org/web/20011221173617/http://obadike.tripod.com/ebay.html>.

an element of ambiguity into over-determined tropes of black masculinity like “instilling fear.” As it ranged across cultural stereotypes, personal experiences, and political events, the text highlighted how deeply entangled language is with its sociocultural context. Here, “Blackness” does not describe a value-neutral color. Rather, it speaks both of a certain quality of a person and the entire history of race relations in the United States (“Mr. Obadike’s Blackness has been used primarily in the United States and its functionality outside of the US cannot be guaranteed”), simultaneously signifying danger and vulnerability, political disenfranchisement and cultural capital, power and subjugation.

Stuart Hall has described the communication of this multiplicity of meaning as a process of encoding and decoding. Hall argues that “there is no intelligible discourse without the operation of a code”—whether in images or text, communication always follows the rules of language, it is always coded, and this code is always culturally determined. There is therefore no “natural” interpretation of a word or image (or color), no neutral use of language, and when people communicate they encode a broad range of meanings into their messages, which then take on further meaning as they are decoded by the recipient.²⁵⁵ Hall, who was writing about television broadcasting, also emphasized the determinant role of the form of the message: how one communicates structures how meaning is understood. By putting Keith’s Blackness on eBay, *Blackness for Sale* asked its audience to examine how this coding of meaning happens on the internet in general, and on an online auction site in particular. What does it feel like for someone to be made aware of their race as they surf the web, using “browsers called Explorer and

²⁵⁵ Stuart Hall, “Encoding/Decoding,” in *Culture, Media, Language: Working Papers in Cultural Studies, 1972-79*, ed. Stuart Hall et al. (London: Hutchinson, 1980), 131.

Navigator that take you to explore the Amazon or trade in the eBay?”²⁵⁶ The Obadikes thus specifically selected eBay as the platform for *Blackness for Sale* in order to direct attention to the effects of a whole set of racially-loaded terms that are used to describe browsing and shopping on the internet. These terms are integral to the concept of the digital public sphere because they emerge out of one of the major claims on which the public sphere model is founded, the conviction that the internet will produce a state of radical freedom and democracy. One of the popular metaphors used in the 1990s to articulate this idea is the “electronic frontier,” a concept that borrows from romanticized histories of the American Old West in order to characterize the internet as independent and self-governing, and therefore a platform where members of the public can freely come together to represent their own interests.²⁵⁷ At the same time, the electronic frontier summons colonialist fantasies of expansion and exploration that are also apparent in terms like “Explorer,” “Navigator,” “Amazon,” and, in the context of trading, the “eBay.” *Blackness for Sale* draws attention to the entanglement of these racial histories in the language of the digital public sphere by producing a sale of black identity on eBay, a metaphor for the sale of black bodies in historical trading bays, to which the viewer likely traveled with their Navigator or Explorer web browser. This point is further underscored by the Obadikes’s decision to put Keith’s Blackness up for sale in eBay’s Black Americana category, thereby

²⁵⁶ In a 2001 interview on *Blackness for Sale* with Coco Fusco, Keith Obadike discusses the “odd Euro colonialist narrative” that structures the way people talk about using the web, and how *Blackness for Sale* examines the peculiar position this constructs for black people as internet users. Coco Fusco, “All Too Real: The Tale of an On-Line Black Sale; Coco Fusco Interviews Keith Townsend Obadike,” September 24, 2001, <http://blacknetart.com/coco.html>. Note that Netscape Navigator has been discontinued since the early 2000s, but the default Windows web browser is still called Explorer and Apple has followed this model with their default browser, Safari.

²⁵⁷ Mike Godwin credits John Perry Barlow with coining the phrase “electronic frontier” in Mike Godwin, “Foreword,” in *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace*, ed. Peter Ludlow (Cambridge, MA: MIT Press, 1996), xiii–xvi. Barlow is co-founder of the internet advocacy group Electronic Frontier Foundation and, not coincidentally, author of the aforementioned “A Declaration of the Independence of Cyberspace.”

positioning the work's inquiry into race and computer networks in the middle of the sale of every form of racist figurine and memorabilia imaginable.²⁵⁸ By categorizing the work this way, the Obadikes highlight the absurdity of eBay's claim that they are simply a passive "trading post" for such representations of American blackness. Rather, as the work forcefully demonstrates, neither this e-commerce platform nor the virtual community to which it belongs has escaped these histories and the racial narratives they shape.

Blackness for Sale thus demonstrates that racial discourses are not only relevant to the internet, they are encoded directly into the language with which people describe their points of contact with computer networks. In so doing, the work also asks us to consider how the different meanings of blackness explored in its benefits and warnings might signify online. Does the cultural capital of blackness accrue to the black subject as she browses the web? "This Blackness may be used to augment the blackness of those already black, especially for purposes of playing 'blacker-than-thou'." How do the racial discourses of black-oriented social networks get reframed against the rest of the social landscape of the web—do these websites segregate such conversations at the same time that they provide a platform for them? "This Blackness may be used for gaining access to exclusive, 'high risk' neighborhoods." And in what ways does blackness disqualify the subject from, in Warner's terms, disincorporating her reason from her body in order to participate in the digital public sphere? "The Seller does not recommend that

²⁵⁸ Today, Black Americana can only be found on eBay as a sub-sub-section, buried under the Collectibles and Cultures & Ethnicities categories. It is still dominated by a parade of racist antiques, periodically punctured by items like a vintage Malcolm X poster that generate more than a little cognitive dissonance. A much more detailed analysis of eBay and how *Blackness for Sale* specifically refutes claims for the race-neutrality of e-commerce is available in Christopher McGahan, "Re-Collecting Cyberculture and Racial Identification in a Minoritarian Frame of Reference: Keith Obadike's Blackness for Sale, eBay, and the Counter-Performance of Blackness in Cyberspace," in *Racing Cyberculture: Minoritarian Art and Cultural Politics on the Internet*, Routledge Studies in New Media and Cyberculture (New York: Routledge, 2008), 85–122.

this Blackness be used while making intellectual claims.” In fact, the work actively refuses such disincorporation, positing that people cannot alienate themselves from their bodies and the histories of those bodies even in the virtual landscape of the digital public sphere.

Blackness for Sale helped to promote conversations about race on computer networks that, as noted above, had recently started to be picked up by race-oriented social platforms. One of the few artist groups who had previously addressed race and computer networks was Mongrel, who produced a series of works on race and technology in the late 1990s that included *Natural Selection* (1999). This project brought attention to the prevalence of hate groups online by creating a simulated search engine that redirected seemingly normal sets of results for searches for terms like “klan” to anti-racist websites.²⁵⁹ Then in the early 2000s, *Blackness for Sale* joined a slowly growing group of artists who were picking up this conversation. For example, in 2001 Tana Hargest started the *Bitter Nigger Broadcast Network (BNBN)*, a spoof of corporate culture’s capitalization on racism that imagines how the web might be used to reverse such tropes. *BNBN* advertises digital products like the Holo-Pal, a white male friend who can be called upon to help with everything from visiting the bank to pursuing one’s art career.²⁶⁰ There

²⁵⁹ Mongrel’s *Natural Selection* has not been functional for a long time, but a close analysis of the work is available in Christopher McGahan, “Re-Searching Racial Projects in the Technoculture: Mongrel’s *Natural Selection*, the Search Engine, and the Politics of British Culture and National Identity in the 1990s,” in *Racing Cyberculture: Minoritarian Art and Cultural Politics on the Internet*, Routledge Studies in New Media and Cyberculture (New York: Routledge, 2008), 11–45. Mongrel’s two related works, *Heritage Gold* (1997) and *BlackLash* (1998), can be explored on the Rhizome Net Art anthology: Rhizome, “Mongrel’s *Heritage Gold*,” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/heritage-gold>. Rhizome, “Mongrel’s *BlackLash*,” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/blacklash>.

²⁶⁰ *BNBN* has since grown to become part of Bitter Nigger, Inc., Hargest’s mock corporate entity that has launched endeavors online and off, including the imaginary virtual resort *New Negrotopia*: Tana Hargest, “New Negrotopia,” Creative Capital, 2004, <http://www.creative-capital.org/projects/view/120>. The original *BNBN* websites are no longer available online, but a description of the project can be found in Jennifer González, “Morphologies: Race as a Visual Technology,” in *Re:Skin*, ed. Mary Flanagan and Austin Booth (Cambridge, Mass.: MIT Press, 2006), 349. Hargest published Bitter Nigger, Inc.’s corporate statement in Tana Hargest, “Bitter Nigger Inc.,” *Social Text* 20, no. 2 (June 1, 2002): 115–23.

were also two different exhibitions that year that included work addressing technology and race.²⁶¹ Thus at the time that *Blackness for Sale* inaugurated the suite that would become the *Black.Net.Art Actions*, to insist that race was relevant to the members of the internet's public was to enter a stream of discourse that was growing among artists, select social websites, and a small number of scholars. However, as noted above, these racial discourses were still being suppressed by claims for the universality of the digital public sphere. By working against this suppression, *Blackness for Sale* helped to articulate the counterpublic that was forming around such conversations on race and computer networks.

In 2002, a year after *Blackness for Sale* appeared on eBay, the Obadikes were invited to produce a gate page for the Whitney Museum's Artport site. They used the opportunity to create *The Interaction of Coloreds*.²⁶² Unlike *Blackness for Sale*, which was a networked performance that took place on an existing commercial platform, *The Interaction of Coloreds* was a browser-based artwork, commissioned by a major American museum, comprised of a website and accompanying downloadable audio. The site's splash page greeted visitors with a dizzying 2x2 grid of rapidly changing images; after a moment of watching them cycle, it became clear that these were pictures of black body parts—the artists' bodies, in fact—photographed in front of a

²⁶¹ These exhibitions were the MIT List Center's *Race in Digital Space* and the Studio Museum in Harlem's *Freestyle*, both from 2001. The former was an important early examination of how artists were using digital tools, including the internet, to confront race: "Race in Digital Space," MIT List Visual Arts Center, April 14, 2014, <https://listart.mit.edu/exhibitions/race-digital-space>. The latter exhibition included Hargest's *BNBN*, placing the work in the context of a larger conversation happening in contemporary art about the controversial concept of "post-black art," an attempt to think about race in art without relying on the artist's race as a primary identifier for the work: Cathy Byrd, "Is There a 'Post-Black' Art?," *Art Papers Magazine* 26, no. 6 (December 11, 2002): 35–39.

²⁶² This was part of a series in which the Whitney invited a different artist each month to use the Artport as a point of entry to a work that was otherwise hosted on the artist's own site. The page links are archived at Whitney Museum of American Art, "Gate Pages Archive," Artport, 2006, <http://artport.whitney.org/gatepages/index.shtml>. Visitors can go directly to *The Interaction of Coloreds* at Mendi + Keith Obadike, "The Interaction of Coloreds," 2002, <http://www.blacknetart.com/IOC.html>.

brown paper bag. Running the mouse over the grid squares one by one revealed the lines *if you're white you're right / if you're black get back / if you're brown stick around / if you're yellow you're mellow*, first recorded in a Big Bill Broonzy song, since deeply embedded into popular (and literary) consciousness (Figure 3.5). The association between images and text may not be subtle, but it is incisive: viewers are looking at a brief history of the ways that color preference has been used to manipulate and oppress black bodies in the United States, from slavery to Jim Crow. And the title of the piece, *The Interaction of Coloreds*, is a reference to Josef Albers's *Interaction of Color*, a text on modernist color theory that touches on the relationship between color, personal preference, and desire. The grid format of the splash page images also alludes to the layout of the color plates in Albers's book. This first page thus establishes the conceptual framework for the project, which, like *Blackness for Sale*, examined meanings tied to color language and its relationship to race, homing in on how this system has been used to hierarchically sort and evaluate human beings.

When visitors clicked on the grid of photographs, they entered the main site where they were introduced to the IOC Color Check System®, which the Obadikes describe as a brown paper bag test for the internet (Figure 3.6). The background of this page is a photograph of the artists standing side by side, cropped to their torsos and revealing small patches of chest and arm, the relative hues of their skin emphasized by their solid black and white shirts. Gone is the brown paper bag behind them; whatever occupied this space in the original photograph has been removed and replaced with a layer of digitally exact “true white” (#FFFFFF).²⁶³ This signals a

²⁶³ #FFFFFF is the hexadecimal color value for “true white.” These values are six digit alphanumeric strings that represent colors in some computing applications, including the different types of code (HTML, CSS, etc.) that are used to build web pages. The structure of the code itself is not arbitrary. It uses only 16 digits (0-9 and A-F) and is built of three pairs of digits that each assign a certain intensity to a range of red, green, or blue, then combine to

shift away from old, analog systems of color evaluation into a new world where human bodies can be measured so precisely that they are assigned a specific numerical color value. And that is just what the IOC Color Check System® proposed to do, as the introductory text on the page announces: “Websafe colors aren’t just for webmasters. Register with the IOC Color Check System® and protect your online community from unwanted visitors.”²⁶⁴ Visitors can heed this call and click on the IOC Color Check System® link right away, or pause to download the IOC audio, a semi-autonomous piece that mixes music and poetry to ruminate on visibility, (in)adequacy, and the worlds people move between.²⁶⁵ Clicking on the IOC Color Check System® link brings viewers to a new page that describes exactly how the system works, but in the hyper-enthusiastic tone of advertising (Figure 3.7 & Figure 3.8). Visitors are exhorted to “APPLY NOW!” if they “represent a money-lending institution” and “need online skin color verification for the purposes of determining projected property value.” Or perhaps they are “a member of a new African-American web portal or an old Negro social club” who is “looking for a way to maintain your club’s discriminating tastes in the information age.” No matter what the

produce a specific color. Because they use the additive color process, hexadecimal colors follow the basic principles of light: #000000 is black because it is a total absence of color, whereas #FFFFFF is white because it is a combination of all colors at full intensity. (How this works can be explored at W3Schools, “Colors HEX,” W3Schools Colors Tutorial, accessed December 3, 2017, https://www.w3schools.com/colors/colors_hexadecimal.asp.) So for the computer, the reading of these codes is strictly objective. But *The Interaction of Coloreds* draws attention to the interpretive layer that is introduced by the human reader of hexadecimal codes and the colors they produce, weighing down these seemingly neutral numeric codes with the social and cultural values that the colors carry in everyday language.

²⁶⁴ In the early 2000s, there were still a lot of computer monitors that had a limited color range and would substitute another color for one they did not recognize in a website’s code. Website designers would therefore try to stick to a specific palette of “web safe colors” in an attempt to ensure that the site would look the same to all visitors. Today, displays typically have an exponentially wider range of color options, so the practice is unnecessary.

²⁶⁵ The Obadikes work with sound, music, and poetry in addition to visual art, and frequently offer audio tracks as part of their media projects. However, in older works these tracks were typically provided as separate downloads rather than running automatically as viewers explored the works. This unfortunately tends to make the sound components feel optional (or at least easy to miss), but they are worth tracking down. Adding the experience of listening to the experience of looking enhances the performative element of the Obadikes’s projects.

visitor's specific needs (the artists provide several other possible scenarios), the IOC Color Check System® offers subscribers a way to navigate the relationship between skin color and social, or monetary, value in the digital realm by requiring that prospective employees, customers, etc. fill out an online application and receive a code that will “give you (and them) an exact measure of their color.” (A sample application is available in Figure 3.9.) Clicking on this link will bring visitors to an extremely detailed form that asks for demographics and family history, and contains a barrage of questions like “Has your skin color ever been in vogue?” or “Have you ever been allowed” (or denied) “access to a place because of your color?” or “How do you describe your hair texture?” If someone fills out the form and submits it along with photographs of their body against a surface that is lighter than their skin tone, the site promises to register them in its international database and issue them a customer number and verified hexadecimal color value.

When the Obadike produced *Blackness for Sale* the year before they were not expecting it to be part of a suite, but as they were working on *The Interaction of Coloreds* they realized that they were following an important line of inquiry.²⁶⁶ Like *Blackness for Sale*, *The Interaction of Coloreds* investigates how the polysemy of color functions in the context of the internet, but the later work delves more into the technical language of the web. For example, the phrase “web safe colors” is no longer just a guarantee that a numerical color code is safe for a website. With the IOC Color Check System® it becomes a guarantee that the human being affiliated with a given color code will be safe, too. The work uses this elision between the social and the technological to articulate the ways in which color-based systems of separation have penetrated even into the

²⁶⁶ Mendi + Keith Obadike, interview by author, July 27, 2016.

social platforms black people create for themselves—“Are you looking for love in a chat room? When someone describes himself as ‘tall, dark, and handsome’ would you like to be able to tell exactly how ‘dark’ he is?” *IOC* thereby registers ambivalence toward these self-selecting groups, while at the same time acknowledging that historical practices like the brown paper bag tests have long forced black subjects to carve out their own social spaces and create their own languages. The work also directs attention to the numerical color codes themselves, which are built into every website; hexadecimal codes are one of the most common, and consistent, ways to describe the color of any element in HTML. But *The Interaction of Coloreds* argues that these codes do not just passively generate color, they communicate color, which means that they potentially convey all of its coded meanings: the “true white” of #FFFFFF can just as easily be read as the “right white” from the Big Bill Broonzy song. By connecting the encoding/decoding process of spoken language to the technical languages of the web, *The Interaction of Coloreds* thus strips even computer codes of their claims for mathematical neutrality. In so doing, it extends *Blackness for Sale*’s argument that racial discourses are encoded into the words used to describe computer networks to demonstrate that they penetrate even further, into the coding languages that actually structure the web. The digital public sphere cannot be race-blind, the work argues, because the internet is, fundamentally, a network of human beings, and the ideologies of language cannot be divorced from any system with which meaning is communicated among human beings.

Finally, *IOC* brings its focus to the ways in which art circulates online, which, as noted in chapter one, was a central issue in the search for internet-specific qualities in net art. *The Interaction of Coloreds*, however, interrogates the human qualities of that distribution network. The work asks how the body of the artist might, in spite of virtual spaces’ claims for

disembodiment, still influence this process of circulation: “Are you an art collector investing in net.art made by a colored artist? Do you need a method of determining the effect of the artist’s body on the value of the work?” Like the modifier “black” in the suite title *Black.Net.Art Actions*, assuring (or warning) us that this is not just any kind of net art, *IOC* points to the tension between the tendency to fetishize race as a marker of a certain kind of artistic or social value and the tendency to marginalize racial topics when getting “serious” about art and its discourses. In this way, the work articulates the “hierarchy or stigma” that always sets apart the discourses of a counterpublic, and suggests that this stigma can be found in net art as well as the digital public sphere writ large.²⁶⁷

The third and final project in the *Black.Net.Art Actions* suite is *The Pink of Stealth*, which was commissioned by Electronic Arts Intermix and the New York African Film Festival for the 2003 Digital Africa exhibition. The project continues the Obadikes’s investigation into color as a signifier of identity, broadening its scope to include considerations of gender, class, sexuality, and even health, as well as race. *The Pink of Stealth* is a multimedia work presented in three main parts, all of which revolve around a story written by the Obadikes in response to the ways that the color pink is deployed in two movies, *Pretty in Pink* (1986) and *Six Degrees of Separation* (1993). They experiment with fragmenting the stories in different ways throughout the work, recalling the non-linear approach to narrative that was popular with many artists and writers who used hypertext during the 1990s.²⁶⁸ The work’s pieces can all be accessed from a

²⁶⁷ “The subordinate status of a counterpublic does not simply reflect identities formed elsewhere; participation in such a public is one of the ways by which its members’ identities are formed and transformed. A hierarchy or stigma is the assumed background of practice. One enters at one’s own risk.” Warner, “Publics and Counterpublics,” 121.

²⁶⁸ Olia Lialina’s *My Boyfriend Came Back From the War* (1996) is one of the most influential early works of net art that explores how hypertext can be used to introduce fragmentation and user-directed movement to break up linear narratives, thereby producing something like an internet-specific form of storytelling and memory. See Rhizome’s

central website whose landing page is filled with a disorienting animated gif of oscillating pink and white stripes that automatically generates a pop-up window. The window's background is a photograph of the two artists' left hands, partly overlapping and frozen in a gun-pointing gesture, each wearing pink button cuff shirts with an indecipherable, pinkish pattern behind them (Figure 3.10). This interplay between digitized and photographed pinkness lingers in the viewer's field of vision as they click through the work's main components: a hypertext poem in five variations, a web-based game, and a downloadable audio piece.²⁶⁹

The range of meanings that extend from the color pink weave through the underlying narrative of *The Pink of Stealth* and into each individual element. In the hypertext poem, viewers make this connection through the color of the page itself. Clicking on the link labeled "5 Hypertext Variations" opens another pop-up, with a header that reads "Variation 1: CC6666" and a background in the rich, reddish pink hue described by the hexadecimal code #CC6666 (Figure 3.11). Only pieces of the text are visible; running the mouse over the blank spaces makes the remaining words appear, and clicking brings viewers to the next variation (eventually, the page will also cycle forward automatically). Each variation displays and is named for a different hue of pink, revealing new phrases from the story and allowing the varying shades of pink to quite literally color one's reading of the text. Viewers can then move from the look to the sound of pink with the audio file, which is labeled "The Mauve Mix" on the work's home page.²⁷⁰ Just

Net Art Anthology: Rhizome, "Olia Lialina's My Boyfriend Came Back From the War," Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/my-boyfriend-came-back-from-the-war>.

²⁶⁹ Project notes and a link to a discontinued DVD are also available on the main page for *The Pink of Stealth*. The DVD serves as a reminder of the myriad ways that the artists have presented the work, both for home viewing and exhibition (it was shown at the Neuberger Museum in 2004 in addition to the 2003 Digital Africa show).

²⁷⁰ Although the direct download from the *Pink of Stealth* website is no longer working, the Obadikes have included "The Mauve Mix" as a track called "The Pink of Stealth" on their album *Crosstalk*.

over six minutes long, the track begins with a musical intro that moves into the background as a female voice begins to speak in a disjointed rhythm, reading the story in shifting cadences with long pauses and occasional sound effects that mimic the visual fragmentation of the text online. It is impossible not to hear the low tone of her voice as seductive, to begin to imagine the sensuality of pinkness, manipulating the mouse to play with the visibility of the text while listening to the story play with the range of pink significations that the Obadikes have uncovered: boys and girls and their pink parts, their tongues and cheeks; desire, for another person, but also for food and for wealth and for recognition; the hunt, chasing people, chasing foxes. This quality of pinkness layers onto the explorations of blackness, brownness, and yellowness in *Blackness for Sale* and *The Interaction of Coloreds*, injecting new meaning into questions like “Has your skin color ever been in vogue?” as viewers consider the relationship between color and desire—the color of desire itself, as well as the color of what they desire.

The reference to chasing foxes in “The Mauve Mix” is not, however, simply a metaphor. Historical fox hunts are the most surprising association with the color pink that is excavated in *The Pink of Stealth*, and they form the centerpiece of the third and final element of the work, the game. (The fox hunt also loops the viewer back to the artists’ mysterious gun-pointing gesture in the background of the main page.) All that is viewable of the game today is a demo, in which two dog characters named “Unbeatable” and “Unspeakable” run ahead of a character on a horse, dressed in fox hunting clothes (Figure 3.12). As the project description explains, the Obadikes came across the phrase “in the pink,” short for “in the pink of health” (hence the work’s title), from eighteenth-century English fox hunting. The phrase refers to clothing designer Thomas Pink’s popular red hunting jackets—the same jacket worn by the character in the game demo—connecting fashion, wealth, upper class leisure activities, and even the blush of sporting good

health. By featuring this relatively obscure reference to pink from outdated fox hunting slang alongside the color's more contemporary associations with gender and sexuality, *The Pink of Stealth* explores how the multiple meanings for color language can extend endlessly, a game of word association whose rules keep shifting alongside social norms.

But there are rules. As Hall has asserted, contextual parameters always structure the possible meanings that can be decoded for communication to be possible, and there will always be a hierarchy in which one set of meanings will be considered most legible and legitimate to the dominant social order.²⁷¹ To unearth the meanings that might be suppressed or trivialized in public discourse that supports such a dominant order, one that minimizes race, gender, sexuality, or class as significant factors in organizing social life and experience, is therefore to work against the dominant social order. Indeed, to do so is to assert a counterpublic sphere. In its web-based presentation, *The Pink of Stealth* asks how these parameters and social hierarchies are structured online. How does pink signify as one surfs the web? Does it lose its field of meaning against the digital screen, or does the pink and white striped background of the work's main page tell visitors something about the artists' femininity, desirability, sexuality, health, social class?²⁷² With their matching pink backgrounds and hexadecimal code titles, the hypertext poems in particular follow *The Interaction of Coloreds'* argument that the technical protocols that structure

²⁷¹ Hall, "Encoding/Decoding," 134.

²⁷² Artist Martine Neddham also manipulates pink as a signifier of a certain kind of femininity in *Mouchette*, an ongoing net performance for which she has constructed an adolescent female persona (named Mouchette). Mouchette's personal website, first built in 1996, explores the markers of emotion, femininity, and adolescent anxiety that can be found in both design and discursive trends among young, female-identified web denizens, including a dark fascination with suicide discussed against the prominent display of a pink, flowered background. An archive of the *Mouchette* website from 2003, the same year that the Obadikes produced *The Pink of Stealth*, can be found at Martine Neddham, "Mouchette (Wayback Machine Archive)," 2003, <https://web-beta.archive.org/web/20030808060120/http://www.mouchette.org/>. More information about the project is available in the Rhizome Net Art Anthology: Rhizome, "Martine Neddham's Mouchette," Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/mouchette>.

one's experience of the web can and do communicate semantically. They do so in a way that visualizes how counterpublic discourses can convey meaning against the background of dominant discourses. When "Variation 2: #FFCCCC" tells us that "He...knew how to...delight...a...Randi...girl..." and "Variation 4: #FF9999" tells us that "He...knew how to...delight...a...big...guy" (Figure 3.13), the progression from pale to vibrant pink backgrounds signifies not only a change in the page's HTML or a new color choice, but also a shift in modes of sexuality, reminding us that there is also a secondary or subordinate meaning for different hues of pinkness, one that circulates among a queer counterpublic and does not become invisible just because it is operating online.

Collectively, the *Black.Net.Art Actions* examine how the ideologies of color persist across both the semantic and technical languages that shape the points at which human beings encounter computer networks, from using Explorer to shop for Blackness on eBay to visiting websites restricted to only the safest (hexadecimal) colors to wrestling with the changing frames of sexuality, femininity, and class that can spiral out from the slightest adjustments to a digitized pink background. In so doing, Mendi + Keith Obadike reject the proposition that computer networks are neutral, that the social field of meaning encoded into language is not also encoded into the digital public sphere. To the contrary, their works reveal that the politics of race, gender, and sexuality that are embedded in color language are embedded in the structure of the network itself, endemic in the metaphors used to describe and organize activities and sites on computer networks. Moreover, in their allusions to the growing number of social platforms and artistic practices through which racial discourses were already circulating online, the Obadikes's works insist on a racialized counterpublic, formed in opposition to the universalizing concept of the digital public sphere.

CHAPTER FOUR: Virtual Public Spaces

“What does the collective voice of the internet sound like?”²⁷³ This question animates Ben Rubin and Mark Hansen’s *Listening Post*, which was first exhibited at the Brooklyn Academy of Music’s 2001 Next Wave: Arts in Multimedia festival (Figure 4.1). The work uses an automated process to gather messages from online chat rooms and forums, sorting and integrating the text in near real-time into an audiovisual installation that combines harmonic electronic sounds, computer voices, and LED displays that alternate between text and light patterns. These elements are organized into phases or scenes, orchestrating the internet’s idle chatter into something that resembles a digital mini-symphony. Through this process of collecting, sorting, and translating, *Listening Post* seeks to make tangible the “scale and immensity of human connection”²⁷⁴ across computer networks, simultaneously untangling the internet’s “collective buzz”²⁷⁵ as it teases out phrases like “do you speak English?” and “I suggest you use your head first,”²⁷⁶ and blurring it all back together again, layering the voices to build a sonorous, rhythmic hum. In this way, *Listening Post*’s inquiry resembles that of Douglas Davis’s *Sentence* as it explores the interpersonal networks that are formed through

²⁷³ On the Boards, “Listening Post News Release,” November 13, 2002, Listening Post Archive: Press Packet, On the Boards Theater.

²⁷⁴ Ben Rubin quoted in Matthew Mirapaul, “Making an Opera From Cyberspace’s Tower of Babel,” *The New York Times*, December 10, 2001, sec. Arts / Music, <http://www.nytimes.com/2001/12/10/arts/music/10ARTS.html>.

²⁷⁵ Ben Rubin and Mark Hansen, “Listening Post: Encounters with Real Time Communication on the Internet,” 2002, Listening Post Archive: Press Packet, On the Boards Theater.

²⁷⁶ Ben Rubin and Mark Hansen, *Listening Post Video*, Ars Electronica Submission, 2004, <http://archive.aec.at/prix/showmode/88/>. All of my descriptions of the work, including the messages it has gathered, come from written accounts and installation videos. Going forward, this Ars Electronica video will be my source for quotes from the work and visual analysis unless otherwise noted. The video accompanied Rubin and Hansen’s submission to the 2004 Ars Electronica Festival, for which they won a Golden Nica award in the category of “Interactive Art.”

communication online. But by focusing on the platforms themselves, the chat rooms and web forums where people argue, converse and reflect, the work directs its attention to what it means for such platforms to be experienced as public spaces, the virtual gathering places of the digital public sphere.

Spatial terminology is used to describe almost all of the environments encountered on the internet—chat rooms, web forums, home pages, domains, portals, windows, and so on. It is also used to describe the activities pursued in these environments—going online, logging on, surfing the web, jacking in, posting a message. In part, this reflects the fact that the movement of data across the network is experienced as a representation of the movement of the self.²⁷⁷ In other words, when people go *online*, they experience being *in* a space that is distinct from the rooms in which their bodies, sitting at their computers, currently reside. As noted in the introduction, this spatialization of computer networking is also evident in the terminology used to make claims for its public status. Consider, for example, the electronic frontier, the electronic agora, the Superpanopticon, or the digital public *sphere* itself. In the following two chapters, the dissertation will examine the different ways that the spatialization of computer networking influences the individual’s perception that when she is online she is also in a *public* space. First, as a virtual gathering place in the digital public sphere, and second, as a theater of visibility, a site of surveillance and/or performance that is public because it cannot be private.

In the current chapter, the dissertation will discuss two projects that explore how the public space of the network is defined through its communication platforms, those “bulletin

²⁷⁷ Political scientist Diana Saco argues that this relation between the physical movement of bits and the movement of bodies is one of the ways in which internet users exerts a spatial order over their conception of computer networks. Diana Saco, *Cybering Democracy: Public Space and the Internet*, first edition (Minneapolis: University of Minnesota Press, 2002), 27.

boards, conferencing systems, mailing structures, and Web sites [that] are crammed with political organizations, academics, and ordinary citizens posting messages, raising questions, sharing information, offering arguments, changing minds.”²⁷⁸ It will argue that these virtual platforms are experienced as actual spaces because, following Lefebvre, they are social spaces, produced both by the physical spaces of networking and the social forces that shape how those spaces are conceived.²⁷⁹ At the same time, the digital public sphere itself is, like the classical public sphere, also a social space. As noted in the introduction, Habermas’s classical public sphere is produced by sociopolitical forces, like the rise of the press, the development of civil society, and the formation of the modern nation-state. But those sociopolitical forces are also produced by physical space, the gathering places where the members of civil society come together to engage in discourse and debate.²⁸⁰ Likewise, the digital public sphere is a social space that is produced both by the claims made for its status as a global platform for the circulation of information and discourse, and by the virtual spaces in which that discourse occurs.

The chapter will begin with *Listening Post*, which interrogates the claim that the virtual gathering places of computer networks can produce the discourses of a public sphere. Casting doubt on these claims, the work finds instead a space of relations between strangers that more closely resembles the public spaces of daily life, like the ancient forum or the modern city square. However, the second work in this chapter, Natalie Bookchin and Jacqueline Stevens’s *agoraXchange*, embraces the fundamentally utopian nature of the concept of a digital public

²⁷⁸ Katz, “The Age of Paine.”

²⁷⁹ Lefebvre defined the concept of social space in Lefebvre, *The Production of Space*.

²⁸⁰ Habermas described the role played by social institutions of the public sphere, including English coffee houses, French *salons*, and German *Tischgesellschaften* (table societies), in Habermas, *The structural transformation of the public sphere*, 36–37.

sphere. Rather than test the conditions of discourse as it already occurs in the network's public spaces, *agoraXchange* asks whether it is possible to construct a virtual gathering space in which such a utopia might be realized.

A Virtual Gathering Place

The experiments that would become *Listening Post* began in 1999 when artist Ben Rubin met computer scientist and statistician Mark Hansen through the Arts in Multimedia project organized by the Brooklyn Academy of Music (BAM).²⁸¹ Rubin was interested in whether sound could reveal something about the flows of internet traffic that typical data visualizations could not, and Hansen had already been exploring how to model the different ways that people use information systems, like computer networks.²⁸² When Rubin and Hansen first started working together, they began by collecting general data about people's web activities, but they quickly found that it was too impoverished to be interesting. How many people were visiting what website at what time just did not tell them much about the actual experiences of human beings on computer networks. So they turned to chat rooms, the contents of which helped the artists articulate the fundamental humanness behind computer networks.²⁸³ As noted in the introduction, it is through these human activities that the network does—or does not—cohere

²⁸¹ The short-lived Arts in Multimedia program, managed by the Brooklyn Academy of Music (BAM), connected artists with scientists at Bell Labs, the research division of Lucent Technologies. Bell Labs has a long history of participating in artist/researcher collaborations, going back to the famous Experiments in Art and Technology (E.A.T.) program of the 1960s and early 1970s. A recent catalog outlines the initiative and reviews several of the major works produced under its auspices during these years: Sabine Breitwieser, ed., *E.A.T.: Experiments in Arts and Technology* (Köln: Walther König, Köln, 2016).

²⁸² Brooklyn Academy of Music, Ben Rubin, and Mark Hansen, "BAM 2001 Next Wave Arts in Multimedia: Listening Post Program," December 2001, Listening Post Archive: EAR Studio Packet, On the Boards Theater.

²⁸³ The artists describe the development of the project in a video recorded lecture at Ars Electronica in 2004: Ars Electronica, *Forum I - Interactive Art* (Linz, Austria, 2004).

into a digital public sphere.²⁸⁴ Thus by examining the contents of these chat rooms, *Listening Post* interrogated whether they function as the virtual coffee houses or *salons* of a public sphere, or whether they construct a different kind of space of relations between members of the public.

In order to produce the material for *Listening Post*, Rubin and Hansen constructed several different pieces of software, which they call agents, that can monitor IRC chat rooms and web forums that are not password protected and do not require special registration.²⁸⁵ In this way, the work focused on virtual communication spaces that are presumed to be public insofar as the discussions on them are available to anyone. The agents were agnostic about the topics of conversation they found there; each one simply “sat” on a given platform to determine how active it was. If there were more than about ten people using the platform at any moment, the agent stayed and gathered the content of its conversations for a period of time before moving on.²⁸⁶ The messages were then batched periodically and processed into the installation in the same temporal order as the original conversation (Figure 4.3).²⁸⁷ Thus even though these

²⁸⁴ Bohman, “Expanding Dialogue,” 139.

²⁸⁵ Internet Relay Chat, or IRC, is a type of text-only discussion platform that predates the web, although it remained popular in the early 2000s and is still in use today. Web, or HTML, forums are discussion platforms that are accessed via a website and that resemble bulletin boards. When *Listening Post* was first exhibited, the artists were deliberately vague about the types of platforms from which they were pulling content in order to avoid provoking negative reactions from IRC and forum users, but they have since confirmed that these were their two main sources. Ben Rubin, interview by author, January 20, 2016. However, while these two sources remained active through the work’s most high-profile installation, a 2003 exhibition at the Whitney, fewer people were using web forums by the mid-2000s and the work’s sources soon shifted primarily to IRC, which outlasted web forums in popularity, in spite of (or perhaps because of) the fact that it came along well before the web. Mark Hansen to Megan Driscoll, “Quick Technical Question Re: Listening Post,” January 28, 2016.

²⁸⁶ The most important information gathered by the agents is the content of the messages, but they also collected some metadata, including the name of the source, the user ID of the person sending the message, and the timestamp of the message.

²⁸⁷ *Listening Post* is actually quite technically complex, and a much more detailed description of how the software works and how some of the programming aspects have changed over time can be found at Wes Modes, “Listening Post Ten Years On,” *Modes.io* (blog), 2014, <http://modes.io/listening-post-ten-years-on/>. A shorter summary of the programming tools that the artists used is also available in Casey Reas and Ben Fry, “Listening Post (Interview with Mark Hansen),” in *Processing: A Programming Handbook for Visual Designers and Artists*, second edition

messages are organized and then transformed into electronic audio before being used in the final installation, they still reflect the basic structure and content of the original conversations and thus the environment of the chat rooms themselves.

Initially, Rubin and Hansen focused entirely on gathering content and exploring how it could be expressed through sound, experimenting with a mix of computer voices, digitally-produced music, and electronic beeps and hums that shape and punctuate the flow of the messages as they are read. However, as the artists began to think about the work's first major exhibition, at BAM's 2001 Next Wave: Arts in Multimedia festival, they decided to explore the possibilities for translating the internet's chat activity into new visual forms as well (Figure 4.4).²⁸⁸ After going through several iterations for different installations, Rubin and Hansen settled on what became the work's most recognizable form, which they debuted during its December 2002 – March 2003 installation in the Whitney Museum's ground floor contemporary gallery.²⁸⁹ In order to produce its characteristic immersive audio environment, the installation of *Listening Post* required a whole room, with speakers placed strategically throughout (Figure 4.7). The messages collected by the work's agents were organized into phases, or scenes, and

(Cambridge, Massachusetts: The MIT Press, 2014), 580–83. For a less technical visualization of the data collection and analysis process, see Ben Rubin and Mark Hansen, "Listening Post Diagram," 2002, Listening Post Archive: Disc Labeled Listening Post Images 8-7-02, On the Boards Theater. (Reproduced in Figure 4.3.)

²⁸⁸ Rubin, interview. Note that I am using 2001 as the official date for the work because this was when all of the major elements—content collection, audio phases, and visual-sculptural installation of LED screens—first came together as a single artwork.

²⁸⁹ Rubin and Hansen had already been using a text display in their studio to help monitor the content that they were collecting. After experimenting with deploying a similar strategy to project animated text onto the wall at a preparatory live performance in New York's Kitchen Gallery in 2000, they decided to add a more sculptural element for the December, 2001 BAM installation, hanging a flat grid of small LED screens that could show both text and light patterns in concert with the music and voices (Figure 4.5). (Modes, "Listening Post Ten Years On.") At this point the work was separated into four cycling phases, or scenes, marked by changes in how the messages are processed in order to create distinctly different visual and auditory effects. They then further refined the project in 2002 during a month long residency at Seattle's On the Boards Theater (Figure 4.6).

“spoken” by a computerized voice coming over these speakers, accompanied by electronic sounds.²⁹⁰ One side of the room was mostly covered by a curved LED grid built out of over 230 individual screens, with pieces of the messages scrolling across them. Visitors could walk around this display, emphasizing the dimensionality of the curved grid and drawing attention to the shape of the screens and different ways that light moved across them, thereby accentuating the sculptural quality of the installation.²⁹¹

This emphasis on the physical space of the gallery also helped to reinforce visitors’ spatial perception of the platforms from which *Listening Post* was drawing its content. When the electronic voice reading the messages surrounded them, visitors were made aware of those messages being uttered in a space that was simultaneously the space of the gallery in which they were sitting and the space of the network where the messages were first “spoken.” As noted above, the intersection between the physical spaces and social forces defining computer networks is what transforms the network into a social space. In *Listening Post*, the physical space of networking is referenced visually in the movement of light across LED screens, which mimics the movement of electrical impulses across the infrastructure that connects computers into networks. It is due to this movement of electrical impulses when, for example, an email is sent that the email is perceived to go from *here* to *there*, even though this movement may appear to

²⁹⁰ In descriptions of *Listening Post*, the artists alternate between calling the work’s sections “phases” or “scenes;” the latter term emphasizes the work’s theatrical quality of developing and changing over time.

²⁹¹ *Listening Post*’s combination of striking visuals and immersive sound offered a stark contrast to the banks of computer terminals and small screens with which most internet-based art had been displayed in museums and galleries during the 1990s. This inspired one critic to declare that *Listening Post* “finally allows net art to compete with the more sensual pleasures that we associate with sculpture.” (Peter Eeley, “Review: Mark Hansen and Ben Rubin,” *Frieze Magazine*, May 6, 2003.) As noted in the introduction, this attention to the specific conditions of gallery installation was part of a larger adaptation happening in net art around the early 2000s.

be instantaneous.²⁹² Because this electrical movement is perceived as representing the physical movement of the internet user's body, she experiences being in a space when she enters a chat room in a way that is akin to her experience of being in a space when she enters a gallery. Thus the sound of *Listening Post*'s messages surrounding the visitor's body in the physical space of the gallery recalls the experience of being in a physical space when the visitor is in a chat room, like the ones from which those messages have been collected.

The network is a *social* space, however, because it is also produced through social relations. These include complex social and political forces, like the anti-regulation advocacy that, as noted in the introduction, helped to promote the concept of an electronic frontier, or the government surveillance that, as will be discussed in the next chapter, influenced the perception that the network is a theater of visibility. But as political scientist Diana Saco argues, it is in the individual's experience of social relationality when she uses the internet's communication platforms, those "spaces of interaction among people," that computer networks are most fully realized as a social space.²⁹³ In other words, it is the relational space of chat rooms like the ones explored by *Listening Post* that most strongly influence the perception that the network itself is a space. However, as Lefebvre emphasizes, social spaces are not neutral. They are both affected by the activities happening in them and, in turn, affect how those activities are understood.²⁹⁴ For example, visitors' perception of the publicness of the spaces defined by *Listening Post* was inflected by the fact that the work was installed in a gallery, which is itself experienced as a public space insofar as it is not the private space of one's home. Because they were in public

²⁹² Saco, *Cybering Democracy*, 23.

²⁹³ Saco, 124.

²⁹⁴ Lefebvre, *The Production of Space*, 26–27.

when visitors encountered the conversations collected by the work, they experienced those conversations as also occurring in a public space.²⁹⁵ And by interrogating the content of those conversations, *Listening Post* attempted to define the nature of that public space. Specifically, in its examination of the messages collected from chat rooms and web forums, the work asked whether the spaces in which people were gathering to communicate online could create the conditions for public discourse that would, in turn, produce a digital public sphere.

In the *Listening Post* installation at the Whitney, benches and carpeting encouraged visitors to settle in for the work's six-phase cycle, each of which lasted several minutes.²⁹⁶ The first phase, of which there are the most extant video recordings, was built around messages that begin with "I am." These messages scrolled in different places across the LED screen grid as a computer voice read select phrases, each introduced with a sharp, attention-grabbing beep, while a melancholic musical score played in the background. The music alternated between adding poignancy to phrases like "I am doing fine" and increasing the cognitive dissonance of phrases

²⁹⁵ This appears to be a somewhat paradoxical reversal of the claim, discussed in the introduction, that public status was conferred by default on net art in part due to its ability to circulate outside of museums and galleries. However, these two claims actually just reflect different concepts of public space. One is the aforementioned "art in public places" paradigm, in which art is described as public when it is located in government buildings or common outdoor spaces. (See chapter three of Kwon, *One Place after Another*.) In this framework, art is defined as public in part through its dissociation with art institutions, like the publicness of art circulated on the internet. But art institutions can also be experienced as public spaces, which some museum scholars define through their role in the facilitation of public discourse. See, for example, Jennifer Barrett, "The Museum as Public Space," in *Museums and the Public Sphere*, Wiley Online Books, 2012, 81–117, <https://onlinelibrary.wiley.com/doi/10.1002/9781444327922.ch3>. In the case of *Listening Post*, the physical gallery in which the work is installed is experienced as a public space not because it facilitates discourse within that space (in fact, the structure of the work encouraged visitors to sit quietly and listen), but rather because it is a not-private space, a public space of activity outside of the home.

²⁹⁶ Many sources describe *Listening Post* as having six phases because that was how it was installed at the Whitney in 2003. However, Rubin and Hansen added a seventh for a 2004 installation at the MIT List Center. The added phase featured the display of four letter words marked by a distinctly mechanical "tick" sound, which, combined with the curved screen display and surround sound of the Whitney installation, became the final form of the work, with technical adaptations when it is installed in new locations. Mark Hansen to Megan Driscoll, "Quick Technical Question Re: Listening Post 2," June 27, 2017.

like “I am hot girl” as they were read by an uninflected, masculine computer voice.²⁹⁷ In another phase, messages scrolled by on individual screens in the grid until a dynamically-generated, bell-like noise signaled that the agent had identified a message matching a trending topic. The scrolling then stopped and a computerized voice read the message; these selected messages were allowed to overlap slightly so that the voices began to build as the number of lit up screens grew, building together in a bright crescendo before slowly fading away.²⁹⁸ The algorithm that guided this phase identified popular topics across the platforms the work’s agents were currently visiting, revealing, in the words of one journalist, what’s “obsessing” the internet at any given moment.²⁹⁹ The rhythms of these obsessions could be very granular—one Whitney curator noticed that distinctive patterns of discussion shifted between different times of day, with the domesticity of mornings fading into more erotic and political discussions at night.³⁰⁰ But the trending topics identified by *Listening Post* also revealed the extent to which social and political anxieties of the moment were taken up in online conversations. For example, the artists recall both mournful and disturbing patterns in the messages related to terrorism, violence, and racism

²⁹⁷ Although the electronic sounds in several of *Listening Post*’s phases can often seem rhythmic and even melodic, “I am” is the only phase that has a fully developed musical score. Reflecting on the development of the piece, Hansen notes that they created this phase during the work’s residency in Seattle, and that the melancholic tone of the music captures the mood they encountered in the city itself. Hansen to Driscoll.

²⁹⁸ I have yet to uncover a recording of *Listening Post* that captures all of its movements continuously. The most complete video, which collects from multiple installations but only includes four of the phases, can be found in the Ars Electronica archive at Rubin and Hansen, *Listening Post Video*. Other useful recordings include Ben Rubin’s own Vimeo website, at Ben Rubin, *Listening Post: “I Am,”* 2002, <https://vimeo.com/3885443>. Partial recordings have also been shared by museums that have the work in their collection, including: London Science Museum, *Listening Post by Mark Hansen and Ben Rubin* (London, 2009), https://www.youtube.com/watch?v=ns4Nm4G1l_g. San Jose Museum of Art, *Listening Post Installation Time Lapse*, 2010, https://www.youtube.com/watch?time_continue=1&v=cCIHQU6Fqro. There are also many visitor-created videos that can be found linked next to the museum YouTube videos.

²⁹⁹ Jad Abumrad, “Listening Post in Perfect Pitch, Jane Jacobs, Brian Eno,” *Studio 360* (WNYC, January 26, 2002), <http://www.wnyc.org/story/159323-perfect-pitch-jane-jacobs-brian-eno/>.

³⁰⁰ Tim Griffin and Whitney Museum of American Art, “The Contemporary Series: Mark Hansen and Ben Rubin Listening Post Brochure,” 2002, Chelsea Library Special Collections Media, Whitney Museum of American Art.

when the work was installed at BAM in December 2001, so close to the events of 9/11.³⁰¹ And in 2003, when the work was active again at the Whitney Museum in New York during protests against the US military's impending invasion of Iraq, they observed a resurgence in both positive and negative commentary on topics like Muslim identity and national security.³⁰²

This attention to current events suggests that the chat rooms explored by *Listening Post* were, in fact, functioning as the gathering places of a digital public sphere, those public spaces wherein issues of the common interest are debated. However, Rubin observed that the overwhelming majority of the conversations they found actually resembled the “existential check-ins” he used to hear when he listened to CB radio as a kid, short conversations that reveal a desire to register one's presence above all else.³⁰³ For example, the artists created the “I am” phase in response to the overwhelming number of messages starting with “I am” that they observed as they were developing the work, which told them that any attempt to understand the nature of group internet conversations would have to attend to this pattern.³⁰⁴ These messages can be both searching (“I am a Muslim and afraid of nothing”) and banal (“I am eating green

³⁰¹ Rubin, interview. The artists also emphasized the relationship between the work and current events when they chose the phrase “I'm buying some USAir here, no way will (Bush) let (airlines) fail” for the technical diagram they provided in press packets in the early years of the work. See Rubin and Hansen, “Listening Post Diagram.”

³⁰² For example, Mark Hansen recalls that one of the web forums from which they were drawing content during the Whitney installation was filled with such virulent commentary that it abruptly disappeared, presumably after being shut down by a moderator. Hansen to Driscoll, “Quick Technical Question Re: Listening Post.” And critic Peter Eeley recalls visiting the work immediately after attending protests in New York, when he encountered the phrase “I am a Muslim and I am afraid of nothing.” Eeley, “Review: Mark Hansen and Ben Rubin.”

³⁰³ Rubin, interview.

³⁰⁴ Rubin. In a video recorded presentation on *Listening Post* at Ars Electronica in 2004, Rubin discusses the delicate balance required to manage unpredictable input of the sort that is collected by the work's agents and build a system that could give it compositional structure and aesthetic organization without distorting the nature and quality of the original input. Ars Electronica, *Forum I - Interactive Art*.

peppers”).³⁰⁵ But like most of the messages collected by *Listening Post*, whether they are on the possibility of war (“Korea will be dealt with by Russia and China I bet”) or someone’s local weather (“I am freezin”), these “I am” declarations just seem to hang in the air, never becoming a fully articulated exchange.³⁰⁶ No matter how closely *Listening Post* listened, the “collective buzz” of the internet failed to resolve into the discourses of a public sphere. Although the work’s agents would settle in most chat rooms or forums long enough to pick up whole conversations, they never found anything recognizable as the ongoing, critical exchange required to produce the discourse of a public sphere. Instead, *Listening Post* found that the internet’s chat rooms and forums were spaces of human connection, an affective quality of interpersonal connection that was highlighted by the arrangement of sound in the work’s installations.

However, the drive to self-identify revealed by the “I am” declarations highlights something important about most online discussion platforms during the main period of the dissertation. This was before the advent of social media and personal profiles fundamentally changed how individuals define themselves online; open chat rooms and forums like the ones used by *Listening Post* were primarily used to facilitate encounters among strangers.³⁰⁷ In other words, the default assumption in the open chat rooms and forums visited by the *Listening Post*

³⁰⁵ Eeley, “Review: Mark Hansen and Ben Rubin.” Eeley reports hearing the message about being Muslim and “afraid of nothing” in *Listening Post* when he was visiting it in 2003, during the time of the protests against the United States’ then-upcoming invasion of Iraq.

³⁰⁶ The *Listening Post* quote in this sentence beginning with “Korea” is a message that is visible in installation photos from when the work was installed at the Whitney in 2002 – 2003 (Figure 4.2).

³⁰⁷ For example, Myspace launched in 2003, Facebook in 2004 (although it did not become available to non-college users until 2006), and Twitter in 2006. There are many qualities that distinguish these types of social media environments from the bulletin boards, chat rooms, and forums of the 1990s and early 2000s, including the idea that one’s presence on sites like Facebook and Twitter is built around something resembling one’s offline identity, thereby obviating the need to declare “I am” when one engages in conversation. By contrast, whether or not true anonymity was actually possible online, a chat or forum user could enter the platform effectively anonymously, without the expectation that there would necessarily be a profile, or that it would be accurate to one’s offline identity, and then engage in as much (or as little) self-identification as they chose.

agents is that one is speaking to an indefinite, unknown addressee. As noted in chapter two, this stranger-relationality is one of the characteristics that defines a public. Thus while *Listening Post* rejects the idea that the internet is a digital public sphere, its framing of chat rooms and forums as gathering places for communication among strangers suggests that these social spaces are still also a kind of public space. In his history of the public sphere, Habermas briefly mentions the ancient Greek agoras, those gathering places where people undertook the daily activities of public life.³⁰⁸ Like *Listening Post*'s chat rooms and forums, these spaces are public because they are spaces of encounter among strangers. And so instead of the virtual coffee houses of the digital public sphere, *Listening Post* argues that the internet's communication platforms are more akin to the historic public spaces of the agora or forum, or even the modern city square, where strangers gather to carry on the activities of public life on the internet.

Building Digital Utopias

However, not all artists rejected the possibility that the internet's communication platforms could also function as the gathering places where people would carry on the discourses of a digital public sphere. In 2003, artist Natalie Bookchin teamed up with political scientist Jacqueline Stevens to perform an experiment with the concept of the digital public sphere. Deliberately framing this as a utopian concept, Bookchin and Stevens set out to determine if it was possible to construct a virtual gathering space where that utopian idea could be manifested. After the artists explored a series of possibilities through which, as will be discussed below, establishing a space of productive public discourse was determined to be the fundamental goal of

³⁰⁸ Habermas, *The structural transformation of the public sphere*, 3.

the project, this experiment ultimately became the series of web forums known as *agoraXchange* (2003).

In the late 1990s and early 2000s, Stevens had been developing the research project that would eventually become the book *States Without Nations*, in which she reexamines basic principles of citizenship, from birthright to property ownership, that have become naturalized in the modern nation state.³⁰⁹ Around the same time, Stevens was also exploring what she calls “symbolic matter,” which challenges the assumed dichotomy between concrete materiality and abstract ideas.³¹⁰ This overlap sparked Stevens’s interest in visualizing some of the principles that she was examining for *States Without Nations*, not necessarily as a way to make them politically manifest, but as a way to better understand the processes through which people attempt to give form and materiality to their ideas. She was already familiar with Bookchin’s work through some of the artist’s online game projects, and so reached out to initiate the collaboration.³¹¹ Then in spring 2003 the Tate Museum solicited several artists to submit

³⁰⁹ The final publication is Jacqueline Stevens, *States Without Nations: Citizenship for Mortals* (Columbia University Press, 2009).

³¹⁰ Jacqueline Stevens, “Symbolic Matter: DNA and Other Linguistic Stuff,” *Social Text* 20, no. 1 (March 1, 2002): 105–36.

³¹¹ Game design is just one of the many strategies that Natalie Bookchin deployed during the late 1990s and early 2000s as she explored different ways to exploit computer networks for collaborative and conceptual art making. In 1999, Bookchin made *The Intruder*, an adaptation of the Borges story of the same name, which uses an immersive online gaming environment to subordinate the act of play in the service of examining metaphor and other literary devices that link fiction and gaming; see Natalie Bookchin, “The Intruder,” 1999, <https://bookchin.net/projects/the-intruder/>. Then in 2002 she collaborated with artist Jin Lee to create *MetaPet*, an online game that challenges the emptying out and reification of the concepts of participation and play in the service of improving sales in the growing technology industry. Participate correctly in this game and the player will torture their new digital pet in exchange for a useless reward; rebel (even stop playing) and the player will begin to see modes of experimentation and inconsistency as playful behaviors that are not necessarily compatible with the participation framework. See Natalie Bookchin and Jin Lee, “Metapet,” 2002, <https://bookchin.net/projects/metapet/>.

proposals for their relatively new net art commissioning program, and Bookchin and Stevens were awarded one of the grants.³¹²

That May, the duo presented the project at a Tate symposium under the working title *CitizensDilemma*, outlining their vision for an online game that would offer “a tangible political alternative to the current world order.”³¹³ The game, which was never fully realized (more on this below), aimed to take advantage of the internet’s ability to facilitate group communication and collaboration, those core principles of internet-specific art, in order to imagine and build a new political system through something close to consensus. In their original vision for the project, Bookchin and Stevens heavily emphasized the association between the game-building process and the kind of rational critical debate that produces such consensus in the Habermasian public sphere. For example, they planned to build sections of the game that they called action tanks, which they described as “discrete public spaces, organized by topic, where research is developed, conversation and debates take place...”³¹⁴ Players would be encouraged to contribute significant, cited research toward the world-building proposals they introduced in the action tanks and engage in ongoing debate about those proposals. They would be rewarded for their participation in part through standard game elements like unlocking new features, but also

³¹² Tate Online, “Net Art at Tate: Final Progress Report to the Daniel Langlois Foundation,” May 2003, Net Art Commissions, Tate Museum. The Langlois Foundation provided significant funding for the Tate’s net art commissioning program, which officially began in 2002 although the museum had already commissioned two works of internet-based art in 2000 upon the occasion of the release of their new website. Jemima Rellie, head of Tate Museum Digital Programs 2001 - 2007, interview by author, October 14, 2016. Archives of Tate Museum net art commissions through 2011 can be viewed at Tate Online, “Intermedia Art Archive: Net Art by Date,” accessed December 28, 2017, http://www2.tate.org.uk/intermediaart/archive/net_art_date.shtm.

³¹³ A video of Bookchin and Stevens’s presentation can be viewed about 25 minutes into Tate Modern, *User_mode = Emotion + Intuition in Art + Design Symposium: Video Recordings Session 6: Social Ecologies: Learning, Playing, Belonging*, 2003, <http://www.tate.org.uk/context-comment/video/usermode-emotion-intuition-art-design-symposium-video-recordings>. Bookchin’s written proposal to the Tate is available at Natalie Bookchin, “Tate Proposal - Tate Module: CitizensDilemma,” May 6, 2003, Net Art Commissions, Tate Museum.

³¹⁴ Bookchin in Tate Modern, *User_mode = Emotion + Intuition in Art + Design Symposium*.

through the chance to see their ideas implemented in the system as it was being built. This process was intended to emphasize the fact that political systems are constructs, in the game world but also in our daily lives, and to draw attention to the degree to which public discourse can aspire to affect, and even reconstruct, those systems.

The activities in the action tanks recall Habermas's description of the critical function of the public sphere, in which members of the public debate in order to form a consensus-based public opinion and thereby exert a more incrementally transformative pressure on the state. But by focusing on the potential for public discourse to articulate an entirely new political system, Bookchin and Stevens were also engaging in what political scientist Diana Saco describes as "utopian cartography," or the world-building process of theorizing democracy, with its fundamentally spatial emphasis on where and with whom the democratic process is located. In particular, Saco argues, theories that are invested in participatory democracy—as Bookchin and Stevens and their action tanks certainly are—return repeatedly to the spatial problem of scale, or the point at which direct participation by the public becomes "impractical and delusional."³¹⁵ This has, historically, limited our conception of direct citizen action to physical spaces of close proximity, but Saco argues that understanding computer networks as social spaces allows us to overcome this reliance on face to face interaction as a necessary component for democratic action and explore new sites for participatory democracy.³¹⁶ At a relatively modest scale, this is what *CitizensDilemma* proposed to do: use the internet to rethink the problem of scale in direct action, not necessarily as a question of the absolute number of participants, but as a question of

³¹⁵ Saco, *Cybering Democracy*, 36.

³¹⁶ Saco, 200–201. As noted above, James Bohman has also resisted the privileging of face to face interaction over other kinds of exchange, arguing that as long as mutual uptake can occur, computer mediation is not an inherent obstacle to public discourse. Bohman, "Expanding Dialogue," 133–34.

the dual potentials for unprecedented access and unprecedented reach offered by computer networks. As noted in earlier chapters, after the web rendered geographic distance irrelevant for online communication and made it possible for any internet user to stumble onto a website, forum, artwork, etc., many artists became interested in the internet's ability to offer wider circulation, making net art available to anyone, anywhere with internet access. By positioning itself on the web, the *CitizensDilemma* game aimed to capitalize on this expansiveness to not only be accessible to more prospective game players, but also to encourage those players to imagine their ideas reaching across the entire network. They would thus be engaging in the utopian project of political world building on a global scale, and in the process rethinking the very idea of borders and the structures of the nation-state that accompany them—the banner that adorns the top of the game website exhorts us to “Make the Game, Change the World” (Figure 4.9).

In fact, the utopian idealism of such a goal was quite deliberate. When Bookchin and Stevens embarked on the project, they decided to model it on Thomas More's sixteenth century text *Utopia*.³¹⁷ In this book, More fictionalizes his vision for a more equitable social and political system, set in the imaginary, isolated time and place called “Utopia,” a hybridization of ancient Greek, English, and Latin that roughly translates into “no place.” Departing from this approach to politics as an act of literary and/or artistic reimagining, freed from the pragmatics of policy making, the game's manifesto calls on “all communities of and for the imagination, for creative thinkers and visionaries, including citizens, activists, artists, scholars, political leaders, and the stateless” to use the game to follow in More's footsteps and give form to a new, more equitable,

³¹⁷ Bookchin, “Tate Proposal - Tate Module: CitizensDilemma.”

and more just political system.³¹⁸ In so doing, Bookchin and Stevens also attempted to give form to the utopian ideal of the digital public sphere, the aspiration that people could gather in these online discursive spaces to represent their collective interest. In the context of such democratic theorizing, Saco uses the word utopia to describe an idealized nonspace that invokes the constructed nature of the spaces in which its imaginings are projected.³¹⁹ It is this nonspace of visibly constructed, imaginary world building, not a final version of the game (or world) itself that ultimately formed the core of Bookchin and Stevens's project. Several logistical hurdles slowed down the development process, requiring the artists to both shift their goals for the work's release and push its timeline back to spring 2004.³²⁰ In the end, rather than producing a game environment in which the new world would be developed, they launched a website featuring a series of forums through which participants could imagine and debate the nature and components of what the game would, if ever produced, become, with the same final goal of designing a new political system with that game. The work was thus never an attempt at game design—it was an experiment with the digital public sphere.

³¹⁸ Natalie Bookchin and Jacqueline Stevens, "AgoraXchange Phase I Artist Archive: Manifesto," *agoraXchange - Make the game, Change the world*, 20008, <http://www.agoraxchange.org/index.php?page=233#233>.

³¹⁹ Saco, *Cybering Democracy*, 36.

³²⁰ The first hurdle Bookchin and Stevens ran into was funding. Neither the original financial award from the Tate commission nor the additional grant they secured from the Rockefeller Foundation was sufficient to cover all of the costs of developing the very complex online game they had in mind. (Jacqueline Stevens, interview by author, June 12, 2017.) Then Bookchin encountered significant health challenges that slowed down the pair's ability to work on the project even as it was re-conceived, thus leading to the delayed launch date of March 2004. (Tate Online, "Net Art at Tate: Final Report to the Daniel Langlois Foundation," March 2004, Net Art Commissions, Tate Museum.) Ultimately, these challenges required Bookchin to take a prolonged break from her work, which contributed to the artist's decision to make significant changes to her practice, including disengaging with the ongoing development of *agoraXchange* and more generally breaking away from siting her work online, although she continues to this day to draw on computer networks for source material and word of mouth circulation. (Natalie Bookchin, interview by author, February 11, 2017.)

The system itself would be based loosely on four core tenets, or decrees, derived from Stevens's previous research: citizenship should be by choice, rather than by birthright; there will be no system of property inheritance; the state will not impose regulations for kinship, such as marriage; and there will be no private ownership of land.³²¹ In the proposal for *CitizensDilemma*, the element of the work that had relied most heavily on a spatial understanding of the publicness of computer networks was the action tank, a digital metaphor for Habermas's coffee houses, *salons*, and table societies, those spaces that nurture rational critical debate. Now the entire work was built on the spatial metaphors of the digital public sphere, from the forums that made up the core of the site to the final name on which they settled for the project: *agoraXchange*. While the pair were collaborating long distance, Stevens even independently sketched out a preliminary design for the website that visualized this metaphor, imitating the semi-circular, amphitheater shape of public gathering and performance spaces in many ancient Greek agoras, although there were ultimately too many technical hurdles to produce this design (Figure 4.10).³²² It is important to acknowledge that earlier in this chapter, the dissertation argued that the agora is distinct from the virtual gathering places of a public sphere, insofar as the latter are specifically structured around public discourse and the former is more generally a space of public gathering. Habermas, however, points out that the space of the agora was both a space of public gathering *and* a part of the public sphere because the agora was one of multiple spaces in which the

³²¹ Natalie Bookchin and Jacqueline Stevens, "AgoraXchange Phase I Artist Archive: Decrees," *agoraXchange - Make the game, Change the world*, 2008, <http://www.agoraxchange.org/index.php?page=271#271>.

³²² Bookchin and Stevens used an outside design firm, FDTdesign, to build the *agoraXchange* website. Stevens recalls that when she brought her amphitheater-based design sketches to them, the firm observed that mimicking the semi-circular shape of an amphitheater would be both expensively complex as a web design problem and likely to not function correctly on many web browsers, given the technical limitations of the early 2000s. Stevens, interview.

discussion (“*lexis*”) that defined the ancient public sphere took place.³²³ Bookchin and Stevens’s emphasis on discourse in both the original proposal and the final version of the project suggests that they were specifically referencing the *lexis* aspect of the historical agora with the work’s title and prospective design. And so while the proposed game, *CitizensDilemma*, would have attempted the utopian project of imagining a new political world, *agoraXchange* as it was released participated in another utopian project: realizing the most ambitious vision of a digital public sphere, that attempt to deploy computer networks as a tool for public discourse and participatory democracy at an unprecedented scale.

As noted above, part of the work’s aim was to explore different approaches for materializing the apparent abstractions of ideas and ambitions, and both Bookchin and Stevens were conscious of the aspiration that the internet held the potential to form a new “electronic agora.”³²⁴ *agoraXchange* attempted to materialize the concept of the electronic agora by building the virtual spaces of the digital public sphere in the form of online discussion forums designed explicitly for rational critical debate. Bookchin has compared this undertaking to artist manifestos, in which a consciously utopian set of conditions and proposals are sent out into the world to be challenged and refined.³²⁵ Thus in the process of grappling with the proposals of the game and its decrees, *agoraXchange* participants were also testing the proposal that these discussion platforms represented the new public spaces that, when used for discourse and debate, would help to form a digital public sphere.

³²³ Habermas, *The structural transformation of the public sphere*, 3.

³²⁴ Howard Rheingold used the phrase “electronic agora” to describe The WELL BBS in Rheingold, *The Virtual Community*, xxx.

³²⁵ Bookchin, interview, February 15, 2016.

The *agoraXchange* website that was released in March, 2004 was designated phase I of the project.³²⁶ The primary goal of this phase was to encourage visitors to discuss questions that would eventually shape the game itself (as opposed to the world being built by the game). The many questions explored in the multiple sub-forums that make up the “game design room” range from “What is the object of the game?” to “What are the game rules?” to “Describe the look and feel of the game.” More than just serving the practical purpose of giving participants total agency over the final game form, questions from the game design room like “Who is the audience for the game?,” “What obstacles do individuals face?,” and “What are the attributes of the states?” also encourage people to see that the political environment of the world around them is as constructed as the political environment of the game (Figure 4.11). As visitors answered these questions for *agoraXchange*, they might have also wondered if they, as members of the public, were the audience for the actions of their governments? How do the structures of the nation-state put up obstacles for individuals? What attributes have come to define the nation-state, and are they immutable? In this way, *agoraXchange* prompted its visitors to resist the tendency to naturalize modern forms of governance and to think about participatory democracy as a way to reclaim the

³²⁶ When *agoraXchange* phase II was released, the website for phase I was archived by the artists at Natalie Bookchin and Jacqueline Stevens, “AgoraXchange Phase I Artist Archive,” 2008, <http://www.agoraxchange.org/>. This is not the same URL that is linked on the Tate Intermedia Net Art archive page for *agoraXchange* because the original URL now contains the redesigned website for phase II. The Tate archive page is available at Tate Online, “Intermedia Art: AgoraXchange,” 2003, <http://www2.tate.org.uk/intermediaart/entry15278.shtm>. The phase II website is available at Jacqueline Stevens, “AgoraXchange Enters Phase II BETA,” accessed December 28, 2017, <http://www.agoraxchange.net/>. It is notable that, as was the common practice in the late 1990s and early 2000s, the Tate did not host its net art commissions on its own website, instead creating pages with introductory text and related content, like analytical essays, that featured links to the artworks on the artists’ own websites. This tends to result in a lot of “link rot,” or links that are broken because websites have moved or been shut down, and as a result institutions that actually bring works of net art into their collections have started to host those projects locally. The Tate’s net art program was strictly commissioning, however; they saw it as an experiment in what resources would be required to commission digital artwork in general, which was still relatively new to the museum, and felt that the challenges of collecting (for example, what would represent the object in their collection?) were beyond the program’s scope. Rellie, head of Tate Museum Digital Programs 2001 - 2007, interview.

constituent power of the people, which art historian Kim Paice argues is the work's central theme.³²⁷ Then to stimulate more fluid conversation, the artists also set up several complimentary forums. Some are still inwardly focused on the game, including forums soliciting feedback on the game's decrees and manifesto, and some ask participants to take up topics like current events and political theory (Figure 4.12). The site itself provides ample material for such discussions. In addition to the forums and basic introduction to the work and game principles, visitors will find detailed essays on the history of citizenship and birthright and the political theories that inform the four decrees outlined above, as well as a visual essay examining the history of the concept of the nation, found in a section titled "Theater: Saga of Nations" (Figure 4.13). Thus while the final layout of the website lacks visual reinforcement of the association between *agoraXchange* and the historical spaces of public discourse, its forum-based structure and accompanying literature still make the work's underlying premise—this is an experiment with the concept of the digital public sphere—exquisitely clear.

Both Bookchin and Stevens have emphasized that the success of *agoraXchange* never hinged on the number of participants. Rather, they aimed to produce a certain environment for whomever did choose to participate, one that would encourage people to reflect on both the construction of the nation-state and the idea that computer networks could produce the spaces of the digital public sphere in which such questions are debated. Nevertheless, there are a fair number of comments recorded in the forums in phase I. They are more in the order of dozens than the thousands that might have been expected, even in the early 2000s, had this been a popular culture forum rather than a work of internet-based art, but there was enough activity to

³²⁷ Kim Paice, "Feminism, Democracy and Participatory Net Works: Sharon Daniel and Natalie Bookchin," *N.Paradoxa* 32 (July 2013): 81.

suggest that people were genuinely interested in the questions posed by the work.³²⁸ Then in 2006, Stevens decided to move *agoraXchange* into phase I.1, in which participants were asked to organize the ideas that came out of the design forums into a set of formal game proposals. By this time the project was being managed entirely by Stevens. Bookchin considers her participation as co-author of the work to end not long after the release of phase I when she took a break in her practice, after which she moved on to other projects.³²⁹ Meanwhile, in the years between the site's official launch and its movement into phase I.1, *agoraXchange* had become largely a part of Stevens's work as a professor. She collaborated with graduate students and other interested artists in order to move first into phase I.1 and then, in 2008, phase II, which was represented by an entirely different website on which participants could vote on the game design proposals and continue their broader discussions, now using a new set of forums (Figure 4.14).³³⁰

The work never moved ahead into the design of an actual game. For the purposes of this dissertation, phase I poses the most relevant questions about the relationship between the discussion function of computer networks and the spatial model of the digital public sphere. *agoraXchange* phase I was conceived and designed in 2003, on the cusp of a major shift in how people use computer networks that, as noted in the introduction, significantly affected how digital public spaces were defined. The social network Myspace was launched that year, and while it was not the first company to introduce a commercial social media platform, it was the first to have the kind of broad user base that characterizes sites like Facebook and Twitter today,

³²⁸ Neither the Tate Museum nor the artists have kept records of the number of site visitors, so while it is likely that there were more people reading the forums than commenting, forum comments are the only available measure of overall interest and activity.

³²⁹ Bookchin, interview, February 11, 2017.

³³⁰ Stevens, interview.

and the popularity of the kinds of chat rooms and forums explored by *Listening Post* and *agoraXchange* quickly faded in comparison. The associations between the network's gathering places and the spatial language of publicness have not gone away with the growth of this kind of social media. But there is a qualitative difference between relying on a limited number of commercial environments to fulfill this function and the idea that any one of countless discussion platforms on a computer network can operate as a digital public space.³³¹ Before Myspace, platforms like BBSes, IRC chat rooms, web forums, and Usenet groups proliferated, were all relatively decentralized, and were quite often independently run. While some were certainly more popular than others, this wide distribution of options created the impression that any network meeting place of any size could operate as a digital public space, both gathering strangers and, potentially, providing a platform for public discourse.

Produced in the years immediately preceding the shift away from this model, both *Listening Post* and *agoraXchange* phase I looked backwards, exploring how public spaces were conceived and experienced on computer networks during the internet's initial wave of widespread popularity, when the prospect of a digital public sphere first took on significant urgency. For *Listening Post*, these public spaces were never the gathering places of a digital public sphere. The work found that online communications were primarily affective and relational, failing to cohere into discursive exchange, and that these spaces of relations between strangers thus more closely resembled the public gathering places where the activities of daily

³³¹ For example, in spring 2017 the Knight First Amendment Institute at Columbia University sent a letter to President Trump demanding that he unblock two users from his personal Twitter account on the grounds that the account "constitutes a designated public forum." Travis M. Andrews, "Trump Blocked Some People from His Twitter Account. Is That Unconstitutional?," *Washington Post*, June 7, 2017, sec. Morning Mix, <https://www.washingtonpost.com/news/morning-mix/wp/2017/06/07/trump-blocked-some-people-from-his-twitter-account-is-that-unconstitutional-as-they-say/>.

life occur. *agoraXchange*, however, was less interested in the quality of online discourse as it existed, setting out instead to experiment with the deliberate construction of the utopian space of a digital public sphere.

CHAPTER FIVE: In the Theater of Visibility

In chapter four, the dissertation explored the virtual gathering place model of public space on computer networks. In this chapter, the dissertation will focus on the theater of visibility model of virtual public space. In this model, computer networks are understood to be spaces of heightened visibility, public because nothing that occurs on them can be private. The first work in this chapter, RSG's *Carnivore* (2001), examines how information flows across computer networks, demonstrating that this information exists in a constant state of visibility, for those who know how to look. The work argues that this condition is neither a positive nor negative quality of computer networks, but simply a function of their structure. As noted in the introduction, the heightened visibility of information on computer networks has been associated with their function as a system of social control. *Carnivore* thus contradicts the claim that the internet represents a radically free "electronic frontier" to argue that the network is instead a site of surveillance and, by extension, control. The second work in this chapter, Eva and Franco Mattes's *Life Sharing* (2000 – 2003), explores the possibility that the individual can retain some measure of individual control in this environment by embracing the theater of visibility. The work asks, if individuals voluntarily open up all of their personal data to the watchful eye of the network, can they make that data worthless to these systems of social control? The Mattes's also used *Life Sharing* to share all of their intellectual property, thereby arguing that the public theater of visibility is also a public domain. Through this elision of juridical and spatial concepts of public domain, *Life Sharing* proposes that the public space of the network that exposes individuals' private data can also be used to create a new, publicly controlled circulation pathway for their art and ideas.

Sites of Surveillance

The works in the previous chapter interrogated the concept of the “electronic agora,” the idea that the communication platforms of the internet are virtual gathering places where members of the public undertake the activities of daily life and/or the discourses of the digital public sphere. However, when Howard Rheingold used the term “electronic agora” to describe these spaces, he warned that the network could also become “a shadow vision of a less utopian kind of place—the Panopticon.”³³² The panopticon is a structure proposed by Jeremy Bentham, and then further theorized by Michel Foucault, in which the behavior of individuals is controlled by constant surveillance.³³³ In other words, Rheingold was arguing that the communication pathways that allowed information and ideas to flow between people could also be used to surveil, and therefore control, those people.

This connection between the electronic agora and the virtual panopticon is, in fact, evident in Rubin and Hansen’s *Listening Post*. As noted in the previous chapter, the work collected its messages in an automated process in which software agents eavesdropped on chat rooms and forums. The presence of these agents is never known by the people whose messages are being collected, which is why the artists emphasize that they made the ethical decision to only listen to platforms that were presumed to be public insofar as they required neither registration nor passwords to access.³³⁴ Nevertheless, the work was received as an “instrument of

³³² Rheingold, *The Virtual Community*, xxx.

³³³ Bentham outlined the model of the panopticon as a prison in Bentham, *The Works of Jeremy Bentham Vol. IV*. Foucault used this model to define the relationship between vision and control in modernity in Foucault, *Discipline & Punish*, 200.

³³⁴ Rubin, interview.

mass if random surveillance” as much as a “chapel to the human need for contact.”³³⁵ To a limited extent, the presumed publicness of the chat rooms mined by *Listening Post* analogizes them to a city street, in which one’s actions are presumed to be observable to any casual passer (or clicker) by.³³⁶ In this analogy, *Listening Post*’s software agents are comparable to the CCTV cameras that have become increasingly common in urban public spaces.³³⁷ However, the scale of this “mass if random surveillance” distinguishes the public space of the network from the public space of the street, where surveillance typically requires at least some degree of physical proximity. The automation of *Listening Post*’s message collection and its disconnection from geographic location (the agents could, in theory, eavesdrop on any internet-connected chat room) made it possible for the work to surveil much larger numbers of people at once. At the same time, by also automating the process of sorting the messages to pull individual phrases out of the “collective buzz,” *Listening Post* revealed how computer networks made it possible to zoom in on the individual, depriving her of even the anonymity of the crowd. The public space of the

³³⁵ Roberta Smith, “ART IN REVIEW; Mark Hansen and Ben Rubin -- ‘Listening Post,’” *The New York Times*, February 21, 2003, sec. Arts, <http://www.nytimes.com/2003/02/21/arts/art-in-review-mark-hansen-and-ben-rubin-listening-post.html>.

³³⁶ Hansen himself introduces the metaphor of the city street in his description of the artists’ first meeting in a New York City high rise: “Given the subject of *Listening Post*, it seems fitting that this initial conversation took place high above the city. From that vantage point it’s hard not to be drawn to the pedestrians, the taxis and subway trains, all in motion—the flow of thousands of lives,” comparable, he implies, to the flow of lives that *Listening Post* picks up on the network. Brooklyn Academy of Music, Rubin, and Hansen, “BAM 2001 Next Wave Arts in Multimedia: Listening Post Program.”

³³⁷ During the 1990s, many artists started addressing CCTV (closed-circuit television) in order to interrogate this intersection of networked systems of surveillance and urban public space. See, for example, Chris Petit’s 1993 film *Surveillance*, made from a mash-up of CCTV footage he acquired from a London police station, as well as the formation of the Surveillance Camera Players in 1996, who staged guerilla protest performances in front of New York CCTV cameras. Artists have also demonstrated an interest in using computer networks to turn the watching gaze back on CCTV, including works like Heath Bunting’s *CCTV: A Worldwide Watch*, launched in 1997. *Worldwide Watch* is no longer active, but originally displayed embedded feeds from CCTV cameras from around the world alongside the tongue-in-cheek exhortation to “Improve self-policing.” And in 2001, the Institute of Applied Autonomy launched the *iSee* web application; it is also no longer running, but originally mapped CCTV camera locations and offered assistance planning routes around them.

network thus becomes a theater of visibility, where the electronic agora functions simultaneously as a site of surveillance.

With *Carnivore*, artist and media scholar Alexander Galloway proposed that this condition of heightened visibility inheres to computer networks. The work demonstrated that the structure of computer networks made it possible for information flowing across the network to be easily surveilled without permission, and with relatively little technical expertise.³³⁸ It therefore argued that the theater of visibility did not just exist in network spaces that were presumed public, like *Listening Post*'s open chat rooms. Rather, *Carnivore* found that the entire network was a public space insofar as all actions on the network were vulnerable to surveillance. Galloway began work on this internet-based artwork-cum-software application in the spring of 2001, producing it under the artist group name RSG.³³⁹ He accelerated development on the project in order to release it that fall, however, because it directly addressed discussions

³³⁸ As noted below, the aspect of information flows on computer networks that *Carnivore* exploited has changed since the main period of the dissertation, such that data on computer networks is no longer default visible in the same way. However, as will be discussed in the conclusion, ongoing debates about surveillance, data collection, and privacy online suggest that individuals do still experience computer networks as a public space of heightened visibility.

³³⁹ Although he is the driving force behind RSG projects, Galloway uses this group name in order to signal the fact that internet and software-based artworks are almost always produced with the assistance of a shifting group of collaborators, a collective authorship model that has been characteristic of net art since its beginnings. Galloway credits Ryan McGinness for interface design in *Carnivore*, and Jeffrey Crouse, Meredith Finkelstein, Brendan Kenny, and String for additional programming. Alexander R. Galloway, "RSG Projects and Exhibition Histories," 2017, Alexander Galloway personal archive. Going forward, the dissertation will use RSG to refer to Alexander Galloway's work on *Carnivore*, and Galloway to refer to his scholarly work and writing about *Carnivore*. The group name itself is short for Radical Software Group, which was partly inspired by the short-lived 1970s experimental film magazine *Radical Software*. Produced by the Raindance Corporation, *Radical Software* focused on independent film production at the beginning of the "Portapak era," when film equipment became easier to carry and more artists therefore started using it. Galloway nods to this publication with RSG both in order to acknowledge his work's relationship to an ongoing history of artist experimentation and to emphasize the changing meaning of the concept of "software" in the contemporary context of computers and coding. Alexander R. Galloway, interview by author, August 25, 2015. The archives of *Radical Software* are available at Davidson Gigliotti, Ira Schneider, and the Daniel Langlois Foundation, "Radical Software Online Archive," 2003, <http://www.radicalsoftware.org/e/>. As will be discussed in the following chapter, David Joselit has also historicized internet-based art via *Radical Software* magazine and 1970s experimental film in David Joselit, "Tale of the Tape," *Artforum International* 40, no. 9 (May 2002): 152–55, 196.

surrounding privacy, surveillance, and computer networks that were intensified by the events of 9/11.³⁴⁰

These questions had become a subject of international debate as early as 1993, when a worldwide controversy erupted over Clipper, the US government's efforts to insert a covert point of access into every electronic device at the manufacturing stage.³⁴¹ As internet historian Brian McCullough has pointed out, disclosure of the Clipper program came amidst an atmosphere of widespread technological optimism, and it was one of the first major challenges to the idea that the internet is a space of radical freedom.³⁴² Then in 2000, a court battle resulted in the exposure of the FBI's DSC-1000 online communications surveillance program, nicknamed Carnivore.³⁴³

³⁴⁰ Galloway addressed his desire to more quickly release *Carnivore* in light of the intensification of the internet privacy and surveillance debates after 9/11 in Galloway, interview, August 25, 2015. He also indicated spring 2001 as the start date of *Carnivore* in that conversation, but other documentation suggests that a prototype may have been in development as early as 2000, even if it was not yet fully the *Carnivore* project. Alexander R. Galloway, "'Carnivore Personal Edition': Exploring Distributed Data Surveillance," *AI & Society: Knowledge, Culture and Communication* 20, no. 4 (September 1, 2006): 485.

³⁴¹ It is worth noting that while many surveillance debates have centered around the actions of the US government and US-based companies, they all have international implications, in part because many of these surveillance activities affect international consumers and internet users. This continues to be the case today, such as in the recent debates over the renewal of an NSA program that allows the US agency to surveil, without a warrant, online communications by non-US citizens using the services of US companies, like AT&T and Google. Charlie Savage, Eileen Sullivan, and Nicholas Fandos, "House Votes to Renew Surveillance Law, Rejecting New Privacy Protections," *The New York Times*, January 11, 2018, sec. Politics, <https://www.nytimes.com/2018/01/11/us/politics/fisa-surveillance-congress-trump.html>.

³⁴² McCullough offers an analysis of the Clipper controversy in Brian McCullough, "The NSA Tried This Before – What the 90s Debate Over The Clipper Chip Can Teach Us About Digital Privacy," *Internet History Podcast* (blog), August 11, 2014, <http://www.internethistorypodcast.com/2014/08/the-nsa-tried-this-before-what-the-90s-debate-over-the-clipper-chip-can-teach-us-about-digital-privacy-debates/>. There is also ample evidence of the significance of this debate in contemporary publications. For example, references to Clipper in *The New York Times* go back at least as early as May 1993; the newspaper summarized the ongoing issue in Steven Levy, "Battle of the Clipper Chip," *The New York Times*, June 12, 1994, sec. Magazine, <http://www.nytimes.com/1994/06/12/magazine/battle-of-the-clipper-chip.html>. The Electronic Frontier Foundation (EFF), which was actively involved in both the media debates and legal battles surrounding Clipper, has kept an archive of relevant documents at Electronic Frontier Foundation, "'Privacy - Crypto - Key Escrow 1993-4 (US): Clipper/EES/Capstone/Tessera/Skipjack' Archive," EFF, March 13, 2003, https://w2.eff.org/Privacy/Key_escrow/Clipper/.

³⁴³ A legal history of the Carnivore program can be found at E. Judson Jennings, "Carnivore: US Government Surveillance of Internet Transmissions," *Virginia Journal of Law and Technology* 6, no. 10 (Summer 2001), <https://web.archive.org/web/20020107033408/http://www.vjolt.net/vol6/issue2/v6i2-a10-Jennings.html>. A collection of government documents pertaining to Carnivore, collected under the Freedom of Information Act, is

RSG's *Carnivore* was named after this program, which was actually relatively circumscribed. Carnivore could only be installed on networks with the permission of the internet service provider (ISP) controlling that specific network's access to the larger internet, and its surveillance activities were supposed to be filtered to only gather data on specific individuals, although it was technically possible to use Carnivore for broad sweeps. Nevertheless, the program's revelation heightened the general alarm over the US government's surveillance of network communications.³⁴⁴ However, soon after the Carnivore controversy began, the terms of the debate over online surveillance changed dramatically. Almost immediately after the events of 9/11 Congress passed the Patriot Act, which greatly increased the government's surveillance powers, including expanding the definition of the legal targets of surveillance and the types of records to which agencies like the FBI and the NSA could gain access.³⁴⁵ This represented a

available at Electronic Privacy Information Center, "EPIC - Carnivore FOIA Documents," accessed June 14, 2017, https://epic.org/privacy/carnivore/foia_documents.html. And a more reader-friendly history of Carnivore and its relationship to recent FBI surveillance programs is available at Kim Zetter, "Everything We Know About How the FBI Hacks People," *WIRED*, May 15, 2016, <https://www.wired.com/2016/05/history-fbis-hacking/>.

³⁴⁴ As with Clipper, newspaper and magazine archives provide evidence of widespread attention to both the legal and ideological arguments surrounding Carnivore. See, for example: John Schwartz, "In Tapping Net, F.B.I. Insists Privacy Is Not a Victim," *The New York Times*, February 8, 2001, sec. Technology, <https://www.nytimes.com/2001/02/08/technology/in-tapping-net-fbi-insists-privacy-is-not-a-victim.html>. Fox News, "Congress Takes on Carnivore: Does FBI Spy Tool Invade Your Privacy?," Fox News, January 29, 2001, <http://www.foxnews.com/story/2001/01/29/congress-takes-on-carnivore-does-fbi-spy-tool-invade-your-privacy.html>. Wired Staff, "'Carnivore' Eats Your Privacy," *WIRED*, July 11, 2000, <https://www.wired.com/2000/07/carnivore-eats-your-privacy/>. And there were other signs that issues of privacy and surveillance were becoming a major cultural concern; for example, the 2001 – 2002 theme for Princeton University's media program was "Surveillance." See Princeton University, "2001 - 2002: Surveillance," Princeton University Program in Media + Modernity, 2002, http://mediamodernity.princeton.edu/index.php?option=com_content&view=article&id=80&Itemid=513.

³⁴⁵ A narrative of the Patriot Act and its specific effects on U.S. government surveillance programs is available at American Civil Liberties Union, "Surveillance Under the USA/PATRIOT Act," ACLU, accessed July 11, 2017, <https://www.aclu.org/other/surveillance-under-usapatriot-act>.

major shift in the scale of government surveillance on computer networks, and significantly heightened anxieties about the visibility of personal information on the network.³⁴⁶

Carnivore inserted itself into these debates to propose an alternative perspective: the network's status as a site of surveillance was neither a violation of privacy nor a tool for security. Instead, the work argued, the network's status as a site of surveillance was simply the inevitable result of how it structured the flow of information. At its most basic level, *Carnivore* was a tool that individuals could use to surveil activity on a local network, such as an office's internal wifi (Figure 5.1 & Figure 5.2).³⁴⁷ When it was launched, RSG invited other artists to generate client applications that would translate the data they gathered through this surveillance into artworks.³⁴⁸ As long as artists had the basic technical skills needed to install *Carnivore*, gather data from it, and use that data in one of any number of other applications or programming languages, they

³⁴⁶ Evidence of an immediate reaction to the government's dramatic escalation of surveillance can be seen in magazine articles like Stefanie Olsen, "Patriot Act Draws Privacy Concerns," CNET, August 30, 2002, <https://www.cnet.com/news/patriot-act-draws-privacy-concerns/>. More formal analyses of the civil liberties issues, including privacy questions, posed by the Patriot Act are offered by organizations like the ACLU (see the link above) and the Electronic Frontier Foundation; see Kevin Bankston, "EFF Analysis of the Provisions of the USA PATRIOT Act," Electronic Frontier Foundation, October 27, 2003, <https://www.eff.org/deeplinks/2003/10/eff-analysis-provisions-usa-patriot-act>.

³⁴⁷ To be more precise, RSG's preservation notes describe *Carnivore*'s "essence" as "Program/source code that allows for data surveillance, or the monitoring of Internet traffic, on a local network." Alexander R. Galloway, "Preservation Notes: Carnivore," 2017, Alexander Galloway personal archive. The fact that there is no specific output associated with *Carnivore*, no final visual form, begs the obvious question: Is the tool any different than the other applications we use on our computers? Why do we consider *Carnivore* an artwork? The fact that it has been included in several museum exhibitions and won an award for "Net Vision" at the 2002 Ars Electronica festival suggests that institutions have certainly framed it as art. But more importantly, *Carnivore* operates like an artwork—unlike, for example, Microsoft Word, which strives to appear to be a neutral platform with which we produce texts, *Carnivore* itself posits questions and invites critical reflection regardless of what we do with it in a way that is more closely related to how many conceptual artworks use instructions than to a piece of commercial software.

³⁴⁸ In fact, RSG framed the project as first and foremost a teaching tool that can help artists expand even limited technical skills into network-related programming. Galloway, interview, August 25, 2015. After recently restoring its functionality, Galloway even offered it as an optional tool for students to use in courses he teaches at NYU. Alexander R. Galloway, interview by author, February 14, 2017. *Carnivore*'s free availability was also part of the work's collaborative ethos, which emphasized team production in both the design of the original application and in its free availability to anyone who wanted to use it. The code library required to run the updated version of *Carnivore* remains freely available on the RSG website at RSG, "Carnivore," 2016, <http://r-s-g.org/carnivore/>.

could create almost anything with it. There is nothing in *Carnivore* that limits output to images, sound, or even purely digital production. However, RSG has documented three general tendencies in the majority of works produced with *Carnivore* in its first several years.³⁴⁹ Many artists created network maps, which use spatial relationships to visualize the movement of data on the network, often in real time, like the floating, bouncing, and overlapping spheres of Joshua Davis, Branden Hall, and Shapeshifter's *amalgamatmosphere* (2001) (Figure 5.3). Other projects, like Limiteazero's *Active Metaphor* (2002), imagine how data itself might take form, extracting numerical values from the information they gathered and plotting them on a digital plane to create shapes (Figure 5.4). And the bulk of the remaining works used keywords from the messages and other textual data that they collected to trigger actions that can affect physical objects. For example, Jonah Brucker-Cohen's *Police State* (2003) searched network traffic for terms related to domestic US terrorism, translated that text into binary code, and used the code to send a set of 20 radio-controlled, police-style toy vehicles into a sequence of movements (Figure 5.5).³⁵⁰

³⁴⁹ Galloway sees the client applications built with *Carnivore* as an extension of the work itself, and has summarized his observations regarding the clients produced with *Carnivore* in Galloway, "'Carnivore Personal Edition,'" 488–89. In addition to existing *Carnivore* applications, other potential uses of the data Galloway imagines include creating soundscapes, trying to reverse the flow of information in order to piece together what was originally being viewed (like a website or email) to generate the observed traffic, or even sending packets of data back into the stream to affect the network itself.

³⁵⁰ A Flash simulation of what Joshua Davis, Branden Hall, and Shapeshifter's *amalgamatmosphere* looked like live is available at Joshua Davis, Branden Hall, and Shapeshifter, "Amalgamatmosphere," Praystation, 2001, <http://ps3.prystation.com/pound/assets/2001/11-20-2001/index.html>. A technical description and production video for Limiteazero's *Active Metaphor* can be viewed at Limiteazero, "Active Metaphor," 2002, http://limiteazero.net/en/active_metaphor.html. And documentation of Jonah Brucker-Cohen's *Police State* can be seen at Jonah Brucker-Cohen, "Police State," 2003, <http://www.coin-operated.com/2010/05/03/policestate-2003/>. A longer list of *Carnivore* clients that I have been able to track down (because it is freely available and there is no expectation that artists will advertise their use of the application, such a list is necessarily always incomplete) is available at Megan Driscoll, "Carnivore Clients," *Art on the Internet and the Digital Public Sphere, 1994 - 2003, 2018*, <http://digitalpublicsphere.art/carnivore-clients.html>.

Works like *amalgamatmosphere* and *Active Metaphor* underscore the fact that *Carnivore* can easily be reduced to a highly formal data visualization tool. There is nothing in the colorful, dancing shapes they produce that suggests that these shapes are being created by an act of surveillance. When it was first released some critics argued that *Carnivore* therefore tended to aestheticize and naturalize surveillance rather than exposing or critiquing it.³⁵¹ But works like *Police State* make direct reference back to the fact that they were produced through network snooping and explicitly address the anxieties provoked by such surveillance, particularly related to the government intrusions alluded to in *Carnivore*'s title. However, the *Carnivore* code itself exerted no control over such wildly different outcomes, supporting the work's basic argument that online communication is inherently observable because of the very structure of the network itself. A closer analysis of how *Carnivore* worked can help explain this proposal. It was a packet sniffer, which is a tool that intercepts and records any data traffic (sent in packets) that is moving across the network on which it is installed. This is a relatively simple task that relies on the fact that, when *Carnivore* was first released, most of the devices that connected individual computers to computer networks, known as routers, still operated in something called "promiscuous mode." This means that the router will send data packets to any device connected to the network (such as the computer using *Carnivore* to surveil that network), whether or not that is where they were

³⁵¹ When it was released, *Carnivore* actually came under quite a bit of fire from several net artists and critics. The most common argument was that the tool itself is a technologically unoriginal attempt to capitalize on a trending topic that tends to reduce the politics of network surveillance to "pretty images." See, for example, Andreas Broeckmann, "Re: <nettime> How We Made Our Own 'Carnivore,'" June 21, 2002, <http://www.amsterdam.nettime.org/Lists-Archives/nettime-1-0206/msg00114.html>. The work was also given a sarcastic award for making it "easier for an art audience to get involved in corporate spying" in Amy Alexander et al., "Read_me 1.2 Winners and Honorary Mentions," *Rhizome* (blog), May 19, 2002, <http://rhizome.org/community/755/>. Galloway himself has pointed out that the accusations of formalism ignore the fact that *Carnivore* exerts no control over the outcomes generated by artists using the tool, and the claim that it is simply hopping onto a trending topic contradicts the argument that surveillance is too politically urgent to be thus reduced. Galloway, "Carnivore Personal Edition," 490–91.

intended to go, making it very easy to eavesdrop on that activity. In the late 1990s and early 2000s, before widespread changes to the default mode for local networks, packet sniffers were common. For example, most Macintosh computers came equipped with one that had the practical purpose of allowing advanced users to see what was being sent across their local network and use that information to troubleshoot connectivity issues.³⁵²

The FBI's Carnivore program also used a packet sniffer. RSG decided to build *Carnivore* after learning that this simple technique is all that the FBI was using, although it is not an exact replica of the FBI tool. RSG did not have access to the FBI's source code and, moreover, *Carnivore* aimed to expand on the FBI's program both technologically and philosophically. First, *Carnivore* is technically more complex because, whereas the FBI's tool was designed only to gather data, RSG's program was designed to connect with client applications in order to use that data to produce something, like images, sounds, moving toy cars, etc. Second, RSG framed *Carnivore* as ethically more complex because it affiliated surveillance with transparency. Although the work revealed covert, FBI-style internet data collection to be relatively easy to accomplish, the *Carnivore* tool was structured so that artists could only initiate that process with the permission of the people actually using the network that they intended to observe.³⁵³ RSG thus used the same basic technology as the FBI program to demonstrate that this kind of

³⁵² In the years since *Carnivore* was released, the default mode for most routers has slowly shifted to "switched," which means that packets only go back and forth to the machine for which they were intended (i.e., if someone sends a message on a switched network, another computer cannot intercept it with a sniffer just because they are sitting on the same local network). However, promiscuous mode is still available for administrators who need to fix a problem on the network. Galloway has observed that this change effectively "defangs" *Carnivore* as a tool for surveillance, but it can still be used to record your own activity on the network, which could be an interesting point of departure for an intervention into the contemporary trend of using digital devices for self-tracking. Galloway, interview, February 14, 2017.

³⁵³ The FBI did need the permission of an ISP to install their tool, but unlike museums or households in which artists were experimenting with RSG's *Carnivore*, the ISP did not have to tell their individual users that it was there.

surveillance is simple and commonplace because of the structure of the network itself, but it reacted to this condition with neither satisfaction nor fear. Rather, *Carnivore* proposed that by first securing permission to surveil and then building something with the collected data, a simple act of surveillance can be used not to conceal or threaten, but to give form to the network's default condition as a public space of heightened visibility.

Carnivore connects this state of visibility to the physical space of networking by pointing out the persistence of locational specificity in online communication. Although the web seems to make geographic distance irrelevant on computer networks, relative location in fact still affects the movement of data because the internet is not one monolithic network. Rather, it is a vast series of interconnected computer networks, and the local network on which packet sniffers can spy is a set of computers that are connected in a physical space. When the FBI installed their *Carnivore* program on an ISP, that physical space was the data center through which the ISP was sending all the packets that were coming from and going to their customers. When RSG's *Carnivore* was installed on, for example, a museum's local network during exhibition, that physical space was all the parts of the museum that get access to the internet (or just to each other, as in the case of an internal "intranet") via that router. The data these computers are sending back and forth may also be going, through the router, to other, outside networks, but because its observation is bound to a local network, *Carnivore* directs attention to the fact that all this activity comes from a specific, physical point of origin. In other words, observing a *Carnivore* client application reveals that the activity it is surveilling is not happening in a placeless, virtual ether—it is happening right here, in the same space that the observer's body is inhabiting. The work's heightened attention to the physical space of networking seems to have intensified the experience that the network was a public space of exposure. *Carnivore* was

exhibited several times in the early 2000s, and RSG recalls that almost all of the museums and galleries that showed the work balked when they realized that it would be giving form to their own local network activities.³⁵⁴

By demonstrating that the network was, by default, a site of surveillance, *Carnivore* also contradicted the myth that the internet was an untamed “electronic frontier” to model it as, instead, a system of control. As noted in the introduction, both Mark Poster and Deleuze observed in the 1990s that digital technologies were helping to disconnect the mechanisms of surveillance from physical or social enclosures.³⁵⁵ Deleuze argued that this was evidence of the development of the societies of control, wherein the intertwined mechanisms of surveillance and control have become integrated into every aspect of life.³⁵⁶ However, Alexander Galloway, the central force behind RSG, has argued that it is not just computers, but computerized information management that reflects this decentralized way of exercising power. The internet is, of course, society’s largest system of computerized information management, and it is built around a set of protocols that, as analyzed in the introduction, produce the conditions for what Galloway calls “protological control.”³⁵⁷ Specifically, protological control, which operates at a social as well as

³⁵⁴ RSG’s solution was to install a “playback” feature that would allow him to use *Carnivore* to record data from his own server, then play it back in a loop when it was installed in the gallery. Alexander R. Galloway to Megan Driscoll, “Re: Exhibiting Carnivore,” July 20, 2017. It is noteworthy that *Carnivore* was nevertheless exhibited quite a bit in the early 2000s, including in *Anxious Omniscience: Surveillance and Contemporary Culture Practice* at the Princeton Art Museum and *Open\Source\Art\Hack* at the New Museum, both in 2002. Many of the group shows in which *Carnivore* was included were themed around surveillance and technology, which reflected a broader interest in the subject among arts institutions in the 2000s. One of the largest such exhibitions was ZKM’s *CTRL Space* (2001 – 2002), a sprawling history of artists’ explorations of the technologies of vision and their relationship to surveillance and control.

³⁵⁵ Poster, *The Mode of Information*, 103.

³⁵⁶ Deleuze, “Postscript on the Societies of Control.”

³⁵⁷ Galloway, *Protocol*, 8.

a technological level, emerges out of a tension between hierarchical and distributed systems of information flow, both of which were explored in *Carnivore*.

The distributed model was made visible when *Carnivore* eavesdropped on direct communication between computers (personal computer to router, also a type of computer). This direct communication is guided by a technology called TCP/IP.³⁵⁸ Because TCP/IP allows any two computers to talk directly to each other, it creates a distributed, peer-to-peer network of autonomous actors that gives the impression that the internet is a radically non-hierarchical space since communication can happen without information being sent through any nodes of control. The hierarchical model appeared when, for example, someone used *Carnivore* to watch the web pages that another person on their network was visiting. The direction of that web traffic is managed by the strictly hierarchical Domain Name System (DNS). This system tells computers where to look for the data that makes up web pages, translating the human-readable web address into a computer-readable numerical address, using that to locate the relevant files, and then sending them back to the computer, pinging several nodes of connection along the way. The regulations guiding internet protocols have determined that each of these pathways should lead hierarchically from one to the next in an inverted-tree structure, which has concrete consequences for exerting control over the network. For example, as will be discussed in the following chapter, it was common during the period of the dissertation for artists to use websites for parody and political activism that sometimes entered a legal gray area. Many had these sites taken offline by the companies that hosted their files, which is possible because of the hierarchical structure of DNS—companies that control the pathways up the hierarchical chain

³⁵⁸ As noted in chapter one, the invention of TCP/IP helped to initiate the development of the larger system of computer networks that eventually became the modern internet.

can simply turn off the process of directing traffic when people attempt to visit a specific web address.

This tension between hierarchical and peer-to-peer structures produces a distributed network, which, Galloway argues, is “protocol’s native landscape.” Centralized and decentralized networks rely, respectively, on central and radial nodes of power. The distributed network is, like TCP/IP, constructed through rhizomatic, point-to-point communication that appears to lack any specific site of control. But what makes this environment ripe for protological control is that protocols are required for any communication to occur—the points must be able to speak the same language, and that language is defined by protocols. Galloway acknowledges that protological control aspires to be more democratic than the disciplinary system of the panopticon because it is organized around the autonomous actors of the distributed network. And in the case of computerized information management systems like the internet, it is primarily dictated by the dispassionate demands of physics and logic. Nevertheless, it is a system of “command and control,” and Galloway argues that it is *the* mechanism of twenty-first century control. He identifies the distributed network as not merely a model for computer networks, but as the Deleuzian diagram for our current social formation, a map that describes the whole social field as a distributed network.³⁵⁹

As a relatively simple tool of surveillance, *Carnivore* only just began to reveal the structure of the distributed computer network and the protocols that exert control within that network. But it did help to articulate the role that surveillance plays in the system of protological

³⁵⁹ Galloway, *Protocol*, 11–13. Later in the book, Galloway points to the internet and the US highway system as specific examples of contemporary distributed networks. Both first designed for military needs and now used by citizenry, they each shift structures of control away from a specified chain of command and onto a set of predetermined rules that are followed by autonomous actors. Galloway, 35–38.

control by demonstrating how protocols render communication visible as it is sent across the network. *Carnivore* thus frames the publicness of the theater of visibility as both an effect of the structure of the network and a component of the network's function as a system of control.³⁶⁰

Entering the Public Domain

With *Carnivore*'s packet sniffing, like with *Listening Post*'s eavesdropping agents, the public state of visibility on the network is involuntary, the network a site of surveillance. But Eva and Franco Mattes's *Life Sharing* embraced the public space of networking, treating the theater of visibility as a voluntary public stage by opening up the contents of their computer to anyone who browsed to their website. In so doing, the work explored whether it was possible to subvert the mechanisms of control by devaluing the data that would otherwise be collected with surveillance. At the same time, *Life Sharing* proposed that the spatial public domain of the network could be turned into a juridical public domain by circulating intellectual property via the same network pathways of information flow through which personal data had been rendered hypervisible.

On January 1, 2001, Eva and Franco Mattes officially launched *Life Sharing*, an internet-based performance for which the pair cracked open their lives to anyone who happened by their

³⁶⁰ *Carnivore* has gone through multiple version changes since its first release as a result of changes in the technologies on which it relies. The work was originally titled *Carnivore PE*, or "personal edition," as a riff on the popularity in the late 1990s of using phrases like "personal edition" to promote home editions of commercial software. This was, the name implied, the home edition of the FBI program. However, as it became more difficult for RSG to provide support for the project, whose most active years were 2001 to 2006, Galloway released a stripped-down version (which he still has to update periodically over the years) and dropped the "PE" from the title. *Carnivore*'s code libraries were most recently updated in the spring of 2016. Galloway, interview, February 14, 2017.

website.³⁶¹ For the next three years, visitors to 0100101110101101.org were greeted with a series of pop-up windows declaring “now you’re in my computer,” the only mediating step between them and the unfiltered contents of the artists’ hard drive (Figure 5.6). Previously, the Matteses had used this site to host individual net art projects. For *Life Sharing*, the artists taped the message “PRIVACY IS STUPID” to the side of their personal computer and turned it into a server that could be perused simply by going to that web address (Figure 5.7). Click “ok” and visitors would find themselves browsing through anything and everything they kept on the computer, from emails to bank statements to in-process artworks (Figure 5.8). For a couple of months, the artists even recorded their phone calls.³⁶² Then in 2002, they started wearing GPS transmitters for a separate project, which they quickly decided to integrate into *Life Sharing* so that site visitors could also constantly track their locations (Figure 5.9).³⁶³ This was a dramatic gesture from a pair of artists who had previously insisted on anonymity, going only by the

³⁶¹ The Matteses started conceptualizing *Life Sharing* while they were still living in Italy in 1999, and spent many months in 2000 building the server and testing the website, including shoring up its defenses against hackers, so the official dates for the project are 2000 – 2003. However, they chose January 1, 2001 as the work’s formal launch day because it was a nicely even date by which they had gotten the project running more smoothly. At this point, the pair had also moved to Barcelona, although they were already frequently commuting back and forth to New York, which would eventually become their home base. Mattes, interview. Documentation of the project, including an emulation of the original experience of visiting their server, is available at Rhizome, “Eva and Franco Mattes’s Life Sharing (2000 - 2003),” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/life-sharing>.

³⁶² The Negativland song “What’s This Noise?” was made from audio clips of unsuspecting callers to the Matteses while they were still recording their calls. It is available at Eva and Franco Mattes, “What’s This Noise?,” 2002, <http://0100101110101101.org/whats-this-noise/>. The artists stopped this practice relatively early in the *Life Sharing* project because it was quite complicated, and was dragging people with whom they were communicating into the project unwillingly since the phone recording was done without permission. Mattes, interview.

³⁶³ The original GPS tracking project was *Vopos*, which the Matteses produced for Manifesta 4 in 2002; see “Project: VOPOS,” *manifesta 4*, 2002, <http://m4.manifesta.org/en/projects/artist1479.html>. The work is named after the nickname for the Volkspolizei, the police who had been in charge of patrolling the Berlin wall, and it investigates the shifting social effects of surveillance when networked technology makes it possible for individuals to turn the watchful eye on themselves.

collective name 01.org.³⁶⁴ Reversing course with *Life Sharing*, the Matteses bared their lives as extremely as possible, and the watchers soon followed. The artists recall wrangling with opportunistic hackers, receiving messages in their system log files from concerned citizens who thought the project had to be an accident, and getting up at all hours to obsessively track the traffic coming in from all over the world. Frequent correspondents with the Matteses like Steve Dietz, the Walker curator who commissioned the project, even reported getting email responses from strangers who had read their messages on the artists' computer and decided to chime in on the conversation.³⁶⁵

In their pursuit of the core principle of transparency, the Matteses also worked toward stripping away as much mediation as possible between the visitor and the artwork. Other than periodically changing the background color of the file browser, they avoided the layers of design that normally structure websites, instead simply presenting their folders and files just as they themselves saw them when they sat down at the computer (Figure 5.10). This aesthetic—or lack thereof—made the work awkward to browse; visitors had no more guidance through the file

³⁶⁴ When they were working as 01.org, the Matteses also occasionally hid their work behind hoaxes like Darko Maver, the fictional artist the duo created in 1998 in order to explore whether the circulation of identities constructed on computer networks could also affect offline institutions. After his equally fictional death, Maver's work was included in several posthumous shows, including the 48th Venice Biennial, after which 01.org announced that the character was entirely their creation, as was the documentation of his work, which was described as a series of "gruesomely realistic" sculptures, but was actually found photographs of real atrocities from Maver's home of Serbia. Their own explanation of the work can be found at Eva and Franco Mattes, "Darko Maver (1998-99)," accessed January 11, 2018, <http://0100101110101101.org/darko-maver/>. An article documenting the reaction to the revelation is available at Ada Veen, "The Death and Death of Darko Maver," *Mute*, June 10, 2000, <http://www.metamute.org/editorial/articles/death-and-death-darko-maver>.

³⁶⁵ Steve Dietz, "Ten Dreams of Technology," New York Digital Salon, 2002, <http://nydigitalsalon.org/10/essay.php?essay=8>. *Life Sharing* was one of several internet-based projects that received a commission grant from the Walker Art Center in 2000 for the Emerging Artists/Emergent Medium program, funded by the Jerome Foundation. Steve Dietz and Walker Art Center, "Emerging Artists/Emergent Medium 2000-2001 Final Report," August 14, 2002, Digital Arts Study Collection, Walker Art Center Archive. The Matteses started the project before receiving the commission, but report that the funding significantly reduced the financial burden of maintaining a private web server, which was considerable at the time. Mattes, interview.

structure than anyone would have if they logged onto someone else's personal computer right now. But this lack of obvious design or curation heightened the feeling that visitors were getting a glimpse not just into the artists' files, but into the inner workings of their minds. The rapid integration of computers and the internet into everyday life in the years immediately preceding *Life Sharing* had given rise to the popular notion that people's computers were extensions of their selves, a computer-as-brain metaphor that the artists often introduce when talking about the project.³⁶⁶ More than just productivity tools, the Matteses emphasize, computers and the records they contain of people's online activities had become detailed maps of their daily lives and interpersonal relationships that could, increasingly, stand in for them.

In his analysis of participatory surveillance in the era of computing, Poster described this accumulation of digital records as "the multiplication of the individual, the constitution of an additional self."³⁶⁷ He was particularly interested in how these additional selves come into being through the growth of commercial and government consumer databases. Here he observed that the line between state and economic arms of surveillance had become so blurred that the digital identities they construct are public not only because they are visible (in public), but also because they belong to the state's sphere of public authority.³⁶⁸ Building on Poster's observations, Kevin Haggerty and Richard Ericson identify these databases as just one of many systems of

³⁶⁶ Mattes, interview. Alexei Shulgin also riffs on the computer/self metaphor with *Desktop IS* (1997), a project for which he solicited other artists to submit screenshots of the desktops of their personal computers. Shulgin then collected them on the *Desktop IS* website, introducing the images with a series of semi-ironic observations, including "desktop is an extension of your organs" and "desktop is a substitute for so many other things." See Alexei Shulgin, "Desktop IS," Easylife.org, 1997, <http://www.easylife.org/desktop/>.

³⁶⁷ Poster, *The Mode of Information*, 97.

³⁶⁸ Habermas uses the phrase "sphere of public authority" to describe a more narrow definition of publicness in modernity, in which "public" is synonymous with the state. Habermas, *The structural transformation of the public sphere*, 18.

surveillance of the body that have emerged in late modernity. These occur at the intersection between information systems and human bodily functions, tracking and recording everything from physical location to purchasing habits to lifestyle preferences to intimate personal habits and desires. They give form to bodily informational flows that, together, construct a hybridized “data double...a form of becoming which transcends human corporeality and reduces flesh to pure information.”³⁶⁹ Watching the birth of this data double was one of the sparks for *Life Sharing*. The artists recall becoming suddenly aware of the scope and magnitude of the digital traces that are produced as people move through the world after making an offline purchase with their credit card and seeing related ads when they subsequently logged onto the Amazon e-retail website. Many of the artists’ peers responded to this phenomenon by retrenching, turning to complex encryption systems in an attempt to cleave themselves from their data doubles. With *Life Sharing*, the Matteses tried the opposite strategy. They experimented with overwhelming the process of data collection, using the heightened visibility of the network to see if it is possible to make the records through which their digital selves are constructed so public that they become worthless for surveillance. If everyone has this information, how could it still carry economic or political value?³⁷⁰ However, there is a hidden element of the work that betrays a lingering

³⁶⁹ Kevin D. Haggerty and Richard V. Ericson, “The Surveillant Assemblage,” *The British Journal of Sociology* 51, no. 4 (December 1, 2000): 611–13.

³⁷⁰ The Matteses emphasize that this is a consciously utopian proposition that they still felt was worth testing in the experimental atmosphere of net culture in the late 1990s and early 2000s. Mattes, interview. Artist Hasan Elahi has taken a similar approach with his project *Tracking Transience* (started in 2002), a response to a misguided FBI investigation in which Elahi provides as much data about his own whereabouts and activities as possible. See Hasan M. Elahi, “Tracking Transience v2.2,” accessed December 28, 2017, <http://elahi.umd.edu/track/>. Reflecting on the experience, Elahi observes “In an era in which everything is archived and tracked, the best way to maintain privacy may be to give it up. Information agencies operate in an industry that values data. Restricted access to information is what makes it valuable. If I cut out the middleman and flood the market with my information, the intelligence the F.B.I. has on me will be of no value.” Hasan M. Elahi, “Giving the F.B.I. What It Wants,” *The New York Times*, October 29, 2011, sec. Opinion, <https://www.nytimes.com/2011/10/30/opinion/sunday/giving-the-fbi-what-it-wants.html>.

ambivalence toward this state of exposure, in spite of provocative declarations like “PRIVACY IS STUPID:” Eva and Franco Mattes are not the artists’ real names.³⁷¹ The pair had previously been using a variety of pseudonyms whenever they had to come out from behind the mask of 01.org, but they knew they would have to settle on one name for consistency with the visibility that would come with their launch of *Life Sharing*. Rather than revert to their given names, they simply selected the pseudonyms that they were using the most at the time. Even to this day the pair has successfully protected their real names from outsiders, keeping this core part of their identities preserved for themselves, hidden from the theater of visibility.

Thus far, the digital sites of accumulation that build the data double—the database, the personal computer—have been conflated in this analysis with the sites of networking. But while computer networks are used to capture and share these digital records, the two are, strictly speaking, distinct. As the phrase “going online” implies, it is possible, for example, to use a personal computer and create a digital record without connecting to the internet and entering that record into the public space of the network.³⁷² *Carnivore* considered the hypervisibility of information only when it is online—in this world, it is still possible to have a private digital domain if one’s device never connects to a local network. By using the web as an open conduit

³⁷¹ The Matteses are originally from Italy, and there is a deliberate Italian pun built into the pseudonym “Franco.” It can be roughly translated into the English adjective “frank,” meaning candid or forthright.

³⁷² In the 2010s, society has so fully entered into what Mark Andrejevic has called the “era of ubiquitous surveillance,” with the penetration of constantly internet-connected devices into every aspect daily life, that the distinction between on and offline digital actions is almost meaningless. See Mark Andrejevic, “Ubiquitous Surveillance,” in *Routledge Handbook of Surveillance Studies*, ed. Kirstie Ball, Kevin Haggerty, and David Lyon (London: Routledge, 2012), 91–98. For example, if one installs a cloud storage service on a local hard drive, even the files that are edited locally are likely to be near-simultaneously sent across the network to an offsite storage facility. But in the early 2000s, it still made sense to think of going online as just one of the tasks for which one might use a computer, thereby drawing an implicit line between on and offline activity that was implicated in questions of digital privacy and network publicness. Even if the messages a person sent online were inherently vulnerable to surveillance, the files they kept offline could still be said to be as private as the room in which their computer was stored. *Life Sharing* exposed the weakness of that boundary already in the early 2000s, before it had become almost totally obsolete.

into the artists' personal computer, *Life Sharing* explored the possibility that the network's theater of visibility can permeate that boundary just as the constant connectivity promised by broadband internet access was starting to become more commonplace.³⁷³ Given that the Matteses imagined that this voluntary blurring of public and private, online and off, might one day be how everyone lived their lives, it is significant that they used a website as the portal. In an analysis of internet-based surveillance techniques published around the same time that *Life Sharing* was first conceived, David Lyon pointed out that the web was still most people's primary access point to the internet and few people understood the distinction between the web and the network itself.³⁷⁴ To see a website open our private selves onto the public view was therefore to see the entire network as a space of potential exposure.

This was reinforced in the late 1990s by popular culture, which had started to embrace the idea that the web could be a platform for the public exhibition of private lives.³⁷⁵ For example, in 1996 Jennifer Ringley launched the notorious Jennicam, a website featuring a 24/7 live video feed from her college dorm room.³⁷⁶ Then in 1999, dot com millionaire Josh Harris put cameras throughout his home and held a wild, month long, live-in Millennium Eve party that

³⁷³ In 2000, when *Life Sharing* was in development, dial up connections were still much more commonplace in households than broadband, but commercial broadband internet access was starting to become more widely available. By 2003, when the project ended (see below), the relative number of broadband household connections had increased substantially. Organisation for Economic Co-operation and Development, "The Future of the Internet Economy: A Statistical Profile, June 2011 Update for the OECD High-Level Meeting on 'The Internet Economy: Generating Innovation and Growth'" (OECD, June 2011), 7, <http://www.oecd.org/internet/ieconomy/48255770.pdf>.

³⁷⁴ David Lyon, "The World Wide Web of Surveillance: The Internet and Off-world Power-flows," *Information, Communication & Society* 1, no. 1 (March 1, 1998): 95.

³⁷⁵ Although reality television had existed as a genre since the early 1990s, it was also starting to become more popular around this period. See Annette Hill, *Reality TV: Audiences and Popular Factual Television* (London; New York: Routledge, 2005).

³⁷⁶ For a history of Ringley's Jennicam, see Kate Knibbs, "Jennicam: Why the First Lifecaster Disappeared from the Internet," *Gizmodo* (blog), April 14, 2015, <http://gizmodo.com/jennicam-why-the-first-lifecaster-disappeared-from-the-1697712996>.

he broadcast live on the web under the title *Quiet: We Live in Public*.³⁷⁷ But as noted in the discussion of *Carnivore* above, these celebrations of voluntary exposure on the web were occurring in the same years that internet-based government surveillance efforts were sparking widespread controversy. With its posture of critical embrace—rejecting privacy (mostly), but also challenging the commercial exploitation of surveillance—*Life Sharing* inserted itself into this growing tension between cultural enthusiasm for the performative possibilities of visibility online and paranoia over the uncontrollable effects of this state of visibility. The work suggested that the implicit boundary between individuals on and offline lives that allows people to experience the network as a distinct and separate public space might already be falling away.

However, there are significant differences between *Life Sharing* and exploits like Jennicam and *We Live in Public*. To begin with, the Matteses did not use webcams, and there were hardly any images of them to be found on their computer (this was before the era of the smartphone and ubiquitous selfie). This was not out of shyness. As the concept of the data double asserts, the records of a person's daily activities and digital lives can paint a more revealing picture than anything they might perform in front of a camera, which once inspired Hito Steyerl to declare that the Matteses were making “abstract pornography.”³⁷⁸ Moreover, projects like Jennicam and *We Live in Public* emphasize the exhibitionist/voyeur relationship, framing the theater of visibility as a one-way stage and website visitors as a relatively passive

³⁷⁷ A documentary on Harris and *Quiet: We Live in Public* was released in 2009 (*We Live in Public*, directed by Ondi Timoner). A summary of the original event and review of the documentary is available at Andrew Smith, “Josh Harris: The Warhol of the Web,” *The Guardian*, November 4, 2009, sec. Film, <https://www.theguardian.com/film/2009/nov/04/josh-harris-we-live-public>.

³⁷⁸ The Matteses recall running into Steyerl in an elevator at the Stuttgarter Filmwinter Festival in 2001 after a presentation of their work, when she announced that, with *Life Sharing*, they had created “abstract pornography.” Franco Mattes to Megan Driscoll, “Re: A Few Requests Re: Life Sharing,” December 7, 2016.

audience. *Life Sharing*, on the other hand, requires site visitors to delve into folders and comb through messages in order to piece together the artists' digital identities, and everything those visitors find is available not just for the looking, but for the taking. The Matteses strove to make what they were sharing "usable," exploring just how much of themselves they could reduce to files to be made available for repurposing and recirculation in the seemingly endless information stream created by the network.

This opens *Life Sharing* onto its second, but equally important, proposition: that the public space of the network is not just a theater of visibility that exposes the digital subject, it is also a public domain that makes visible the flow of information itself. The title of the project is a deliberate anagram of "file sharing," and its other major inspiration was the growing open source and free software movements. These promote alternative licenses for many different forms of intellectual property in order to encourage collaboration and peer development. Although visitors were not allowed to make modifications to anything directly on the *Life Sharing* server, everything they found there, from individual documents to the project's entire operating system, was available for download, remixing, and reuse, including in-process artworks. Before *Life Sharing*, the 01.org duo had been notorious for freely borrowing and revamping other people's net art projects.³⁷⁹ With *Life Sharing* the artists voluntarily reversed this process, relinquishing control not only over the details of their lives, but also over what they understood to be their most importance asset: their art (Figure 5.11). Rheingold's dual concept of the electronic agora and internet panopticon also suggests that it is not just the data double that exists in a state of

³⁷⁹ The Matteses summarize some of their most well-known net art copying and remixing projects, including the duplication of two full online galleries, at Eva and Franco Mattes, "Copies (1999)," accessed December 28, 2017, <http://0100101110101101.org/copies/>. The artists also created a series of "hybrids," in which they digitally collaged internet-based works by other artists with found web pages; a sample is available at Eva and Franco Mattes, "Hybrids (1998)," accessed December 28, 2017, <http://0100101110101101.org/hybrids/>.

heightened visibility online, but information itself. *Life Sharing*, however, rejects the idea that the autonomy of the individual is inherently threatened by this theater of visibility. Instead, the work proposes that the radical transparency created by the public space of the network, which can be deliberately claimed rather than simply submitted to, applies to all things that flow across the network—the data double, that representation of the individual subject and her actions, but also her art and ideas, those things she produces that are described as intellectual property.

As noted in the introduction, *Life Sharing*'s examination of the public spaces of computer networks thus also begins to elide spatial and legal notions of public domain. A domain is a physical space over which someone or something has exerted control, but as Lefebvre asserted, physical space is always also social space. In fact, domain is one of the terms used to describe the social space of the network. Online, a domain is the network space controlled by a single entity, typically through a top-level web address.³⁸⁰ Habermas also uses the phrase to describe the structure of the public sphere as “a specific domain—the public domain versus the private.”³⁸¹ Legally, the phrase “public domain” once referred to something that was controlled by the state. Over time, however, it has been conflated with the concept of the commons to convey the idea that something is public insofar as it belongs to the public, a resource available to all.³⁸² The concept of the public domain has historically been important to net art, which relies heavily on alternative models of authorship that are undermined by strict interpretations of

³⁸⁰ For example, the domain of 0100101110101101.org, which includes all the individual web pages linked under it.

³⁸¹ Habermas, *The structural transformation of the public sphere*, 2.

³⁸² Boyle, *The Public Domain*, xv. Boyle is a legal historian and one of the founders of Creative Commons, a non-profit that has created a widely-recognized, alternative copyright licensing system; see “Creative Commons.”

intellectual property and copyright.³⁸³ In 1998, a group of artists and students working at an internet culture conference produced a document attempting to codify the relationship between internet-based art practices and this newer, more fluid understanding of public domain. They defined their use of public domain as a social and cultural space that is distinct from the concept's legal or territorial frameworks, and called for an independent, participation-driven network space, constructed by artists, that would be labeled "public domain 2.0." This public domain 2.0 (or, alternatively, "digital commons") could take many forms, but they would all promote the circulation of artworks and ideas through the absence of copyright. Collectively, they would represent a third sector of the internet, promoting cultural interests online as separate from those of industry and the state.³⁸⁴ *Life Sharing* is entirely built around this model. The artists even chose an open source operating system for the server so that enterprising individuals could copy not only the individual files they find there, but the framework of the project itself. In so doing, the work proposed that the highly visible state of the network, wherein restricting

³⁸³ By the beginning of the 1990s, many early cyberenthusiasts outside of net art had also started to confront the ways in which the digital flows of information on computer networks elude and undermine systems of copyright designed for physical objects, and to argue in favor of seeking out new systems for compensating producers of what John Perry Barlow has described as a kind of mental wealth, what today we might call the information economy. John Perry Barlow, "Selling Wine Without Bottles: The Economy of Mind on the Global Net," Electronic Frontier Foundation, 1992, https://w2.eff.org/Misc/Publications/John_Perry_Barlow/HTML/idea_economy_article.html.

³⁸⁴ Eric Kluitenberg, "Frequently Asked Questions About the Public Domain (1998)," in *Public Netbase: Non Stop Future*, ed. Branka Curcic and Zoran Pantelic, Online, New Practices in Art and Media (Revolver - Archiv für aktuelle Kunst, 2008), <http://nonstop-future.org/txt?tid=9a372ae58f8ad636efb0441d2224bcd4>. This document was published in conjunction with the first "Browser Days," a student digital design competition sponsored by Amsterdam's Waag Society, formerly known as the Society for Old and New Media: "Browser Days," Waag Society, 1998, <http://project.waag.org/browssite/>. (The Waag Society is closely affiliated with many of the internet art and culture endeavors that have come out of the Netherlands since the mid-1990s, including De Digitale Stad; both Waag and DDS were co-founded by Marleen Stikker.) In preparation for the 1998 competition, a group of students worked with media and technology scholar Eric Kluitenberg to consider what it would mean for there to be a public function for computer networks outside of the context of government, industry, or academia, and how artists and designers might fit into that model. Eric Kluitenberg, interview by author, December 7, 2015. Several years later, the Sarai new media initiative got together with Geert Lovink, who was at the time representing the Waag Society, in order to produce an expanded reflection on the concept of the public domain and how it intersects theories of urbanity and technology. See Raqs Media Collective and Geert Lovink (for Waag Society), eds., *The Public Domain*, Electronic, Sarai Reader 01, 2001, <http://sarai.net/sarai-reader-01-public-domain/>.

information is much more difficult than circulating it (as they themselves demonstrated with their net art copying and remixing projects), is an ideal condition for alternative systems of distribution that circumvent restrictive notions of copyright.³⁸⁵ Thus, in *Life Sharing*, when individuals are “in public” in the theater of visibility, they, and their ideas, are also “in public” in the sociocultural space of the new public domain.

Although *Life Sharing* was originally conceived as a lifelong endeavor, the Matteses chose to end the project in 2003. This was partly practical. Keeping the server functioning was a never-ending task, especially as visitor traffic increased, and they were simply becoming too overwhelmed to run *Life Sharing* and continue to produce other work. But as noted in the introduction, 2003 was also when large social media sites like Myspace started to appear. Social media changed internet users’ relationship to the network’s discursive platforms, consolidating the sites of the electronic agora from a distributed network of potentially infinite chat rooms and forums to a limited number of commercially-controlled applications. At the same time, it shifted how internet users think about presenting themselves online. As more and more people signed up for social media accounts and started cultivating their digital profiles, the idea that someone might use the internet to expose their daily activities, and thus reveal their digital self, became at once commonplace and oddly circumscribed. The controlled, commercial environment of sites

³⁸⁵ The Matteses emphasize that their aversion to copyright does not mean they think that artists should not be able to profit from their work. Rather, they are interested in alternative licensing systems that could promote circulation and collaboration while still offering creators some financial support. Walker Art Center, *Live Taping of Free Ware: 0100101110101101.Org*, Free Ware (Minneapolis, Minn, 2001). When they were working on *Life Sharing*, the artists were interested in using the project to develop a legal structure for such an alternative licensing system. Matthew Fuller, “Data-Nudism: An Interview with 0100101110101101.Org about Life_sharing,” Walker Art Center Gallery 9 Archives, February 2001, <http://gallery9.walkerart.org/midtext.html?id=134>. They abandoned this idea when the Creative Commons system came out in the early years of the project, but remain interested in examples of alternative distribution models that use computer networks, such as a publishing collective that releases their novels for free online but can still support themselves with bookstore sales, or their own periodic free online release of videos from more recent projects that they also still sell through galleries. Mattes, interview.

like Myspace and Facebook is something distinctly different than the open, unstructured world of *Life Sharing*. Now, alongside the data double that has multiplied out of the accumulation of the digital records of their lives, internet users have a carefully articulated digital identity (or identities) with which they have learned to embrace the public space of networking and more effectively perform in the theater of visibility.

CHAPTER SIX: Defining a New Platform for Publicity

On November 20, 1999, ten days before the start of the World Trade Organization's heavily anticipated and widely protested biennial Ministerial in Seattle, artist group @™Mark (pronounced "artmark") officially released GATT.org. The project was a parody website named after the treaty that eventually led to the formation of the WTO.³⁸⁶ The site closely mimicked how WTO.org, the World Trade Organization's official website, appeared at the time (Figure 6.1 & Figure 6.2).³⁸⁷ The overall layout of both followed a common template from the late 1990s—navigation bar on the far left, left-justified content filling out the rest of the screen, identifying logo near the top. The artists then carefully mirrored the WTO site to fill in the details. For example, the buttons on the left navigation bar featured the same dark blue and maroon

³⁸⁶ The GATT.org web address refers to the General Agreement on Trade and Tariffs, the mid-20th century treaty that led to the formation of the World Trade Organization (WTO) in the 1990s. For more on the history of the GATT and the transition to the WTO, see "GATT Digital Library," Stanford University Libraries and Academic Information Resources, 2006, <http://gatt.stanford.edu/page/home>.

³⁸⁷ Like the informational website it parodies, GATT.org was updated semi-regularly during its main period of activity. In order to view the version of the site that was live as close to the months preceding and immediately following the 1999 WTO protests, the dissertation has referred to this capture from the Internet Archive: @™Mark, "GATT.Org (Wayback Machine Archive)," 1999, <https://web.archive.org/web/19991128040518/http://gatt.org:80/>. It is important to note that web archives, like the Internet Archive's Wayback Machine, sometimes pull content from different periods of time in order to build the most visually complete recreation of the site in question. This is why this archive mixes some content from the weeks and months just before and just after the WTO protests. The "timestamps" feature found in the "about this capture" header on the Wayback Machine archive can help viewers more carefully track these changes; more technical information on this issue is available at Mark Graham, "Wayback Machine Playback... Now with Timestamps!," *Internet Archive Blogs* (blog), October 5, 2017, <http://blog.archive.org/2017/10/05/wayback-machine-playback-now-with-timestamps/>. Visitors who are interested in seeing something closer to what the GATT.org site would have looked in the context of a popular 1990s browser, Netscape Navigator, can recreate it with the Old Web Emulator version of the site that Rhizome has produced for GATT.org's entry into their Net Art Anthology: Rhizome, "@™Mark / The Yes Men's Gatt.Org," Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/gatt-org>. To follow along with this chapter's comparison, a close approximation of the WTO's website from 1999 and 2000 is available at World Trade Organization (Wayback Machine Archive), "Welcome to the WTO," February 29, 2000, <https://web.archive.org/web/20000229125123/http://www.wto.org:80/>. Although the inexact timestamps of the Internet Archive make it impossible to pin down the exact timing of content changes, a great deal of consistency in the appearance of both sites around this time is still apparent.

backgrounds, with matching gray drop shadows and text in a small, yellow, sans-serif font. Clicking on these buttons, however, lead to very different information. GATT.org's "Online Bookshop" featured the same black and red gradient banner advertising "WTO News Releases" as the matching page on the WTO site. But instead of offering WTO publications, GATT.org invited visitors to purchase a compilation tape featuring segments like ®TMark's corporate promotional film parody *Bringing IT to YOU!* and a WTO/GATT "oratorical PowerPointTM presentation" on "Y2K Industries, Inc., a popular Post-Governmental Organization." Back on the home page, visitors to both sites would see a main content area topped with the WTO's logo, its pixelated text another sign of the era in which the sites were built, flanked by a matching set of links offset by orange spheres. And ®TMark continued to set the sites apart by using the information behind their links to critique the WTO's content—clicking on the "Français" header link on GATT.org took visitors not to the French translation of the WTO site, but to the website for the Council of Canadians, a non-partisan group that includes "advancing alternatives to corporate-style free trade" among its many missions.³⁸⁸ Returning once again to the home page, visitors would find another set of navigation links below the WTO header, a no-nonsense gray bar with simple text links that lead to yet another set of pages designed to carefully contrast the information found on the original WTO website with ®TMark's critiques of the organization. For example, the link that took visitors to recent news on the WTO site would, on GATT.org, instead take them to the alternative announcements offered by Tradewatch, a citizen trade watchdog group that directly targeted the WTO.

³⁸⁸ "The Council of Canadians (Wayback Machine Archive)," 1999, <https://web.archive.org/web/20000229083641/http://www.canadians.org:80/>. This is the archived version of the Council of Canadians website that can be reached by clicking on the "Français" link on the archived version of the GATT.org site used in this analysis.

The entire GATT.org site followed the logic of parody, a form of ironic critique in which repetition is used neither for simple mockery nor pure imitation, but in order to signal critical distance from the source.³⁸⁹ In other words, GATT.org used visual mimicry of the different components of the WTO.org website not to convince viewers that they represented the WTO, but as a strategy for delivering criticism of the organization. This critique was conveyed quite directly in the content of the GATT.org site, which made it easy to distinguish between the two websites in spite of their visual similarity, even if visitors never clicked on the aforementioned links. For example, although ®™ark imitated the syntax of the language on WTO.org in their homepage text, their version was littered with double take-inducing interjections: “To learn more about who is in favor of global free trade, visit this list of supporters, who helped us by opposing the Religious Persecution Act of 1998 for reasons of economic soundness, and also opposed sanctions against Indonesia during the East Timor fiasco last fall, correctly judging such a move to be premature in the face of mere massacres.” And just in case this commentary is insufficiently clear, the artists placed a footer at the bottom of each page that clearly attributes the site to ®™ark, noting that they were “...pleased to present this site to the WTO, for the clarification of the WTO’s messages.” This chapter will demonstrate that this “clarification” was an argument not only against the WTO itself, but also the commercial interests that ®™ark felt it represented and their incursion into the digital public sphere. Throughout their practice, the group challenged those commercial interests by using parody as a form of publicity, or public speech intended to deliver an argument to the public.

³⁸⁹ Literary historian Linda Hutcheon uses this definition to distinguish parody as a postmodernist critical strategy separate from pastiche or ridicule in Linda Hutcheon, *A Poetics of Postmodernism: History, Theory, Fiction*, e-book (Routledge, 2003), 26.

By circulating these parodies on the web, ®TMMark was able to exploit the unprecedented access to the tools of public speech offered by this new media. As noted in the introduction, it was only with the rise of the web that content on computer networks could be said to be oriented toward the indefinite addressee of public speech. And one of the things that distinguished the web as a public speech platform from older forms of mass media was its low barrier to entry. Compared to media like radio or television, publishing on the web required relatively little equipment or technical skill, and there were no editorial gatekeepers—if a group like ®TMMark was able to produce a website, there was nothing stopping them from putting it online.³⁹⁰ Moreover, in these early years of web publishing, technical limitations in web browsers and personal computers created an unusual visual leveling effect.³⁹¹ If an organization wanted their website to be viewable by most individuals, they had to restrict the scope of their design. Thus unlike, for example, television advertisements, where high production values could be used to signal institutional authority, it was genuinely difficult to visually distinguish between

³⁹⁰ For example, internet artist, curator, and experimental radio producer Honor Harger has observed that, prior to the web, being able to broadcast on the radio required a significant amount of privileged access. A significant amount of technology was required to make and transmit broadcasts, which was often only available to private companies and institutions, making them de facto gatekeepers to publishing on the radio. Moreover, individual speech on the radio (and television) was typically heavily regulated. Then with the web, which was quickly followed by online audio broadcasting applications like RealAudio, access to the internet became the only impediment to broadcasting and suddenly a lot more individuals could experiment with music and audio communication. Harger, interview. Harger’s experience echoes a very common sentiment among artists who were working online during these years, especially those who were specifically using the web—the lack of gatekeepers for putting artwork online felt transformative. As noted in the introduction, the technical barriers to internet publishing dropped even more in the years following the period of this dissertation as the number of people with internet-connected computers in their homes increased alongside the proliferation of “web 2.0” platforms, like blogs and social media, that do not require any more technical skills to use than a word processor. More on the concept of “web 2.0” is available at O’Reilly, “What Is Web 2.0.” This was one of the factors that contributed to changing ideas about the publicness of computer networks at the end of this first wave of internet-based art.

³⁹¹ These technical limitations restricted things like the use of high quality graphics, which would take too long to load on slower internet connections, or scripts that would create polished visual effects on one web browser and completely fail to execute on another. But they also extended into design elements as basic as color choice; there was only a relatively limited range of colors that would reliably appear the same across browsers and computer monitors throughout the 1990s and into the early 2000s. This inspired the phrase “web safe colors” to describe that range, which Mendi + Keith Obadike riff on in *The Interaction of Coloreds* (2002), discussed in chapter three.

professional and amateur website design.³⁹² This increased the potential for sites like GATT.org to cause genuine confusion. Thus even though the site's contents made its status as critical parody, rather than direct imitation, quite clear, it provoked a swift and angry response from the WTO: "The WTO and its members uphold the rights of others to criticize and comment on WTO affairs, including the right to protest publicly...Confusing the public is another matter."³⁹³ WTO Director Mike Moore argued that the visual resemblance of GATT.org to WTO.org, including ®TMark's use of elements like the WTO logo, had such a high potential to "mislead web users" that it was impeding the WTO's ability to convey information to the public. With this rebuttal, Director Moore revealed why an intervention as simple as a parody website (as noted below, this was a relatively common artist activist strategy during the late 1990s) was perceived as a threat that needed to be addressed: The leveling effect of the web gave individuals the unprecedented ability to assert equal authority and legitimacy in public discourse. And by splashing his complaint across the front page of WTO.org, Director Moore inadvertently increased the legitimacy of the "fake website" at www.gatt.org by directing more attention to it, thereby amplifying ®TMark's voice in the digital public sphere.

In this chapter, the dissertation will situate GATT.org in the context of ®TMark's practice and the work of their artist activist peers, demonstrating how they used the web's platforms for publicity to promote an alternative, contestational model of the digital public sphere. As

³⁹² Michael Warner argues that polished television ads were part of late twentieth century politicians' attempts to resurrect the physical, theatrical displays of prestige that once characterized the publicity of representation. Warner, "The Mass Public and the Mass Subject," 245.

³⁹³ World Trade Organization, "News - WTO DG Moore Deplores Fake WTO Websites - Press 151," November 23, 1999, https://www.wto.org/english/news_e/pres99_e/pr151_e.htm. The statement is currently archived in the press release section of the WTO website, but multiple contemporaneous media sources describe the text as appearing on the WTO's front page. (See, for example, Jennifer Ford, "Prankster Saboteurs," *Black Book*, May 2000, 31.)

computer networks were becoming more integrated into daily life and the world's economies, the internet was becoming both an important new mass medium for public speech and a frequent target of its criticism. Out of this emerged a growing interest in the relationship between art, activism, and the cultural politics of technology, and phrases like electronic civil disobedience, tactical media, communication guerilla, and culture jamming proliferated.³⁹⁴ These terms represented an attempt to define a new, internet-based form of artistic practice based around the use of mass media as an activist platform, following the model developed by groups like Gran Fury and the Guerrilla Girls. By approaching the web as a mass medium, however, these artists highlighted one of the contradictions in the claim that the internet represented a digital resurgence of the classical public sphere. As discussed in the introduction, Habermas argued that mass media could not actually produce a public sphere. Rather, he felt that it had degraded the function of publicity in the classical public sphere, turning it into a form of "staged" public speech whose goal was to manipulatively persuade the public to take on the speaker's point of view.³⁹⁵ Negt and Kluge made a similar claim when they identified mass media as a platform for publicity that distorts even political public speech in the service of the financial interests of the organizations that control such media's distribution.³⁹⁶ But Negt and Kluge also argued that mass

³⁹⁴ For a definition of electronic civil disobedience (also discussed below), see: Critical Art Ensemble, "Electronic Civil Disobedience," in *Electronic Civil Disobedience & Other Unpopular Ideas* (Brooklyn, N.Y: Autonomedia, 1996), 6–32, <http://critical-art.net/?p=264>. For a definition of tactical media (also discussed below), see: David Garcia and Geert Lovink, "The ABC of Tactical Media," <nettime>, May 1997, <http://www.nettime.org/Lists-Archives/nettime-l-9705/msg00096.html>. For a definition of communication guerilla, see: autonome a.f.r.i.k.a. gruppe, "Communication Guerilla - Transversality in Everyday Life?," Republic Art by the European Institute for Progressive Cultural Policies, September 2002, http://republicart.net/disc/artsabotage/afrikagruppe01_en.htm. For a definition of culture jamming, which actually precedes the web but was adopted by net activists, see Mark Dery, "The Merry Pranksters and the Art of the Hoax," December 23, 1990, <https://www.nytimes.com/1990/12/23/arts/the-merry-pranksters-and-the-art-of-the-hoax.html>.

³⁹⁵ Habermas, *The structural transformation of the public sphere*, 192.

³⁹⁶ Negt and Kluge, *Public Sphere and Experience*, 155–58.

media could potentially become a site of struggle, where members of the public produce their own publicity in an attempt to form an alternative, self-determined public sphere. In such a sphere, “the structures that control what can be said and how and what cannot be said, which and whose experience is considered relevant and which irrelevant” are decided by the “experiencing subjects” themselves.³⁹⁷ This was the model of the public sphere envisioned by the practice of @TMark and other artist activists working online. The dissertation will show how @TMark used the web as a platform for publicity to critique visions of the digital public sphere defined by commercial interests, what Jodi Dean defined as “communicative capitalism,” which the artists felt were represented by the ideologies of organizations like the WTO.³⁹⁸ In so doing, @TMark approached the web as a form of mass media that, following Negt and Kluge, could be used to exploit the public, but could also serve as a site of struggle in the public’s attempt to assert a self-determined digital public sphere.

Corporate Pranksters

@TMark released GATT.org as part of the widespread anti-globalization protests that were organized in response to the WTO’s 1999 Ministerial in Seattle.³⁹⁹ These events have been

³⁹⁷ Miriam Hansen summarizes Negt and Kluge’s vision for a self-determined public sphere this way in Hansen, “Foreword (1991),” xxxi. Negt and Kluge explain how mass media might, under limited circumstances, operate as a site of struggle in the attempt to form such a self-determined public sphere in Negt and Kluge, *Public Sphere and Experience*, 139–43.

³⁹⁸ Dean, “Why the Net Is Not a Public Sphere,” 103.

³⁹⁹ @TMark artist Igor Vamos recalled that they were unable to physically attend the protests in Seattle, but not where the group was that day. Igor Vamos, interview by author, February 12, 2017. A poster uncovered in his personal archive, which features the no longer operating @TMark website URL (<http://www.rtmak.com/>), suggests that the group may have been in London for a “Reclaim the Future” protest coordinated with the worldwide N30 WTO protests. @TMark, “Reclaim the Future: Resist the WTO, Refuse Capitalism; Euston Station, London, November 30 (Event Poster),” 1999, Igor Vamos (@TMark) Personal Archive. Records of the N30 events underscore the fact that there really was a transnational effort to coordinate WTO protests in as many places as possible. See, for example,

described as a “watershed for Internet-mediated activism.”⁴⁰⁰ The rapid growth in the number of internet users during the 1990s meant that it was now possible to use computer networks to communicate with large numbers of people in many different locations, and the 1999 WTO protests are frequently cited as the first time that activists aggressively took advantage of this. Organizers used just about every online platform available to them to amplify their criticisms of the WTO and to coordinate a worldwide wave of protests on November 30, 1999.⁴⁰¹ The protests were also an important early instance of using the network itself as a site of protest, rather than simply an organizational and promotional tool. For example, in addition to @TMark’s parody of the WTO website, the electrohippies, a British hacker/activist collective, used an application called FloodNet in an attempt to overwhelm the servers hosting the WTO’s site with so much traffic that it would be temporarily blocked.⁴⁰²

GATT.org’s close connection to this highly publicized moment of intersection between on and offline activism has made it the most well-known effort by net artists to use the web to parody large organizations, but it was not actually the first. The practice developed in the mid-1990s with a series of websites by artists Heath Bunting and Rachel Baker that were quickly

entries under “All over the place: N30” at Reclaim the Streets!, “RTS Action Archive,” 2003, <http://rts.gn.apc.org/archive.htm>.

⁴⁰⁰ Matthew Eagleton-Pierce, “The Internet and the Seattle WTO Protests,” *Peace Review* 13, no. 3 (September 1, 2001): 331.

⁴⁰¹ A more detailed account of how activists used internet communication tools to organize and promote the 1999 WTO protests can be found in Eagleton-Pierce, “The Internet and the Seattle WTO Protests.” Written not long after the protests occurred, the tone of the article also helps to convey the magnitude of this event for many observers, who saw it as heralding a major transition in protest tactics. In this essay, GATT.org is framed purely as an activist effort, without attention to its relationship to net art contexts, and deemed somewhat ineffective because of its vulnerability to legal challenges (335-336).

⁴⁰² As will be discussed in the following chapter, FloodNet played an important role in online artist activism during this period, but it was not always used in an artistic context. For example, Armin Medosch points to the electrohippies’ use of FloodNet in the WTO protests as an example of the often problematic late-1990s “hacktivist” trend in Armin Medosch, “Hacktivismus,” *Telepolis*, December 8, 1999, <https://www.heise.de/tp/features/Hacktivismus-3444933.html>.

taken down in response to reported legal threats.⁴⁰³ However, such threats failed to stifle the proliferation of parody websites. Throughout the 1990s and into the early 2000s, parody became an increasingly common strategy among artists interested in computer networks, with ®™ark leading the pack. In a 2006 article designating the “fake project” as the internet’s new conceptual frontier, a critic writing for *Modern Painters* described ®™ark as early “pioneers” of the practice.⁴⁰⁴ In fact, the group started making parody websites as early as 1997, soon after they started working together. By the time they released GATT.org, ®™ark had produced at least six of these sites, targeting large corporations and the politicians they felt were supporting those organizations.⁴⁰⁵ Writing a comparison of some of Bunting, Baker, and ®™ark’s parody website

⁴⁰³ In 1997, Heath Bunting and Rachel Baker used the irrational.org website to construct mirrors of several business websites, including 7-11, American Express, Sainsbury’s, and Tesco; the 7-11 and American Express websites were affiliated with email lists of the same name (see appendix II). Partial web archive copies of the websites are available through the Internet Archive at: Heath Bunting, “Seven Eleven (7-11) Home Page (Wayback Machine Archive),” irrational.org, January 10, 1998, <https://web.archive.org/web/19980110070644/http://www.irational.org/7-11/>. Heath Bunting, “American Express Home Page (Wayback Machine Archive),” irrational.org, February 19, 1998, https://web.archive.org/web/19980219114438/http://www.irational.org/american_express/. The artists quickly removed the original sites, replacing them with copies of the take down notices they reportedly received from their target companies: Heath Bunting, “7-ELEVEN Infringement on the World Wide Web,” irrational.org, 1998, <http://irational.org/7-11/>. Rachel Baker, “J Sainsbury Solicitor’s Letter to Irational.Org,” irrational.org, 1997, <http://irational.org/tm/archived/sainsbury/>. Rachel Baker, “TESCO Solicitors Letter to Irational.Org,” irrational.org, 1997, <http://irational.org/tm/archived/tesco/>. Heath Bunting, “American Express Solicitors Letter to IRATIONAL.ORG,” irrational.org, 1999, http://irational.org/american_express/. Astute readers may notice that the top/left header of the American Express letter lists “ONE GENERIC LAWYER / TWO GENERIC LAWYER / THREE GENERIC LAWYER” and so on. Neither the offices of Leydig, Voit, & Mayer, Ltd., the listed office on the letterhead, nor representatives of American Express have been able to confirm or deny the veracity of the letters: Megan Driscoll to Mark Liss (Leydig, Voit, and Mayer, Ltd.), “Research Inquiry,” November 13, 2017. Megan Driscoll to Kerry A. Farrell (American Express), “Research Inquiry,” November 15, 2017. Bunting recalls that this was part of the original letter submitted to him, and while he admits that they did sometimes construct fake denial letters at irrational.org, he maintains that the letters posted from American Express, 7-11, Sainsbury’s, and Tesco were all sent from the company’s respective attorneys. Megan Driscoll to Heath Bunting, “7-11 and American Express Letters,” November 13, 2017.

⁴⁰⁴ Bruce Sterling, “The Power of Fake: Exploring Net.Art’s New Frontier,” *Modern Painters*, April 2006, 34.

⁴⁰⁵ In 1997, ®™ark built mirrors of the McDonald’s and Shell Oil corporation websites that they used as alternative “skins” for the group’s own home page, appearing in place of the normal rtmark.com home page for roughly every tenth site visitor. Archived versions are available at: ®™ark, “McRTMark (Wayback Machine Archive),” August 18, 2000, <https://web.archive.org/web/20000818064048/http://rtmark.com/mcrtmark.html>. ®™ark, “RTMark

projects, a *New York Times* critic described the practice as an integration of appropriation into the strategies for social and political critique online.⁴⁰⁶ In the visual arts, appropriation emerged as a strategy in mid-twentieth century Pop Art, when artists began to borrow both specific images and broader visual tropes from advertising to highlight the saturation of consumer-driven imagery in visual culture.⁴⁰⁷ By contrast, strategies of borrowing in early internet art were often focused less on the subject being copied and more on the process itself. As noted in chapter five, artists like the Matteses used this method to examine how the ease with which information flows on the network affected the circulation, reproduction, and authorship of art on that network. But ®TMark’s specific method of borrowing does look back to the Pop Art origins of appropriation insofar as it directs attention to the visual conventions of the commercial environment in which the artists found themselves. In fact, the parody websites were just one piece of this critical strategy, which was at the core of ®TMark’s practice. The group used the web to carefully construct a group persona that parodied the imagery, language, and organizational structures of

Shell,” RTMark Rhizome Archive, 1999, <http://archive.rhizome.org/artbase/1693/shell/>. Then in 1999, they released GWBush.com (Figure 6.3) and YesRudy.com (Figure 6.4), satirizing George W. Bush and Rudy Giuliani’s presidential and senatorial campaigns, respectively; Monsanto.com (Figure 6.5), inviting visitors to “fight Frankenfood;” and Microsoftedu.com (Figure 6.6), targeting what the artists saw as higher education’s excessively cozy relationship with Microsoft. Archives of these projects can be viewed at: ®TMark, “George W Bush (Wayback Machine Archive),” March 1, 2000, <https://web.archive.org/web/20000301041305/http://www.gwbush.com:80/>. ®TMark, “YesRudy.Com (Wayback Machine Archive),” October 12, 1999, <https://web.archive.org/web/19991012051506/http://yesrudy.com/>. ®TMark, “Monsantos - A Life Sciences Company - Food, Health, Hope (Wayback Machine Archive),” August 15, 2000, <https://web.archive.org/web/20000815070153/http://www.monsantos.com:80/>. ®TMark, “Microedu (Wayback Machine Archive),” October 12, 1999, <https://web.archive.org/web/19991012110318/http://microsoftedu.com/>.

⁴⁰⁶ Matthew Mirapaul, “A Different Kind of Demonstration Software,” *New York Times*, March 18, 1999, <https://partners.nytimes.com/library/tech/99/03/cyber/artsatlarge/18artsatlarge.html>.

⁴⁰⁷ Lawrence Alloway is credited with first articulating the concept of Pop Art in a bid to take seriously the role of popular imagery in European and US visual culture. A definitive series of essays articulating the history and context of 1950s and 1960s Pop Art is available in Lucy R. Lippard et al., *Pop Art*, ed. Lucy R. Lippard, World of Art Library, Modern Movements (London: Thames & Hudson, 1966).

late twentieth century corporate culture. In so doing, they specifically targeted the effect of this corporate culture on computer networks, connecting it to the mode of communicative capitalism that they felt was distorting the digital public sphere.

@™ark began to solidify their group identity in 1997, when Igor Vamos and Jacques Servin decided to bring their artistic and technical skills together to form a “corporation.” The pair were careful to remain anonymous, hiding behind a variety of false personas whenever they were required to make public appearances, which helped the group construct a fictional backstory.⁴⁰⁸ According to this narrative, @™ark was a limited liability corporation (LLC) that formed in the early 1990s in order to discretely fund other people’s nonviolent corporate sabotage projects—they described themselves “corporate pranksters.”⁴⁰⁹ As evidence of this history, they gave the group credit for funding a pair of culture industry pranks the artists had each performed individually before they started working together, both of which had already received some press attention.⁴¹⁰ The group then invented a fictional award for this work in order

⁴⁰⁸ One of the most common @™ark false personas was “Ray Thomas,” to whom much of the information about the group in early newspaper and magazine reviews is attributed. This habit of anonymity continued throughout the group’s active years as other artists came onboard for different projects, a loose collaborative model that, as noted in earlier chapters, was quite common in early internet art. Of course, this makes it difficult to pin down a definitive list of group members beyond Vamos and Servin for any given project. Natalie Bookchin, whose *agoraXchange* project is discussed in chapter four, is one of the more well-known @™ark collaborators, possibly because she speaks openly about her participation. Even to this day, Vamos and Servin do not officially name themselves as historical members of @™ark (they have both moved on from the group), although they have also ceased to make an effort to conceal their association with the group’s activities.

⁴⁰⁹ For an example of the “corporate pranksters” moniker, see @™ark, “Tired | Wired,” *WIRED*, October 1999, 8.

⁴¹⁰ One of these projects is the “Barbie Liberation Organization” (1993 – 1994), in which @™ark claims to have helped a group of military veterans switch the voice boxes of Barbie and G.I. Joe dolls. Although @™ark did not exist yet, press records suggest that someone did perform this prank as the BLO: “‘Eat lead, Cobra.’—tough talk from a Barbie doll whose voice box was switched (by a group calling itself the Barbie Liberation Organization) with that of a G.I. Joe doll.” Eds., “Seen, Heard, Noted and Quoted,” *Glamour Magazine*, March 1994. The second, more high-profile incident occurred in 1996, when Servin, working at the time for game manufacturer Maxis, Inc., programmed images of two men kissing into the popular SimCopter game, for which he was summarily fired: The New York Times, “Man Is Dismissed Over a Game’s Gay Images,” *The New York Times*, December 8, 1996, sec. U.S., <https://www.nytimes.com/1996/12/08/us/man-is-dismissed-over-a-game-s-gay-images.html>. By concealing their identities as members of @™ark, Vamos and Servin were able to use the coverage these incidents had already

to explain their decision to become more visible by transitioning onto the web.⁴¹¹ Now that they were operating out in the open, @TMark announced that each corporate sabotage project “funded” by the organization would be converted into a “mutual fund” in order to offer people the opportunity to invest money for a return not of capital, but of “unparalleled cultural dividends.”⁴¹² The group thus structured their entire practice as a critical parody of financial markets and the incursion of corporate culture into all areas of contemporary life—even their group name (“artmark”) was a sly pun on the relationship between art and commerce.

In part, this backstory helped Vamos and Servin preserve their personal anonymity while maintaining the fiction of the group’s distant relationship to its own work as a mere financier of other people’s projects.⁴¹³ As they promoted their new web presence through an aggressive press release and media email campaign, @TMark used the coverage that Vamos and Servin’s individual pranks had previously received to legitimize themselves by creating the appearance of having a history as the organization that had funded those pranks.⁴¹⁴ But launching the group in

received to construct a history and promote the myth that the group is strictly an anonymous funding organization, giving interviews as themselves in the guise of being mere funding recipients: Ellen Barry, “Will Dada for Food,” *The Boston Phoenix*, January 26, 1998, http://weeklywire.com/ww/01-26-98/boston_feature_1.html.

⁴¹¹ @TMark called this the “Kelly Award for Creative Subversion.” Documentation of the construction of the Kelly Award story can be found in Igor Vamos’s personal archive, Digital files, folders: Jacques backup 001218 RTMark, docs etc, @TMark etc, Kelly. Their official explanation of how the award led them to “. . . risk misunderstanding and even exposure in order to make our work more accessible. . .” is available at @TMark, “A System for Change,” RTMark Rhizome Archive, March 1997, <http://archive.rhizome.org/artbase/1693/docsystem.html>.

⁴¹² @TMark presented a detailed outline of their mutual fund model in a lecture by “Ray Thomas” at the Banff Arts Center in April, 1998. Drafts of this lecture are available at @TMark, “Alternative Funding Strategies for the Subversive Arts,” 1998, Igor Vamos (@TMark) Personal Archive. A final version of the text is available at @TMark, “The Mutual Fund Model,” RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/mutfunddesc.html>.

⁴¹³ In some of their early texts, @TMark describes themselves as “essentially a matchmaker and a bank.” @TMark, “A System for Change.”

⁴¹⁴ The group’s notes from this period summarize @TMark’s strategy for using press releases, a fictive backstory, and internet culture magazine *WIRED*’s early willingness to publish about them in order to more quickly establish themselves: “Let’s regroup: wrap the Wired thing into a press packet / Package it up nicely, and time it (coordinate @TMark press list): time it so / they also receive calls the next day (1 first, then 3) also, follow-up e-mail / so they

this way also helped @TMark hone the public relations techniques they would use throughout their practice to exploit the ease with which public speech circulated on the web.⁴¹⁵ From the very beginning, every @TMark action was accompanied with the release of PR statements, both on their website and in messages sent directly to media contacts, and this was the real core of their practice. In a 1999 interview, @TMark representatives “Frank” and “Ernest” were asked how they had determined that some of their projects were successful. They replied: “Because of the press coverage. In order to have your activities recognized, you’ve got to be public, and

think it’s a flood and they have a scoop.” @TMark, “1997 Stuff Etc,” 1997, Digital files Jacques backup 001218 RTMark docs etc, Igor Vamos (@TMark) Personal Archive. Perhaps unsurprisingly, their efforts at building a backstory were not always convincing. Email records indicate that a *WIRED* magazine journalist was happy to take part in what he already suspected was a prank on the press, while a reporter at the *San Francisco Examiner* was insistent that he would not run an article based on conversations with an anonymous email correspondent. (The group has collected their early email exchanges with reporters in @TMark, “1997hotmail Mailfrom,” 1997, Digital files Jacques backup 001218 RTMark docs etc, Igor Vamos (@TMark) Personal Archive.) Nevertheless, their early self-promotion did garner enough press coverage to effectively shroud @TMark’s origins in an air of creative confusion as they became more well known as internet artists in the following years. Most newspaper and magazine articles from the 1990s and early 2000s that reference @TMark repeat at least some portion of their origin myths. A few examples: Mark Frauenfelder, “Secret Prankster Fund Goes Public,” *WIRED*, April 8, 1997, <https://www.wired.com/1997/04/secret-prankster-fund-goes-public/>. Barry, “Will Dada for Food.” Andy Dworkin, “‘Mutual Fund’ Skewers Big Business, Politics,” *The Dallas Morning News*, May 30, 1999, sec. Business, <https://web.archive.org/web/20000309064126/dallasnews.com/business/0530biz1mutual.htm>. Ford, “Prankster Saboteurs.” The myths also appear in art contexts. For example, with a bit of a wink to @TMark’s commitment to their own mythologies, the catalog for ZKM’s 1999 – 2000 net art exhibition, *net_condition*, reprints one of the group’s founding statements from 1997, in which they describe themselves as having been “funding acts of sabotage with activist or aesthetic aims” for nearly five years. Peter Weibel and Timothy Druckrey, eds., “Subversive Conditions: @TMark,” in *Net_condition: Art and Global Media* (Graz, Austria : Karlsruhe, Germany : Cambridge, Mass: The MIT Press, 2001), 298. And in 2001, when the University Art Gallery at Central Michigan University included the @TMark website in their exhibition *Subverting the Market: Artwork on the Web*, they repeated @TMark’s story of funding the Barbie Liberation Organization as an example of the group’s efforts to “raise consciousness” and “undermine corporate power.” See Julia Morrisroe, ed., “@TMark,” in *Subverting the Market: Artwork on the Web* (Mount Pleasant, Michigan: University Art Gallery, Central Michigan University, 2001), 4.12.

⁴¹⁵ In addition to their many internet-focused works, including the parody websites and their participation in *Toywar* (discussed in chapter seven), @TMark produced a range of video, music, object, and action-based projects that mix parody of general corporate culture. This includes works like the promotional video *Bringing IT to YOU!* or their invention of the “Y2K superhero,” as well as campaigns that target specific organizations, like the Taco Bell Liberation Army. The thread that connected these diverse activities was the group’s consistent use of online public speech platforms to promote them as a form of oppositional publicity. These included often successful email campaigns to get the attention of members of the press, distribution of press releases on internet culture lists, and publication on their own website. A summary of their late 1990s and very early 2000s projects is available at @TMark, “Past Projects,” RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/history.html>.

therefore, be covered by the press.”⁴¹⁶ The pair cited artist/activist collective Act Up as a precedent for using mass media as an artistic platform to generate attention for activist causes. But their interlocutor, net art critic Tilman Baumgärtel, pointed out that Act Up was seeking visibility for a very specific cause—the AIDS crisis—and @TMark seemed more focused on the attention itself. Although Frank and Ernest objected to this characterization, Baumgärtel’s inquiry actually articulated the main thread that runs throughout all of @TMark’s practice. Regardless of the specific subject of any individual project, the group consistently returned to public relations as not only a promotional strategy, but also as a site of artistic production and, through parody, an object of critique.

@TMark’s use of public relations strategies revealed how the corporate culture that they were parodying also manipulated the tools of public speech, producing the “staged display” of publicity that, Habermas argues, distorts the public sphere. For example, the pair described their use of (actually unrelated) past press coverage to gain attention for their organization’s debut as a leveraging of the press’s profit-driven desire to get “the scoop.”⁴¹⁷ In this way, the group used the mass medium of the web to produce staged publicity that, in turn, critiqued the effects of that publicity. This critical embrace of the web as a medium for public speech extended throughout @TMark’s practice. In all of their projects, the web’s speech platforms became not just a tool for communication, but also a secondary site for the work itself. For example, although the main

⁴¹⁶ Tilman Baumgärtel, ed., “@TMark,” in *Net.Art.2.0: New Materials Towards Net Art* (Nürnberg: Verlag Fur Moderne Kunst Nurnberg, 2005), 109. Baumgärtel reports having spoken with the representatives of @TMark in 1999 (256), and notes that they remained anonymous, both wearing sunglasses and fake moustaches in a humorous exaggeration of their own subterfuge. One was a woman, so all that is certain about their identities is that this pair representing @TMark could not have included both Vamos and Servin.

⁴¹⁷ @TMark described their deliberate manipulation of the cascading effect of one news outlet wanting to follow the last in order to get “the scoop” in @TMark, “1997 Stuff Etc.”

object through which GATT.org is defined as a work of net art is its website, the project is also located in the back and forth in which the WTO engaged ®™ark via press releases and associated media coverage. Following the WTO's initial response, wherein they accused the makers of GATT.org of "confusing the public," ®™ark issued their own lengthy press release that redoubled their attack on the organization's trade policies.⁴¹⁸ This exchange generated another small wave of media coverage for the website, likely boosted by widespread attention to the events surrounding the associated Seattle protests at the WTO's 1999 Ministerial.⁴¹⁹ Although GATT.org remained online, the project would probably have faded into the background after this as ®™ark turned their attention to other projects, but the WTO resurrected it themselves two years later. In advance of their next biennial Ministerial in 2001, the WTO released another warning on their own website, and then attempted to get GATT.org taken offline. This sparked yet another press release distributed online by ®™ark—headline: "WTO ATTACKS WEBSITE, REAPS HUNDREDS OF OTHERS"—and a secondary wave of press attention.⁴²⁰ The GATT.org project, with its primary goal of challenging the WTO's institutional voice in the digital public sphere, thus extended beyond the original website to include these exchanges and their press coverage.

In this way, ®™ark exploited the internet's public speech platforms to both produce and circulate their work. As noted above, these works functioned simultaneously as critiques of their

⁴¹⁸ ®™ark, "GATT.Org Press Release (Seattle)," RTMark Rhizome Archive, December 1, 1999, <http://archive.rhizome.org/artbase/1693/gattpr.html>.

⁴¹⁹ ®™ark has collected some of the press coverage from the full life of GATT.org (note that many of the links are now broken, but some individual articles can be found by searching for headlines on media outlets' newer websites) at ®™ark, "Gatt.Org Press," RTMark Rhizome Archive, 2002, <http://archive.rhizome.org/artbase/1693/pressgat.html>.

⁴²⁰ ®™ark's 2001 press release response to the WTO is available at ®™ark, "GATT.Org Press Release (Doha)," RTMark Rhizome Archive, November 15, 2001, <http://archive.rhizome.org/artbase/1693/gattverio1.html>.

subjects (like the WTO) and the way publicity, reduced to a corporate strategy of public relations, operated online. This is evident in their use of parody in their media strategies. The group did not just submit announcements to the email lists and media contacts they used to generate attention for their projects. Instead, they sent out formal press releases that followed a generic corporate marketing template: a header with the date and “FOR IMMEDIATE RELEASE” emblazoned across the top, followed by a list of relevant contacts, a headline that introduces the topic of the release, and an announcement written in the third person. As with the GATT.org website, they then delivered their critique within this imitative structure, often with a wry sense of humor. In their first response to the WTO’s complaints about GATT.org, ®™Mark included two of the WTO’s own email accounts among their list of contacts, and then headlined the release by announcing that “WORLD TRADE ORGANIZATION DECLARES HATRED FOR RTMARK” (Figure 6.7). The target of this critical parody was thus not just the WTO. By adhering to a corporate marketing formula in the production of their own publicity, ®™Mark also made the claim that the mass medium of the web had been, following Habermas, “integrated into the realm of consumption.”⁴²¹

®™Mark almost exclusively targeted private companies and financial institutions with their “sabotage” projects for a very specific reason: they believed that government power had been “completely redirected” to corporations.⁴²² This claim echoes an argument made by both

⁴²¹ Habermas uses this phrase to describe how the publicity of the public sphere became the staged publicity of mass media in Habermas, *The structural transformation of the public sphere*, 216–17.

⁴²² In an email interview, *Boston Phoenix* reporter Ellen Barry asked ®™Mark why their activism did not target the government. They replied that “...it’s irrelevant...People know how to protest the government—there’s a huge history to that, a lot written, a lot of examples—but not how to protest corporations: not only is there less of a history to it, but corporations are infinitely better at co-opting dissatisfaction... We hope to help redirect people’s thinking about protest now that power has been so completely redirected.” ®™Mark, “Interview--BostonPhoenix Part 2,” 1998, Digital files Jacques backup 001218 RTMark docs etc, Igor Vamos (®™ark) Personal Archive. Of course,

Habermas and Negt and Kluge. As noted in the introduction, both of their analyses of the public sphere found that commercial interests had taken over the tools of public speech through the rise of mass media. As a result, even political publicity, once used to present the state's policies and arguments for the consideration of the public sphere, had been reduced to the logic of entertainment and persuasion, or passive consumption. The domain of the state had thus been collapsed into the domain of commerce.⁴²³ @TMark made a similar claim when they asserted that the proper target of political activism was corporate power because it had subsumed government power. Their practice suggests that they did not see this conflation of politics and consumer culture as limited to computer networks. Their corporate parodies frequently traveled off the computer screen and into video, music, print media, and even in-person events. However, they are known historically as a group of net artists because their works primarily circulated online, whether in the form of websites, documentation, or the all-important press releases, and the internet was the main focus of their critique because it was becoming the new center of corporate power. The late 1990s were seeing rapid growth in financial markets fueled by internet business

@TMark websites like GWBush.com, YesRudy.com, and GATT.org suggest that the group has a fairly broad definition of targeting corporate power. In the case of the political campaign parody sites, they have noted that @TMark occasionally "...participates in advocacy directly related to issues of corporate abuses of the political process." @TMark, "Past Projects: 1999-3 Quarterly Report," RTMark Rhizome Archive, August 17, 1999, <http://archive.rhizome.org/artbase/1693/quarterly199908.html>. And their critique of the WTO suggests that they see the corporate power they are targeting as not connected to any single entity, but part of a larger financial system. The group describes GATT.org as "...a website questioning the value of untrammelled free trade and financial globalization." @TMark, "Past Projects: Gatt.Org," RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/gatt.html>.

⁴²³ This is the phenomenon Habermas is describing when he argues that "even the political realm is social-psychologically integrated into the realm of consumption." (Habermas, *The structural transformation of the public sphere*, 216–17.) Negt and Kluge point specifically to the dominance of media conglomerates over the distribution of all media, from newspapers to the various mass media platforms, to argue that governments, unable to compete, are simply no longer able to produce publicity outside of this economic system. (Negt and Kluge, *Public Sphere and Experience*, 135–36.)

and speculation, a phenomenon known as the “dot com bubble” or simply the “new economy.”⁴²⁴ Skeptical of claims that this financial boom would offer not only financial but also democratic benefits to all citizens of the digital public sphere, @TMark focused their criticism on the internet economy and its distortion of public discourse online.

Using the phrase “techno-corporate cybercult,” @TMark described an online world in which corporate power was replacing government power, and the technological was being elevated above the human.⁴²⁵ This was, the group argued, the inevitable dystopian result of this rapid growth of online commerce and its ideological capture of the network’s communication platforms.⁴²⁶ As noted in the introduction, Richard Barbrook and Andy Cameron labeled this phenomenon the “Californian ideology” to describe how the independently-minded ethos of Bay Area counterculture had influenced the rapidly growing technology industry.⁴²⁷ This nurtured the development of what has come to be known as a “cyberlibertarian” attitude, wherein the free

⁴²⁴ The phrase “the new economy” was widely used in the late 1990s and early 2000s to describe the rapid growth of internet-based business. For example, this roundtable discussion can be found in an entire section dedicated to the concept of the “new economy” and the debates surrounding it in *Artbyte*, a magazine focused on the intersection of culture and technology: Mark Dery, Jerry Colonna, and Doug Henwood, “Market Bull?,” *Artbyte*, October 2000. The section also includes a satirical piece by @TMark: @TMark, “Exit Strategy: @TMark Rearranges the New Word Order,” *Artbyte*, October 2000.

⁴²⁵ @TMark, “Sabotage and the New World Order,” in *InfoWar*, ed. Gerfried Stocker and Christine Schöpf (Wien, New York: Springer, 1998), 240–41. @TMark wrote this essay for the catalog for *InfoWar*, the 1998 Ars Electronica festival in Linz, at which they were invited to present. The group felt that the long-running festival was engaging in quite a bit of this techno-utopianism, and argued that the glorification of cyber-sabotage in that particular year’s event was not a reversal of this position, but rather was complicit in a narrative in which corporations were the new heroes of computer networks and the individuals who hindered them, like @TMark, could be reduced to likeable, ineffectual villains: “Like sympathetic bad guys in a western, we’re here to change the festival from an apologia/trade-show for the frontier into an absorbing, engaging story, and to help make the substratic orgy of techno-hype less mechanical, more fraught with the electricity it needs to keep the media’s eye, which in turn helps keep it engaged and lucrative.” Nevertheless, they gave their presentation at the festival and used their participation to engage in dialogue with figures like cultural theorist Geert Lovink and net artist Vuk Ćosić, both of whose practices also balance critique and experimentation at the intersection of computer networks, visual arts, and political activism. @TMark outlines this experience in @TMark, “An Austrian Travelogue,” RTMark Rhizome Archive, 1998, <http://archive.rhizome.org/artbase/1693/arseafter.html>.

⁴²⁶ Or, as Vamos reflected, they felt that the web was “becoming a mall.” Vamos, interview.

⁴²⁷ Barbrook and Cameron, “The Californian Ideology.”

circulation of capital on computer networks was conflated with the free circulation of information to produce a pro-commerce, anti-regulation vision of the digital public sphere.⁴²⁸ Or, in the words of The WELL co-founder Stewart Brand, the internet was a new “electronic frontier...where self-reliance leads, resilience follows, and where generosity leads, prosperity follows.”⁴²⁹ Jodi Dean, however, argues that the equation of free markets and personal freedom actually resulted in an anti-democratic environment, similar to the quasi-public sphere shaped by Habermas’s staged publicity. According to Dean, the network’s mass communication platforms had actually undermined the political efficacy of the public in the service of the interests of growing online financial markets, producing what she calls “communicative capitalism.”⁴³⁰ This economically-driven model of the digital public sphere is what ®™ark’s practice of corporate parody was working against. As noted above, ®™ark’s parodies targeted not only their subjects, like the WTO, but also the financial systems those subjects represented and their influence on public discourse, an attack that WTO Director Moore may have inadvertently identified when he accused GATT.org of “disrupting a much-needed democratic dialogue.”⁴³¹ Thus broadly defined to include not only the website, but also the press releases and other dialogues surrounding it, GATT.org was an act of publicity ®™ark used to circulate their argument against the commercial dominance of computer networks on those same networks.

®™ark was not the only group of artist activists who used the internet’s communication platforms to reflexively critique those platforms. In a manifesto originally written in 1994, artist

⁴²⁸ The cyberlibertarian philosophy has been most clearly laid out in Dyson et al., “‘Cyberspace and the American Dream: A Magna Carta for the Knowledge Age,’ Release 1.2, Originally Published in Future Insight.”

⁴²⁹ Brand, “We Owe It All to the Hippies.”

⁴³⁰ Dean, “Why the Net Is Not a Public Sphere,” 103.

⁴³¹ World Trade Organization, “News - WTO DG Moore Deplores Fake WTO Websites - Press 151.”

activist group Critical Art Ensemble (CAE) outlined a strategy for what they called “electronic civil disobedience.” The group argued that the primary seat of power had shifted from material structures like monuments and government buildings to the “nomadic electronic flow...of information-capital.” But rather than simply reject computer networks as corrupt, CAE advocated for responding to this transition by moving strategies of resistance onto those networks. For example, instead of using bodies to block buildings, they would use digital tools to block the flow of information online.⁴³² Also in the mid-1990s, a group of artists, activists, and critics started using the phrase “tactical media” to describe this oppositional approach to using computer networks, among other forms of mass media. This strategy advocated for leveraging all mass communication platforms, from radio to television to the internet, in order to produce “crisis, criticism and opposition” from within.⁴³³

The strategies of groups like @TMark and the Critical Art Ensemble thus proposed an alternative definition of the digital public sphere, one that challenged the vision of an “electronic frontier.” In this model, the public speech platforms of the web did serve the interests of communicative capitalism. But they could also be co-opted by members of the public (like artists) in order to combat those interests.⁴³⁴ @TMark’s practice thus realized Negt and Kluge’s

⁴³² Critical Art Ensemble, “Electronic Civil Disobedience.”

⁴³³ Garcia and Lovink, “The ABC of Tactical Media.”

⁴³⁴ Curator Steve Dietz has defined this conflict-oriented model of the digital public sphere as an agonistic model, which allows for a multiplicity of public spheres rather than the single, unified public sphere that, as noted in earlier chapters, fails to cohere in the conflict-oriented environment of the internet. Steve Dietz, “Editorial,” «Public Sphere_s», February 15, 2007, http://www.medienkunstnetz.de/themes/public_sphere_s/editorial/scroll/. Dietz is borrowing here from Chantal Mouffe’s concept of agonism, in which oppositional points of view coexist not by meeting in the middle, but through a productive process of back and forth debate (and, in politics, back and forth legislation, such as that between progressive and conservative policies) that assumes that both sides share the fundamental goal of the common good (as opposed to antagonism, where there is no shared goal or concept of common good). See Chantal Mouffe, “For an Agonistic Model of Democracy,” in *The Democratic Paradox* (London; New York: Verso, 2000), 80–107.

vision of mass media as a site of conflict in the struggle to form a self-determined digital public sphere, one that is shaped independently by the activities, experiences, and interests of the members of the public. Negt and Kluge, however, had cautioned that the conglomerates' control of the distribution channels for mass media would make it almost impossible for any "counterproducts" that could compete with the culture industry to be heard.⁴³⁵ But as noted above, the web was a uniquely accessible publishing platform that, during the years of ®™Mark's practice, offered unprecedented legitimacy to individual voices through its unusual visual leveling effect. Thus for a brief period of time, the internet appeared to be a form of mass media that could be seized by artists and activists in the fight for social and cultural self-determination. This idea was reflected in the popularity among net artists of Hakim Bey's concept of the temporary autonomous zone (TAZ), that ephemeral, shifting "free enclave" in which a self-

⁴³⁵ Negt and Kluge, *Public Sphere and Experience*, 139–43. Negt and Kluge's call for the production of "counterproducts" to the culture industry partly references Kluge's own practice as a filmmaker and advocate for public television, which in the 1960s was viewed as an alternative to privately controlled media. However, as Hansen points out in her foreword to the text, this can also be seen as a reference to artist groups like Paper Tiger Television who were experimenting with the use of television for an alternative, critical media practice. Hansen, "Foreword (1991)," xxxiv. Art historian David Joselit has pointed out that these groups should be seen as predecessors for internet art insofar as their ambitions for the democratic and critical use of public television were similar to many individuals' claims for the democratic potential of computer networks. Joselit, "Tale of the Tape." And in fact, there was a significant amount of interaction between the two fields. As noted in chapter two, some video artists like Douglas Davis also experimented with net art. Sherrie Rabinowitz and Kit Galloway, the artists who built *Electronic Café* in 1984 (see chapter one), also had an established video practice. In 1992, video collective Van Gogh TV used satellite to broadcast *Piazza Virtuale*, a television performance installed on the grounds at documenta IX that incorporated computer networks in an attempt to reverse the flow of televised communication. (Records of the installation are available at documenta, "documenta IX-Rahmenprogramm Van Gogh TV/Piazza Virtuale," 1992, d9, folder 110b, documenta Archive Kassel. See also ZKM, "Van Gogh TV: Piazza Virtuale (1992)," Media Art Net, accessed July 13, 2016, <http://www.medienkunstnetz.de/works/piazza-virtuale/>.) And the Next5Minutes tactical media festivals, which were hosted every three years between 1993 and 2003 in the Netherlands, provided spaces for direct interaction between critical television practices and activist internet art. These interactions can be partially tracked through an incomplete list of the festival attendees accumulated via a collection of forms that were filled out during the festival in order to create the "Local to Local Directory," a compendium of contact information for interested groups to help encourage collaboration outside of the festival. The best records are from the 1996 festival; see Next 5 Minutes Festival, "N5M2 Local to Local Network Form (Reynolds)," 1996, Next 5 Minutes Video and Documentation Collection; Box: N5M2 Local to Local; Folder: Local to Local c^LTL2, International Institute of Social History, https://socialhistory.org/en/image_sound/n5m.

determined culture can briefly thrive.⁴³⁶ However, just as Negt and Kluge failed to ever actually uncover such a self-determined public sphere in the mid-twentieth century, the self-determined digital public sphere remained aspirational.⁴³⁷ The forces of the new economy grew stronger and stronger in the digital public sphere.⁴³⁸ In fact, @TMark never claimed to have carved out a space free of corporate influence, and their use of parody revealed an awareness of the futility of competing with the commercial interests that were rapidly taking over computer networks. GATT.org's mimicry was not intended to topple the "techno-corporate cybercult" any more than it was intended to shut down the WTO. Rather, the group used the ironic critical distance provided by parody to draw attention to a problem. Specifically, they sought to highlight what they saw as the dangerous absurdity of the notion of an economic "electronic frontier" and its equation between free markets and individual freedom.⁴³⁹ In so doing, they leveraged the

⁴³⁶ Artist G.H. Hovagimyan described the popularity of Bey's TAZ manifesto among early net artists in G.H. Hovagimyan, interview by author, July 27, 2016. Lovink, however, argues that over the course of the 1990s, the manifesto was stripped of its strangeness, and absorbed by the capital machine of computer networks to be reduced to a meme: Geert Lovink, "An Early History of 90s Cyberculture," <nettime>, December 27, 1999, <http://www.nettime.org/Lists-Archives/nettime-l-9912/msg00202.html>. Originally published in print by Autonomedia, in 1985 and 1991 editions, an online version built by Mike Morrison is available at Hakim Bey, "The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism," Hermetic Library, accessed December 28, 2017, https://hermetic.com/bey/taz_cont.

⁴³⁷ In an analysis of Negt and Kluge's works, Frederic Jameson argues that, in this sense, *The Public Sphere of Experience* was a failure. He points out that the scholars set out to identify a self-determined public sphere among the economic classes who had been excluded from the classical public sphere, which they call the proletarian public sphere. Instead, they ultimately found themselves writing a critique of the limits of the classical public sphere in the face of the rising public spheres of production, those structures that promote the economic interests of groups like the media cartels, with no proletarian public sphere in sight. Jameson, "On Negt and Kluge," 50.

⁴³⁸ Consider, for example, the movement from small, de-centralized communication platforms, like web forums and chat rooms, which were often independently run, to sprawling, centrally-organized social media platforms that, like Facebook or Twitter, are almost always managed by corporations.

⁴³⁹ In conversation, Vamos recalled that he and the other members of @TMark saw e-commerce and the techno-utopianist narratives that were buoying its rapid rise as "a joke," and that the seriousness with which organizations like the WTO took the provocations of a small group of semi-anonymous artists as evidence of how absurd and out of control the rush onto computer networks had gotten after the appearance of the web. Vamos, interview.

publicity function of the network in order to maintain a small gap in the digital public sphere through which the argument for self-determination could occasionally be heard.

The WTO's independent resurrection of GATT.org in 2001 suggested that their strategy was surprisingly effective at producing such gaps for the amplification of individual voices in the digital public sphere. As noted above, ®TMark had ceased promoting GATT.org soon after the 1999 protests in Seattle, but the WTO still felt compelled to post a threatening warning on their website about this "fake site" that could "deceive Internet users" and be "a nuisance for serious users looking for genuine information."⁴⁴⁰ This succeeded only in provoking more activity from ®TMark on the project and more press attention for the website, which, in turn, helped to launch Vamos and Servin's next endeavor. Although some ®TMark activities continued into the early 2000s, Vamos and Servin were already starting to transition their work together to the Yes Men, a performance and video collective that remains active today.⁴⁴¹ In order to maintain Vamos and Servin's anonymity, ®TMark's website claims they transferred GATT.org to the entirely separate Yes Men group in 2001, who then continued their public relations campaign, or "pesterings," against the WTO for over another year.⁴⁴² Perhaps the most infamous event of this ongoing campaign followed an invitation the pair received to represent the WTO at a textiles conference in Finland in the summer of 2001 (it seems the GATT.org site did successfully confuse at least one visitor, who sent them the invitation after viewing the site). One

⁴⁴⁰ World Trade Organization, "News - 2001 News Items - Fake WTO Site," October 30, 2001, https://www.wto.org/english/news_e/news01_e/gattdotorg_e.htm.

⁴⁴¹ This shift is beginning to be apparent in the group's 2001 press release response to the WTO, in which they now describe the Yes Men as the people maintaining GATT.org, while still using an ®TMark footer for the announcement. ®TMark, "GATT.Org Press Release (Doha)."

⁴⁴² Yes Men, "The WTO Dissolves," RTMark Rhizome Archive, May 28, 2002, <http://archive.rhizome.org/artbase/1693/yestro.html>.

of them showed up posing as representative Hank Hardy Unruh and gave a straight-faced lecture on “the rights of slavery, the stupidity of Gandhi, and the supremacy of free trade.”⁴⁴³ This event set the tone for a new corporate parody practice that built on the lessons Vamos and Servin had learned with ®™Mark. Although the Yes Men do not focus on computer networks as much as ®™Mark did, they continue to exploit the internet’s platforms for publicity to deliver their critiques.⁴⁴⁴ In so doing, they frame mass media not as a site for the achievement of an independent digital public sphere, but as a site of continuous struggle toward self-determination.

⁴⁴³ Yes Men, “The Yes Men in Finland,” RTMark Rhizome Archive, August 30, 2001, <http://archive.rhizome.org/artbase/1693/yesfinland.html>. The entire text of the Yes Men’s speech as the WTO can be found in Yes Men, “Presentation: Beyond the Golden Parachute,” *Harper’s Magazine*, November 2001.

⁴⁴⁴ See, for example, the Yes Men’s “*Anger Marketing*” at Roskilde (2016), discussed in chapter eight.

CHAPTER SEVEN: A Digital Speech (Toy) War

In late 1999, right around the same time that ®™ark was launching GATT.org, a challenge to individual voices in the digital public sphere seized the attention of net artists and activists. US-based online toy retailer eToys, Inc. filed a trademark lawsuit against etoy, a group of European artists, seeking to deprive the artists of access to their domain, www.etoy.com. The lawsuit sparked an international response that played out in websites, discussion groups, public relations campaigns, in-person “press conference” protests, and a variety of network-based protest actions against the company. Collectively, these actions have come to be known in histories of net art as *Toywar* (1999 – 2000). For many of the artists and activists who brought the case outside of the courtroom, which eventually included ®™ark, these efforts were not simply in defense of etoy. The lawsuit was framed as a threat to the artists’ speech rights by “...corporations, who are extending their battle front against public space into the virtual.”⁴⁴⁵ The *Toywar* actions were thus largely seen as part of the struggle described in the previous chapter, an attempt to use the public speech platforms of computer networks to defend individuals’ right to access those platforms and use them to dictate the terms of their own self-determined digital public sphere.

⁴⁴⁵ In an in-person “press conference” performance event that ®™ark organized for *Toywar* at the Museum of Modern Art on December 20, 1999, discussed in greater detail below, an ®™ark representative gave a presentation connecting this case to corporations attempting to wrest control of the domains of organizations like *Leonardo* magazine and the rural healthcare nonprofit HealthNet.org. He argued that this is “... a war on expression, on speech, on language itself—but a mechanical one, waged not by fire-and-brimstone nuts defending crazy notions of purity but by ultra-efficient entities who know only one simple thing: how to fight for their shareholders’ profits.” A copy of the full statement is available at ®™ark, “A Statement by ‘Net Renegades’ RTMark,” RTMark Rhizome Archive, December 20, 1999, <http://archive.rhizome.org/artbase/1693/etoystatement.html>. A video recording of the event is available in Igor Vamos’s personal archive, ®™ark, *Toy War Heats Up (ETOY MOMA #1 ETOY MOMA #2 WINDOW DUB)*, 1999.

However, etoy themselves approached the conflict differently. As the dissertation will describe below, although computer networks were the primary site of etoy's practice they did not consider themselves net artists, and they were explicitly not net activists. Rather, the group was interested in corporate lifestyle branding as a strategy for artistic practice. The virtual space of the internet was simply the ideal site for defining and promoting a brand (themselves) without an object that was, they felt, too aggressive and rebellious for the corporate mainstream. Thus while ®™ark's imitation of corporate structures was a form of parody intended to establish critical distance, etoy operated in a mode of exaggerated embrace, critiquing only what they felt was the corporate model's inability to adapt to their own cultural extremes. In so doing, they rejected both the Habermasian model of the digital public sphere and the model of self-determination envisioned by ®™ark, both of which defined themselves in opposition to consumer culture. Instead, etoy approached computer networks as what Michael Warner has called a mass-cultural public sphere, wherein branding operates as a form of mass publicity that offers collective identification for those who are excluded from the classical public sphere.⁴⁴⁶ What this approach shared with ®™ark was an emphasis on the public speech platforms of the web as a tool for defining their own vision of the publicness of computer networks.

This investment in their identity as the etoy corporation also meant that, during the lawsuit, the group rejected the anti-corporate stance of many of the activists coming to their defense. Instead, etoy framed *Toywar* as a clash between corporations, pursuing their own, separate defensive actions in order to protect themselves legally, maintain some distance from the activists' position, and attempt to reestablish control over the narrative of the conflict.

⁴⁴⁶ Warner, "The Mass Public and the Mass Subject," 242–53.

Placing the events of *Toywar* in the context of both etoy's practice and, as outlined in the preceding chapter, ®™mark's practice, this chapter will trace the unresolved tension between their approaches to the role of publicity in shaping the digital public sphere.

Capitalism Accelerated by Computers

These dueling narratives of *Toywar* operated alongside one another in part because the lawsuit was as much an attack on etoy's brand identity as on their right to speak. Specifically, eToys wanted to gain control of etoy's domain, www.etoys.com, rather than the contents of the website found at that domain.⁴⁴⁷ Although the issues introduced in the lawsuit became quite complicated, the company's basic complaint was that etoy's domain was so similar to their own, www.etoys.com, that they needed to control the etoy domain in order to protect their trademark, even though the artists had owned it since before eToys incorporated. This was part of an increasingly common practice known colloquially as "reverse domain hijacking," wherein larger entities would assert some intellectual property violation as grounds to either shut down a website, obtain financial redress, or forcibly gain legal ownership of a domain.⁴⁴⁸ Such cases proliferated in part because the legal relationship between existing trademark regulations and the

⁴⁴⁷ Some of the contents of www.etoys.com did come up in the lawsuit, but its aim was to deprive etoy of access to the domain, not the website files found there. It is worth noting that owning a domain name does not necessarily mean that the owner is running a website at that domain. Most web users have probably at some point browsed to a site that returned an error message explaining that there is no content there, often paired with advertisements from the company with whom the domain owner registered the site address. In these cases, someone has purchased the domain name itself, but has not directed it to point to any set of files that would make up their own website. However, the domain name is part of the platform offered by the website that someone *could* build there, and therefore control over the address is tantamount to control over the potential tool for public speech that it represents.

⁴⁴⁸ It is known as "reverse" domain hijacking because "domain hijacking," also known as cybersquatting, refers to when an individual or organization deliberately buys a domain that is related to an existing trademark and attempts to extort the trademark holders into buying it from them for a high price. This practice is "reversed" because the domain holders had an unrelated interest in the name, and are being extorted to give it up anyway by the threat of an expensive and difficult legal battle.

relatively new phenomenon of web addresses had not yet been worked out.⁴⁴⁹ Trademark offers legal protection to those marks that, like a name, identify and distinguish an entity. These legal cases thus underscore the fact that, with the rapid growth of the web, domains were becoming essential to asserting identity on the internet. If the website itself was a platform for the distribution of public speech, the domain name was an important means of representing who was speaking. This is why a parody site found at www.gatt.org (named, as noted in the preceding chapter, for the treaty that formed the WTO) had more potential to confuse viewers than if it were located at, for example, www.rtmk.com/wto. And this is also why an attempt to deprive someone of access to their domain, even if they could continue to distribute the same website content at another domain, could be perceived as both an attack on their right to speak in the digital public sphere and an attack on their control of their identity in that sphere.

The defendants themselves chose to frame the lawsuit as the latter—a challenge to their corporate (artistic) identity. They were a group of European artists who started working together in 1994. Like ®™Mark, etoy structured themselves as a corporation. But whereas the ®™Mark “prankster saboteurs” framed their structure as a critical parody, etoy had a more ambivalent relationship to their corporate models. They saw branding as the ultimate cultural form of the 1990s, and aimed to quite literally embody the lifestyle marketing of those companies whose ability to get consumers to identify with their brands had superseded the importance of anything they actually produced.⁴⁵⁰ The all-male group adopted a uniform dress code featuring black pants

⁴⁴⁹ A brief analysis of the legal issues presented by applying trademark law to domain names, which touches on the case study under discussion in this chapter, is available at Sherrie Mendrey and Professor William W. Fisher III, “Domain Names and Trademarks,” Harvard Lecture Series: Intellectual Property in Cyberspace 2000, March 5, 2000, <https://cyber.harvard.edu/property00/domain/main.html>.

⁴⁵⁰ In *No Logo*, journalist Naomi Klein outlines the shift in the late 1980s away from a manufacturing-oriented model of the corporation, which prioritized production itself, toward a branding model, in which production is

and black attaché cases, paired with orange bomber jackets, mirrored sunglasses, and shaved heads, and started going by pseudonyms, all of which followed the template “agent.NAME.” They showed up at art and technology events in matching orange jumpsuits, and attempted to impose strict, corporation-inspired hierarchies and behavioral rules on their own daily lives. The members of etoy immersed themselves in their group identity to such an extreme degree that one described participating as a “cult experience.”⁴⁵¹ This was an exaggeration of corporate lifestyle marketing that, like ®™Mark’s parodies, framed corporate culture as absurd. etoy, however, reveled in that absurdity. Their aggressive, corporate rock star aesthetic and habit of using violent language and bizarre, occasionally sexually explicit content on their website “office” openly mocked the buttoned-down conservatism of the stereotypical corporate worker. But their practice itself, with its total commitment to the group persona, consciously embraced the corporations that produced those workers by attempting to replicate the lifestyle branding and

devalued, labor is outsourced, and marketing an image (or brand) with which consumers can identify becomes the most critical element of corporate success—Nike’s *Just Do It* lifestyle campaign is a paradigmatic example. See Naomi Klein, *No Logo: Taking Aim at the Brand Bullies* (Great Britain: Flamingo, 2000). Subsequent marketing theorists have labeled this phenomenon “cultural branding” in reference to the success some companies have had in blurring our consumer and cultural experiences. D. B. Holt, *How Brands Become Icons: The Principles of Cultural Branding* (Boston, Mass: Harvard Business Review Press, 2004).

⁴⁵¹ Hans Bernhard, interview by author, February 16, 2016. Bernhard was one of the founding members of etoy (known as agent.BRAINHARD), but he left the group just before *Toywar* began. He currently works with partner lizvix as Ubermorgen, a European artist duo that mixes installation, net art, video, photography, software art, and performance; see Hans Bernhard and lizvix, “Ubermorgen,” accessed December 28, 2017, <http://ubermorgen.com/>. Ubermorgen formed in 1999, just after Bernhard left etoy, and first gained notoriety in 2000 with *Vote Auction*, a project in which they convinced quite a few journalists that they were selling votes in the US election, and which they revived again in 2006. Although *Vote Auction* was not focused specifically on the way information circulates on the web, like GATT.org and *Toywar* it explores how computer networks can be used to amplify individual voices and manipulate the media entities that define contemporary publicity and thus control access to the means of public speech. A brief history of *Vote Auction* is available at Ubermorgen, “Voteauction,” 2006, <http://www.vote-auction.net/>.

consumer identification strategies used by companies like Sony and Nike, some of the most successful representatives of branding as a cultural act.⁴⁵²

They did not, however, start off focused on the internet as the site of their cultural branding project. etoy formed in mid-1994, and like many artists they began using computer networks as a tool for communication and collaboration across distance, since their members lived in different countries. At this point, they were still experimenting with music and television as venues for the distribution of their brand. However, they were soon exposed to the graphical interfaces and more open-ended communication platforms of the web, and realized this could give them access to a much larger audience. They quickly built their first website, using a free service to host it, and, true to the persona they were cultivating, threw a big launch party.⁴⁵³ Then after hearing a speech by John Perry Barlow describing the freedoms of life in cyberspace, etoy

⁴⁵² Bernhard emphasizes that etoy's "marketing/propaganda" tactics were intended to be neither parody nor provocation, but rather the artistic procedures that shaped their practice. Bernhard, interview. Quite a bit more detail on how etoy formed and developed their corporate style can be found in Adam Wishart and Regula Bochsler, *Leaving Reality Behind: Inside the Battle for the Soul of the Internet*, New Ed (London: Fourth Estate, 2003), 5–47. This thoroughly researched book, published soon after the conclusion of etoy's legal battle with eToys, Inc., is by far the most definitive source on the history of etoy, the group's motivations and strategies, and the events leading up to *Toywar*, in part because the members of the group who were involved in the conflict have long stopped giving interviews or offering access to their own archives. (As noted, while founding etoy member Hans Bernhard is still willing to speak with researchers, he was not part of *Toywar*.) However, it is also important to note that, in private conversations, some critics and art historians have reflected that *Toywar* itself might be best understood as part of net art's urge to construct narratives that blur fact and fiction. Like ®™ark, etoy has long made being unreliable narrators part of their practice, and they ultimately disavowed this book in their broader effort to reshape the story of the court case, whose very existence they occasionally (but not consistently) deny. In spite of these denials, I have been able to personally verify many of the book's facts through my own research, and other participants in *Toywar*, including members of ®™ark (who will soon become central to the story), have indicated that its version of the events hews very closely to their own experience, thus making me fairly confident in the text as a factual source. Wherever possible I will still try to offer primary sources to complement citations of *Leaving Reality Behind*, keeping in mind that direct access to most of etoy was not available.

⁴⁵³ Partying was not only a significant part of etoy members' social context before they started working together, it continued to be a central part of their group identity—Bernhard describes etoy as an experiment in drugs and technology as much as the "social/cultist" aspect of the lifestyle immersion project. Bernhard, interview. Speaking to Wishart and Bochsler, another founding member of etoy observed that, "At the core of etoy are the computer and LSD." Wishart and Bochsler, *Leaving Reality Behind*, 37. With or without psychedelics, they embraced partying as part of their cultivated "bad boys" image, becoming somewhat notorious for their excessive celebrations at the 1996 Ars Electronica festival. Wishart and Bochsler, 111.

decided to move fully onto the web. They felt that the abstraction of virtual space made it the perfect place to cultivate a brand without a product, and that the perceived lawlessness of this electronic frontier would help them promote their rebellious, alternative take on the corporate lifestyle. So etoy set out to become “the First Street Gang of the Information Super Data Highway” by building themselves a “parallel world” online.⁴⁵⁴ One of the early versions of their website featured rooms (or “tanks”) in which visitors could explore the most important parts of this new world, like the office, gallery, disco, and underground (Figure 7.1). And the main page celebrated the etoy lifestyle’s exciting mobility, detached as it was from the boring anchor of physical space, by promoting their virtual world as the home of the “ELECTRONIC LIFESTYLE FOR THE NEW TRAVELLING GENERATION - SEX / ACTION / BEAUTY / INTELLIGENCE.”⁴⁵⁵ As they were constructing this website, etoy realized they would also need their own domain name to effectively stake out their brand’s identity on the web. And so in the fall of 1995, they registered www.eto.com—dot com, of course, because dot coms were where corporations lived.⁴⁵⁶

⁴⁵⁴ Wishart and Bochsler, *Leaving Reality Behind*, 55.

⁴⁵⁵ Although their website has changed iterations many times, part of this early version of [eto.com](http://www.eto.com), featuring the *eto.TANKSYSTEM* with which they constructed their virtual “parallel world” (Wishart and Bochsler, 56) can be viewed at etoy, “Etoy.INTERNET-TANK-NETWORK (Wayback Machine Archive),” November 4, 1996, <https://web.archive.org/web/19961104074842/http://www.eto.com:80/>.

⁴⁵⁶ etoy’s exposure to the web, the movement of their practice onto computer networks, and the first registration of their domain is outlined in Wishart and Bochsler, *Leaving Reality Behind*, 33–55. Although today possible domain name extensions have proliferated, in 1995 .com was one of only eight possible general top level domains (gTLDs), including .com, .net, and .org, which could have second-level (like [eto.com](http://www.eto.com)) domains registered to them by anyone, and .edu, .gov, .arpa, .int, and .mil, which were restricted to specific types of users. There were also two country code top level domains (ccTLDs) at this point. The history of top level domains, including why they were first developed in the 1980s as a file directory system and the process through which they have been expanded in subsequent years, is available as a downloadable PDF at ICANN, “III. History of the New GTLD Program1,” ICANN.org, November 30, 2016, <https://community.icann.org/download/attachments/64063218/III.HistoryoftheNewgTLDProgram.pdf?version=1&modificationDate=1484834092000&api=v2>.

As noted above, this approach to computer networks was in many ways opposed to that of ®™Mark and other artist activist groups. Rather than resisting the incursion of corporate culture into computer networks, etoy approached the internet as the perfect site for the definition and promotion of their own hyper-exaggerated form of corporate culture. In this embrace of the association between economic and personal freedom promoted by the concept of the electronic frontier, etoy's practice framed the web as the realization of what Warner has described as the "mass-cultural public sphere." The discourses of such a public sphere are branding and consumer choice, and they are circulated through forms of mass publicity like products, magazines, or, in etoy's case, websites. By using their site to promote the "ELECTRONIC LIFESTYLE FOR THE NEW TRAVELLING GENERATION" that they were also attempting to embody, etoy framed their own brand as a form of mass culture available for consumers' collective identification. Their domain thus became a representation of that brand, and the contents of the website a form of mass publicity through which the brand is circulated in the discourses of the mass-cultural digital public sphere.

Four years elapsed between when etoy bought their domain name (1995) and when eToys sued them for control over it. Although eToys, Inc. reached out to etoy in 1997 to inquire about purchasing www.etoys.com as part of the process of consolidating domains that resembled the company's new trademark, the artists simply ignored the inquiry and both groups moved on. During those years, etoy continued to treat the internet as an opportunity to "leave reality behind" and construct their own vision of a purely lifestyle-oriented corporate identity.⁴⁵⁷ And

⁴⁵⁷ The group settled on "leaving reality behind" as their slogan, and on the most recent version of their website—etoy is effectively disbanded, but they maintain the domain—they describe themselves as "a corporate sculpture...that has no other purpose than cultural value." etoy, [etoys.corporation](http://etoys.com/), accessed November 8, 2017, <http://etoys.com/>.

their development of this brand identity was happening alongside the growth of the new, internet-based economy described in the preceding chapter. As noted in chapter one, the first computer networks were managed by various US government agencies. Through the end of the 1980s those agencies forbade commercial activity on the internet backbone. Then in 1991, internet acceptable use policies were updated to allow commercial traffic, and in 1993 the government began to hand over the management of the internet's infrastructure to private corporations, which is how it is managed today.⁴⁵⁸ Thus when the first widely used web browser arrived late the following year, it not only initiated rapid growth in the number of people using the internet, it also sparked significant commercial investment in this new market alongside the proliferation of internet-based art practices, including etoy's own forays onto the web.

Meanwhile, etoy's use of the web to bring attention to their practice (and thereby promote their brand) was working, at least among the emerging group of net artists. One of their projects, the *Digital Hijack* (1996), earned etoy a fair amount of attention and notoriety, including an award at the 1996 Ars Electronica festival.⁴⁵⁹ They were able to leverage this into invitations for artist residencies at multiple international venues, and in 1997 two members of the group arrived at the Art Center College of Design in California. The timing was perfect—etoy had just decided to start producing etoy.SHARES as the natural corporate solution to having a (non)product to sell to an interested art collector, and now they found themselves in California,

⁴⁵⁸ The National Science Foundation outlines the history of their involvement in the early internet, changes to the NSFNET acceptable use policy, and the beginnings of privatization across the following articles: National Science Foundation, "The Internet, Nifty 50," NSF - National Science Foundation, April 2000, <https://www.nsf.gov/about/history/nifty50/theinternet.jsp>. National Science Foundation, "A Brief History of NSF and the Internet."

⁴⁵⁹ A brief description of etoy's *Digital Hijack* is available at etoy, "Projects: Digital Hijack (1996)," etoy.corporation, accessed February 10, 2018, <http://www.eto.com/projects/hijack/>.

the epicenter of the new economy that was fueling rapid growth in stock markets. Inspired by their surroundings, etoy rewrote their business plan to structure themselves after the dot coms that were the primary engine of this economy. They also rebuilt their website to feature the etoy.SHARES, and had an “IPO” in 1998 in which they presented the first sales of those shares (Figure 7.2 & Figure 7.3).⁴⁶⁰ In many ways, this moment represented etoy’s apotheosis. They had formed near the beginning of the web with the goal of transforming themselves into the ultimate corporate lifestyle brand, one that could achieve success by marketing nothing but itself, and latched onto computer networks as the best platform to pursue this. Now, after growing alongside the rise of e-commerce, etoy came to its center in California and encountered the dot com economy. With its extreme valuation of a company’s popularity over its profits, this economy provided the perfect model for reducing a corporation to the narrative abstraction of the brand and still having something to sell: your shares. And in etoy’s case, those shares represented nothing but a piece of that brand identity.⁴⁶¹ Or, as the artists who liked to claim they

⁴⁶⁰ The Wayback Machine’s most complete archive of the etoy.SHARES page is available at etoy, “Etoy.SHARES (Wayback Machine Archive),” etoy.corporation, May 8, 1999, <https://web.archive.org/web/19990508125850/http://www.eto.com:80/SHARE/>. The current etoy history website offers a summary of the etoy.corporation and etoy.SHARES at etoy, “History / Share Certificates,” etoy.corporation, 2010, <http://history.eto.com/index.html>.

⁴⁶¹ Details of etoy’s time in California and their decision to rewrite their business plan to model it after an e-commerce company, as well as the beginning of the group’s dissolution, are available in Wishart and Bochsler, *Leaving Reality Behind*, 144–73. That etoy did not seriously consider e-commerce businesses as a specific corporate model until they came to California, in spite of its obvious fit with their approach, may have had something to do with the fact that the group’s members were all living and working in Europe. Speaking at a conference in December, 1999 (unrelated to *Toywar*, but just as it was heating up), artist Auriea Harvey reflected on her six months spent living in Europe after she had already developed her internet-based practice in the United States. Harvey observed that there was still a lot less of a “unified vision” of the internet as a commercial platform in Europe at the time. This was already a year after etoy came to California, and Harvey felt like the environment of the network in Europe was still being shaped more by artists and other cultural actors than e-commerce. Walker Art Center and Steve Dietz, *Emergence and Convergence Conference, New Media Panel Discussion (Tape 2 of 3)* (Minneapolis, Minn, 1999). If the members of etoy had a similar experience, this would suggest that they did not arrive at the dot com economy as the ideal corporate model for their project until they came to the US because e-commerce simply would not have been as salient to them while they were living and working in Europe.

were “hacking reality” are credited with observing: “...capitalism accelerated by computers allows fiction to overtake reality.”⁴⁶² This was thus the perfect environment for circulating the discourses of brand identification in the production of a mass-cultural public sphere.

However, etoy started to come apart soon after their time in California. By the summer of 1999 the remaining members of the group were considering ending the whole experiment when one of them recalled the earlier contact from eToys. They decided to reach out to see if they could earn some revenue by convincing the toy company to advertise on etoy.com. It was this new contact that reminded eToys that there was one domain that remained out of their control that was similar enough to their trademarked name to accidentally capture some of their web traffic. Moreover, the strange, expletive-laden, and occasionally sexually explicit content that eToys found on etoy.com seemed like it could cause particularly worrying confusion among customers looking for a toy retailing website whose reputation depended on being child-friendly. Facing their first holiday shopping season after their high-profile IPO and concerned about any possible loose ends, eToys began to engage in financial negotiations with etoy in an effort to purchase the domain.⁴⁶³ But even though the group was on the verge of collapse, the artists had built their entire practice around the brand identity that was represented by that domain, and they felt they would “lose face” if they undersold it. After receiving a pledge of support from several

⁴⁶² Douglas Rushkoff, an NPR commentator who became part of etoy’s advisory board after they were sued, credits this quote to etoy in Douglas Rushkoff, “Dec. 20 Conference: A Statement by Douglas Rushkoff,” RTMark Rhizome Archive, December 20, 1999, <http://archive.rhizome.org/artbase/1693/etoyrushkoff.html>.

⁴⁶³ Likely because it occurred near the peak of the dot com stock market bubble, the eToys, Inc. initial public offering (IPO) attracted a lot of breathless coverage from high-profile news organizations. A few examples: CNN, “EToys Raises IPO Price Target,” CNN Money, May 19, 1999, <http://money.cnn.com/1999/05/19/technology/etoys/>. George Anders and Ann Grimes, “EToys’ Shares Nearly Quadruple, Outstripping Rival Toys ‘R’ Us,” *Wall Street Journal*, May 21, 1999, sec. Tech Center, <http://www.wsj.com/articles/SB927219879724795777>. Joanna Glasner, “EToys’ IPO Rocket Ride,” *WIRED*, May 20, 1999, <https://www.wired.com/1999/05/etoys-ipo-rocket-ride/>.

longtime allies, etoy decided to refuse eToys' offers. So on September 10, 1999, California-based eToys, Inc. filed an intellectual property lawsuit against them in the Los Angeles Superior Court, setting off the chain of events that eventually became known as *Toywar*.⁴⁶⁴

During the first couple of months of the case, etoy's response was relatively muted. They were engaged in legal negotiations, which included continuing to refuse purchase offers from eToys, so they needed to keep a fairly low profile outside of the courtroom. But they also anticipated the possibility that they might be able to leverage media coverage and the publicity channels of the web in support of their cause, so they set about building up their email lists and cultivating a support network. In October, etoy asked Wolfgang Staehle, manager of THE THING, to register and host the domain www.toywar.com for them. Although they would retain control of the website throughout the duration of the lawsuit, etoy imagined using the domain for any "hactivist" activities they might undertake in their own defense, and therefore needed to maintain the appearance of lawful distance from it.⁴⁶⁵ Then the following month, etoy started

⁴⁶⁴ Details of the end of etoy's time in California and the departure of two founding members can be found in Wishart and Bochsler, *Leaving Reality Behind*, 168–73. A discussion of etoy's decision to contact eToys, Inc. and the subsequent financial negotiations over the etoy.com domain can be found in Wishart and Bochsler, 209–16. Records of the filing of the original lawsuit in LA Superior Court, along with other court filings and hearings, can be found in the case summary, which is available via the LA Superior Court website search function; look for eToys, Inc vs. Martin Kubeli, No. BC216606 (The Superior Court of California County of Los Angeles February 16, 2000). The lawsuit itself was relatively aggressive for these types of claims. It accused etoy of infringing upon and diluting eToys' trademarked name, requested a court order stopping etoy from using the website at www.etoy.com, and demanded punitive damages for unfair competition. By specifically invoking the Unfair Competition Act of the Business and Professional Code of California, eToys' attorneys were able to recast the artists' corporate modeling as a form of business fraud, including (but not limited to) their sales of the etoy.SHARES. More details on this broad-based legal attack, presumably intended to try to more quickly scare etoy into submission on the core domain issue, are available at Wishart and Bochsler, *Leaving Reality Behind*, 216–19.

⁴⁶⁵ Staehle and THE THING contributor Walter Palmetshofer verified their registration of toywar.com and noted that they ended up dedicating an entire server at THE THING to it in Megan Driscoll to Wolfgang Staehle, "Quick Toywar.Com Questions," September 21, 2017. "Hactivism" is a term that refers loosely to using hacking techniques—some legal, most not—in pursuit of a goal separate from the hacking itself, typically a social or political goal, e.g. hacking a company's website in order to make it more difficult for that company to pursue a lawsuit rather than hacking the website in the interest of monetary gain for the hacker herself. A detailed history of the practice is available in Alexandra Whitney Samuel, "Hactivism and the Future of Political Participation"

sending out press releases and mass emails, which were quickly circulated among internet art and culture email lists and began to generate discussions about the lawsuit and what a defense effort might look like. Although the performances, websites, and other direct protest actions of *Toywar* did not ramp up for several more weeks, these first forays into building an anti-eToys campaign are important. Like GATT.org, *Toywar* occurred as much in the public discourses surrounding it as it did in any of the specific actions associated with the project. The work thus began with these communications, and it is important to note that in spite of their corporate posturing, etoy did talk about fighting with “US online commerce” and “american capital” in their initial emails. In fact, throughout the litigation etoy’s communications oscillated between describing the battle as corporation vs. corporation and as corporation vs. net art; they did not settle on the corporation vs. corporation narrative until after the lawsuit was dropped. But they did attempt to frame the issue early on as a corporation being afraid of “those bad guys from europe,” not an artist group being threatened by a large corporation.⁴⁶⁶

It did not take long, however, for etoy to lose control of the narrative. As one of the members of etoy recalled, “. . .after our mail, the case became public; it was not a private affair any more.”⁴⁶⁷ And in the first official press coverage of the suit, Felix Stalder, a media scholar and moderator on the nettime email list, wrote for *Telepolis* that, “The outcome of this battle will

(Harvard University, 2004). In the 1990s, many net artists, including etoy, used the term loosely to refer to their more political activities, although by 1999 the phrase and the strategies to which it referred were already coming under some fire from critics who felt that hacktivism did little to harm its targets, and instead tended to reinforce the popular narrative of the valiant internet company out to save the world economy and the hacker villains determined to oppose them. Medosch, “Hacktivismus.”

⁴⁶⁶ The archives of the etoy press releases and emails are incomplete and not collected in one place, but one of the early messages on the occasion of a hearing in the case, from which the dissertation has drawn the quotes in this paragraph, is available at etoy, “Domain Name War 1.0,” etoy.corporation, November 8, 1999, <http://www.etoys.com/de/blog/archive/1999/08/11/domain-name-war-1-0.html>.

⁴⁶⁷ agent.GRAMAZIO (etoy member) in Wishart and Bochsler, *Leaving Reality Behind*, 226.

be indicative of the balance of power between commercial and non-commercial interests online.”⁴⁶⁸ Stalder’s characterization of the case reflects how high the stakes were for many of the other net artists and activists who got involved.⁴⁶⁹ As art historian Julian Stallabrass has pointed out, it was not just etoy but the entire practice of net art that grew up alongside the new economy, and ®™ark was not alone in their resistance to the commercialization of the computer networks on which they had built their practices.⁴⁷⁰ As a result, by the end of the 1990s the playful and experimental atmosphere that had once nurtured net art turned distinctly more combative as groups like ®™ark began to fight back.⁴⁷¹ This, as noted in the preceding chapter,

⁴⁶⁸ Felix Stalder, “Fences in Cyberspace,” *Telepolis*, November 17, 1999, <https://www.heise.de/tp/features/Fences-in-Cyberspace-3444782.html>.

⁴⁶⁹ etoy’s own press releases about the lawsuit continued to mock the toy company’s child-friendly sensibilities and inability to contain their own business, but never challenging the underlying structures of e-commerce themselves. See, for example, their announcement after the first hearing: etoy, “First Hearing in the Case EToys Inc. vs. Etoy,” etoy.HISTORY, November 8, 1999, <http://history.etoym.com/stories/entries/38/>. However, this message immediately got transformed when it was forwarded to net art and culture discussion groups. For example, when THE THING submitted the announcement of the hearings to the nettime list, they added their own editorial points, announcing that they were going to “discredit those suckers who think they can just buy or destroy everything that’s in their way,” and lamenting the fact that, “A little more each day the market is taking control over our life.” THE THING, “<nettime> THE THING Newsletter 11/05/99,” November 5, 1999, <https://nettime.org/Lists-Archives/nettime-l-9911/msg00020.html>. etoy’s own messaging continued to waver back and forth between these two narratives until the end; their victory email declared that “THE NET IS NOT YET IN THE HANDS OF THE E-COMMERCE GIANTS,” at the same time that it reminded readers of their own corporate goals: “NOBODY INVESTS TO LOSE MONEY! NOT EVEN MEDIA ARTISTS...” etoy, “VICTORY*VICTORY*VICTORY*VICTORY*VICTORY,” etoy.corporation, January 26, 2000, <http://www.etoym.com/de/blog/archive/2000/01/26/victory-victory-victory-victory-victory.html>. However, as noted at the end of this chapter, they considered countersuing after *Toywar* was over in an effort to reestablish the eToys vs. etoy corporation storyline.

⁴⁷⁰ Julian Stallabrass, *Internet Art: The Online Clash of Culture and Commerce* (London: Tate, 2003), 76. Stallabrass’s text offers a survey of net art that responds in one way or another to the commercial environment, which he defines as both commerce on computer networks and commerce in the offline art market. He touches on ®™ark and etoy’s practices, including *Toywar*, but also examines everything from web shopping parodies to hyperlink-based alternative narratives through the lens of this commercial relationship. The works in the text that respond most specifically to the new economy phenomenon under discussion here can be found in chapters six and seven, “The Rise of Commerce” and “Politics and Art.”

⁴⁷¹ In an interview, art historian and curator Christiane Paul recalled that while many net artists had already started to worry about the commercialization of the internet by the beginning of the 1990s, there was still a general “atmosphere of excitement, experimentation, and play” in net art over the course of the decade, but that net art “started to become more aggressive in the 2000s in response to a more aggressive environment.” Christiane Paul, interview by author, January 20, 2016.

was the conflict-oriented model of publicity on computer networks, wherein the web's public speech platforms became a site of struggle for self-determination. And it was through this model that *Toywar* was reframed as a battle over speech rights in the digital public sphere.

At the end of November there was a hearing to determine whether the judge in the case would grant eToys a preliminary injunction, which would require etoy.com's hosting company to temporarily shut down the website pending a final decision in the lawsuit.⁴⁷² The artists lost, and news of this defeat began to circulate on email lists and in the press.⁴⁷³ The story quickly reached Slashdot, a popular web forum that brought the case in front of a much larger audience than had been reached by the net art groups. Most of the Slashdot readers were sympathetic to etoy regardless of their interest in net art, likely because they felt it had larger repercussions for individual rights in the digital public sphere. The post's author tagged it to the "censorship" and "your rights online" forum categories, and commenters responded by calling for a "digital haven" that could escape the restrictive influence of politicians and "greedy corporations"

⁴⁷² I will only mention the moments in the legal case that most significantly affected the events of *Toywar*. *Leaving Reality Behind* offers an excellent, detailed analysis of the entire process, and each specific hearing and decision that occurred in the Los Angeles Superior Court can be traced in *eToys, Inc vs. Martin Kubeli*. Early in the case the artists' lawyer tried unsuccessfully to get it moved to a federal court, whose judge would be more likely to understand the nuances of trademark law, which were actually more in etoy's favor. Documentation of that case, and its remand back to the Los Angeles Superior Court, is available at *eToys, Inc vs. Martin Kubeli, et al*, No. 2:99-cv-10351-ER-CW (United States District Court Central District of California (Western Division - Los Angeles) November 12, 1999).

⁴⁷³ Claire Barliant, "E-Toy Story," *Village Voice*, November 30, 1999, sec. News & Politics, <https://www.villagevoice.com/1999/11/30/e-toy-story/>. *Leaving Reality Behind* reports that Claire Barliant was the only mainstream journalist with whom etoy maintained close contact in the early months of the lawsuit, and that she was in attendance at many of the hearings. Wishart and Bochsler, *Leaving Reality Behind*, 241. etoy's own account of the injunction is available at etoy, "Etoy.Com SHOT DOWN BY US COURT," etoy.corporation, December 2, 1999, <http://www.etoys.com/de/blog/archive/1999/02/12/etoys-com-shot-down-by-us-court.html>. Note that the dates on this are slightly off; court records show that the injunction was, as Barliant notes, granted on November 29. It seems likely that etoy simply waited a couple of days to upload their email response to their blog.

alike.⁴⁷⁴ Then ten days after eToys was awarded the injunction, etoy.com's hosting company, Network Solutions, finally took down the website, but they went much further than the legal order had required. Rather than simply close down access to the specific files that made up the site seen by visitors to www.etoys.com, as the judge had dictated, Network Solutions shut down the entire domain, thereby depriving etoy members of access to all of its other services, including their email.⁴⁷⁵ This shocked etoy and further inflamed their supporters, reinforcing the perception that such lawsuits threatened the rights of anyone who might wish to retain the right to speak freely using the domains they legally owned.

At the same time that news of the injunction was circulating on Slashdot, a European academic and internet art enthusiast named Reinhold Grether learned about it on an email list and was also inspired to act. He sent out a brief email to the Rhizome net art list calling for protests against eToys, and when he received a rapid and positive response, he followed that up with a second message outlining more specific tactics.⁴⁷⁶ Grether is sometimes credited with launching the net art anti-eToys campaign with these messages, but as noted this is not quite accurate. etoy had started gathering support through their own mass mailings, and this had already sparked some conversation among other artists about finding a way to fight back.⁴⁷⁷

⁴⁷⁴ Jamie McCarthy, "No EToy for Christmas," Slashdot, December 3, 1999, <http://yro.slashdot.org/story/99/12/01/2156208/no-etoys-for-christmas>. Several Slashdot commenters even decided to start their own protest campaign, posting email addresses and company fax and phone numbers for eToys, and encouraging forum users to register their displeasure.

⁴⁷⁵ Wishart and Bochsler, *Leaving Reality Behind*, 260–61.

⁴⁷⁶ Records from the Rhizome email list are unavailable, but soon after the lawsuit was over Grether himself collected his messages to the list. That page is no longer maintained, but it has been archived at Reinhold Grether, "ETOY(S) Rhizome Emails (Wayback Machine Archive)," November 16, 2000, <https://web.archive.org/web/20001116205900/http://www.hygrid.de/etoynhiz.html>.

⁴⁷⁷ In different retellings of *Toywar*, Grether's role ranges from crucial catalyst to minor, but highly vocal, player. He offers his own version of his involvement in the events in Reinhold Grether, "How the Etoy Campaign Was Won: An Agent's Report," *Leonardo* 33, no. 4 (2000): 321–24.

However, Grether did play the important role of getting the attention of @TMark.⁴⁷⁸ They had had some previous, unrelated contact with etoy, but during the first months of the lawsuit @TMark was distracted by their work on GATT.org.⁴⁷⁹ The WTO protests were over by the time Grether reached out to @TMark in early December, so they decided to give their attention to this fight, which became a key turning point in *Toywar*. Although it was etoy who coined the word “toywar” with their purchase of the toywar.com domain, it was actually @TMark’s subsequent efforts to coordinate the ongoing actions and launch their own public relations and protest campaign that make up the bulk of the activities that are known, collectively, as *Toywar*.⁴⁸⁰ However, @TMark and etoy never worked directly with each other on *Toywar*.⁴⁸¹ etoy was trying

⁴⁷⁸ In his above essay, Grether reports being “hijacked” by @TMark (in the most friendly way possible). In an interview, Vamos recalled that Grether reached out directly to him and Servin, and soon began actively coordinating the online efforts alongside Servin, with Vamos primarily playing the role of distributing press releases and participating in press conference performances. Vamos, interview.

⁴⁷⁹ In fact, the proximity of the eToys lawsuit against etoy to the WTO protests, which, as noted above, were viewed as a crucial turning point in the adoption of computer networks as a tool for activism, led one journalist to argue that “It’s a fight that should have Net-conscious people at least as fired up as the mobs in Seattle were last week, since it could define the rules of engagement between corporations and creative types for years to come.” Steve Kettman, “Toying with Domain Names,” *WIRED*, December 11, 1999, <https://www.wired.com/1999/12/toying-with-domain-names/>.

⁴⁸⁰ Groups from the 1980s and early 1990s, like Gran Fury and the Guerrilla Girls, offer a model for thinking about the intersection of artistic procedures and political protests as itself an artistic practice, which has influenced art history’s understanding of groups like @TMark and the Electronic Disturbance Theater (discussed below) as artist groups, and their projects as internet-based artworks. *Toywar*, however, occupies a more ambiguous position between protest and artwork because it refers not to a single action, nor even a set of specific actions, but rather a general response to a conflict that originated from the networks of people that had built up around net art. Ultimately, the word *Toywar* has come to be understood by historians of net art to refer to a performance because all of its loosely affiliated actions center around the use of computer networks, and in particular the web, as a platform to act out the conflict between net art and e-commerce that motivated the practices of many of the net artists involved.

⁴⁸¹ Like all of their press releases, the @TMark press releases associated with *Toywar*/the etoy fund have a paragraph near the end explaining what @TMark is, and in these releases the paragraph always begins with “RTMark, which is in no way associated with etoy...” Links to all of the releases are available on the @TMark general etoy fund information page, @TMark, “The Etoy Fund,” RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/etoymain.html>.

to maintain their distance from the idea that this battle was connected to a larger activist cause.⁴⁸² But ®™Mark saw their own response to the lawsuit as a chance to bring attention to both the specific practice of reverse domain hijacking and the larger threat posed by commercial interests online. The two groups' parallel efforts thus mirrored the tension between their two visions of the digital public sphere.

Like many of their projects, ®™Mark launched what they were calling the “etoym fund” with a press release, which set off another small wave of press coverage.⁴⁸³ Grether had mocked eToys by describing the anti-eToys efforts he was calling for as a “new toy.”⁴⁸⁴ ®™Mark similarly turned the spirit of play against the toy company by announcing that they were building “a multi-user Internet game whose goal is to damage (or possibly even destroy)” eToys. The “game” was not a single, centralized activity, but rather a list of projects that anyone could undertake to help sabotage the company, inspired by efforts that had already emerged as well as ®™Mark's own

⁴⁸² In a conversation with the authors of *Leaving Reality Behind*, members of etoy reported being uncomfortable with ®™Mark's activist stance when they first met, over a year before the *Toywar* began. Wishart and Bochsler, *Leaving Reality Behind*, 162–63. Hans Bernhard made similar remarks to me when reflecting on etoy and ®™Mark's relationship in the years before *Toywar*. During *Toywar*, etoy was not always consistent with this message—the general enthusiasm among net activists over fighting back against eToys seems to have occasionally infected the remaining members of etoy, who celebrated their eventual victory as proof that “THE NET IS NOT YET IN THE HANDS OF THE E-COMMERCE GIANTS.” (etoym, “VICTORY*VICTORY*VICTORY*VICTORY*VICTORY.”) To Bernhard, a former member on the outside looking in, this appeared to be a capitulation of their former position: “We used to be the bad guys, and suddenly we were part of the good guys.” Bernhard, interview. But after the lawsuit ended, etoy filed a countersuit against eToys as part of their *ex post facto* attempt to shift the narrative of *Toywar* away from anti-corporate activism and back into the realm of competing corporate brands. Wishart and Bochsler, *Leaving Reality Behind*, 303.

⁴⁸³ In keeping with their mock mutual fund structure, many of ®™Mark's projects in the late 1990s were named “funds,” which was exceptionally fitting in this case given etoy's recent turn to offering “shares” as part of their own corporate model. Some of the coverage of the lawsuit that appears to have resulted from this first press release includes: Matthew Mirapaul, “eToys Lawsuit Is No Fun for Artist Group,” *The New York Times on the Web*, December 9, 1999, sec. Technology Cybertimes Arts@Large, <http://partners.nytimes.com/library/tech/99/12/cyber/artsatlarge/09artsatlarge.html>. Kettman, “Toying with Domain Names.” Felix Stalder, “The Toy War Escalates,” *Telepolis*, December 13, 1999, <https://www.heise.de/tp/features/The-Toy-War-Escalates-3444963.html>.

⁴⁸⁴ Grether, “ETOY(S) Rhizome Emails (Wayback Machine Archive).”

upcoming plans. These range from using online investor forums to try to persuade individuals to divest from eToys to marshaling in-person protests at the company's California headquarters.⁴⁸⁵ Meanwhile, although etoy was not participating in ®™ark's game, they continued their own email and press communications, and announced the formation of a high-profile advisory board to advocate for their position. The board included Infoseek Japan chairman and longtime etoy supporter Joichi Ito, National Public Radio reporter Douglas Rushkoff, and Electronic Frontier Foundation co-founder John Perry Barlow, who declared that "This is the point where people begin to realize there is a difference between the Internet industry and the Internet community, and the Internet community needs to bind itself together and find a common voice."⁴⁸⁶ Barlow thus followed Stalder's initial article on the suit to frame it as a battle between members of the internet's public and those commercial forces that would threaten their right to speak.

With ®™ark involved *Toywar* rapidly escalated. The week that etoy announced their new advisory board was also when net activists undertook one of the most high profile actions in the campaign: a "virtual sit in," using an application called FloodNet that was being hosted on

⁴⁸⁵ ®™ark, "New Internet 'Game' Designed to Destroy Etoys.Com," RTMark Rhizome Archive, December 12, 1999, <http://archive.rhizome.org/artbase/1693/etoypr.html>. The list of suggested projects is available at ®™ark, "The Etoy Fund Projects," RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/etoyfund.html>.

⁴⁸⁶ Barlow in Steve Kettmann, "Be Grateful for Etoy," *WIRED*, December 17, 1999, <https://www.wired.com/1999/12/be-grateful-for-etoy/>. The fuzziness of the relationship between internet culture and internet commerce is even evident within the small etoy board. Ito was chairman of an internet search company owned by a large, private corporation. But since the early 1990s, Rushkoff had been a prominent advocate for the internet's egalitarian, anti-elite (and anti-corporate) potential. Meanwhile, in his own advocacy for the "independence of cyberspace," Barlow was frequently cited by the aforementioned pro-business, anti-regulation cyberlibertarians. However, as his declarations in support of "Internet community" over "Internet industry" reveal, Barlow was genuinely committed to an equitable model of the digital public sphere in which commercial interests would not be allowed to overwhelm individual interests. And as his work with the Electronic Frontier Foundation demonstrates, Barlow remained committed to that model for the rest of his life. Cindy Cohn, "John Perry Barlow, Internet Pioneer, 1947-2018," Electronic Frontier Foundation, February 7, 2018, <https://www.eff.org/deeplinks/2018/02/john-perry-barlow-internet-pioneer-1947-2018>.

THE THING's web servers and that went on intermittently for two days.⁴⁸⁷ FloodNet was an “electronic civil disobedience” tool developed by Ricardo Dominguez and the Electronic Disturbance Theater (EDT) in 1997 and used by several other artist activist groups including, as noted in the preceding chapter, in the 1999 WTO protests.⁴⁸⁸ It allowed users to send requests to a remote web server, similar to the requests that are sent when a web browser tries to visit a website. When multiple people used FloodNet at the same time, these requests were coordinated into a collective action that slowed down the server on the receiving end and, in extreme cases, caused the site to stop loading. The EDT likened using FloodNet to participating in a sit-in because it brought the application's individual users together to virtually block access to a website, a metaphor for the way that human bodies can, together, physically block access to a building. The FloodNet action attracted some negative press that accused the perpetrators of being malicious hackers who were not actually defending free speech, but simply going after the vulnerable industries of the new economy.⁴⁸⁹ FloodNet did closely resemble an aggressive

⁴⁸⁷ Between December 15 and December 17, 1999, Dominguez coordinated a FloodNet attack on the etoys.com web server for 15 minutes roughly every two hours. This continued until THE THING server's internet connection provider threatened to shut them down entirely. Given that there were over 200 websites being hosted by THE THING, many of which belonged to other net artists, Staehle and Dominguez decided to stop running FloodNet so that they all could be restored. For technical details of the FloodNet attack against eToys, as well as the company's internal struggles as it attempted to fight back, see Wishart and Bochsler, *Leaving Reality Behind*, 266–71.

⁴⁸⁸ Rhizome, “Electronic Disturbance Theater's FloodNet,” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/floodnet>. Dominguez had also been a member of the Critical Art Ensemble who, as noted above, coined the phrase “electronic civil disobedience” to call for exactly this kind of effort, protest actions that shift their target from the physical world to the virtual world in order to attack the information flows to and from organizations. Dominguez outlines the history of 1990s arts activism online and his own role in it in Ash Eliza Smith, “Zapatismo in Cyberspace: An Interview with Ricardo Dominguez,” *Rhizome* (blog), January 26, 2016, <http://rhizome.org/editorial/2016/jan/26/interview-with-ricardo-dominguez/>.

⁴⁸⁹ Ellen Messmer, “EToys Attacks Show Need for Strong Web Defenses (Wayback Machine CNN Archive),” CNN.com, December 21, 1999, <https://web.archive.org/web/20000302180318/http://www.cnn.com/1999/TECH/computing/12/21/etoys.attack.idg/index.html>. In reference to a follow up article a few days later from CNN, @TMark wryly observed that it “shows the hysteria factor hard at work.” @TMark, “Articles about EToys vs. Etoy,” RTMark Rhizome Archive, 2002, <http://archive.rhizome.org/artbase/1693/etoypress.html>.

strategy called distributed denial-of-service (DDoS), which can overwhelm web servers with thousands of rapid requests.⁴⁹⁰ However, the EDT maintained that FloodNet was an activist artwork and not a hacking tool because of its dependence on individual actors rather than an automated script. Dominguez argued that this made FloodNet a nonviolent act of online “information war” rather than a simple act of destruction.⁴⁹¹ In other words, FloodNet was an act of speech, and another use of the network as a medium for publicity in the struggle to produce a self-determined digital public sphere.

A few days after Dominguez shut down FloodNet, @TMark held a “press conference” at the Museum of Modern Art in New York.⁴⁹² They invited a slew of lecturers, including advocates for etoy (whose members were not in attendance), groups who had been organizing their own anti-eToys actions, representatives of interested net art organizations like Rhizome, and an editor at the journal *Leonardo*, which was also being threatened over its domain.⁴⁹³

⁴⁹⁰ DDoS attacks continue to make the news to this day. In October 2016, one of the largest such attacks ever recorded targeted Dyn, a company that controls a significant amount of DNS infrastructure, thereby temporarily shutting down a huge swath of popular websites. Nicky Woolf, “DDoS Attack That Disrupted Internet Was Largest of Its Kind in History, Experts Say,” *The Guardian*, October 26, 2016, sec. Technology, <http://www.theguardian.com/technology/2016/oct/26/ddos-attack-dyn-mirai-botnet>.

⁴⁹¹ @TMark, *Toy War Heats Up (ETOY MOMA #1 ETOY MOMA #2 WINDOW DUB)*. It is worth noting that individual FloodNet users did not have to manually launch the script every time it sent a request to the target’s servers. Rather, they chose to load it on their own internet-connected computers, and as long as it was loaded the person who distributed that particular FloodNet kit could use it to launch a coordinated attack from all connected users. However, even this relatively minimal automation could never approximate the effects of a DDoS attack using scripts to automate requests coming from thousands of spoofed IP addresses because the source of each FloodNet request must come from an individual who chose to participate by launching the script.

⁴⁹² MoMA had already offered the group time and a small room for a to-be-determined performance, and they decided to use it to discuss *Toywar* and its relationship to the larger problem of reverse domain hijacking. Vamos, interview.

⁴⁹³ The full list of speakers at the December 20, 1999 MoMA event is available at @TMark, “A Press Conference in New York,” RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/etoyconf.html>. The fact that etoy did not attend was not a disavowal of the event. Douglas Rushkoff, from their advisory board, was there, as was Suzanne Meszoly, a curator at the C3 Soros Contemporary Art Center in Budapest. She had brought etoy to the center for an extended residency in 1997 and was introduced at the MoMA event as an “etoy agent.” However, etoy was avoiding travel to the US because of legal concerns, and at this point in December had become so overwhelmed

Through these presentations, the event took stock of the many independent efforts that were being undertaken to prevent the internet from being turned into an “electronic strip mall.”⁴⁹⁴ Ranging from FloodNet to boycott promotions to disinvestment campaigns, what these efforts all shared was the use of the network as a medium for public speech in the defense of that same speech function.⁴⁹⁵ ®™ark then hosted a second press conference on December 27 in front of the courthouse on the occasion of a scheduled hearing in the case.⁴⁹⁶ Although the hearing was delayed, they elected to carry on with the conference, which included statements by a former eToys employee, a net artist, an ®™ark spokesperson, and media critic and scholar Peter Lunenfeld. Lunenfeld had helped to sponsor etoy’s residency at the Art Center College of Design, and he now declared the lawsuit to be “... the opening salvo in the 21st century’s battle over cyberspace, and the ongoing struggle over identity and imagination on the World Wide Web.” Unlike many of etoy’s other defenders, Lunenfeld avoided describing this battle as one that inherently set art in opposition to commerce. Nodding to the fact that etoy itself “...simultaneously participates in and parodies this extraordinary dot.comedy in which we all

by their own intensive media communications (they report fielding over 300 emails a day) that they had decided to take a temporary break in their activities anyway. Wishart and Bochsler, *Leaving Reality Behind*, 273.

⁴⁹⁴ Rushkoff, “Dec. 20 Conference: A Statement by Douglas Rushkoff.”

⁴⁹⁵ The most complete record of the MoMA press conference is a video of the event that Vamos keeps in his personal archive: ®™ark, *Toy War Heats Up (ETOY MOMA #1 ETOY MOMA #2 WINDOW DUB)*. In addition to THE THING and FloodNet, attendees learned about eviltoy.com, used by net artist Joshua Davis to share information about the case and flood financial message boards and email lists with an eToys divestment campaign; net artist group Fake Shop’s “Fake Toy” addition to the materials users could send to eToys with the FloodNet tool; and an online shopping advice columnist’s efforts to get her readers to boycott eToys that Christmas. Other speeches touched on the history of etoy’s practice, the details of the ongoing lawsuit, and the connections between this case and other lawsuits targeting individuals and small cultural organizations, like the one against the *Leonardo* journal.

⁴⁹⁶ ®™ark’s short summary of the December 27, 1999 press conference, including a link to a more detailed description from an attendee, is available at ®™ark, “A Press Conference in Los Angeles,” RTMark Rhizome Archive, 2000, <http://archive.rhizome.org/artbase/1693/etoylaconf.html>. Unfortunately, the conference/performance was poorly attended and received little press attention. This reportedly frustrated and disappointed attendees, but also reinforced the importance of the internet-based publicity platforms they were defending as they saw in-person protests becoming a less effective conduit for public speech. Wishart and Bochsler, *Leaving Reality Behind*, 280–81.

play a part,” Lunenfeld focused his critique on specific actions by companies like eToys that threatened the network’s status as a platform for artistic expression and dashed the “utopian aspirations of Web pioneers.”⁴⁹⁷ Lunenfeld argued that by using the court system to target any online expression that was inconvenient for them, these companies were attacking one of the web’s founding ambitions, that it could make the means of public speech accessible to anyone.

Meanwhile, etoy had been working separately on their own email and press release campaign, and still controlled the toywar.com domain. In December 1999, the same month that ®TMark launched their “game,” etoy decided they would use the domain to build the Toywar Platform. After some experimentation, this became a website that visualized a war between toys, featuring weapon-toting Toywar Soldiers that resemble LEGO characters, some with dollar signs in their eyes and others sporting gas masks (Figure 7.4 & Figure 7.5).⁴⁹⁸ The group planned to turn this visualization into a game in which users could sign up to become Toywar Soldiers and act as etoy’s army, heeding the group’s call to drop Toybombs, or group actions that mostly consisted of sending mass emails to various eToys stakeholders. This was etoy’s chance to reclaim control over the *Toywar*, but the case was nearing resolution, so they worked hard to

⁴⁹⁷ Peter Lunenfeld, “The Etoy Fund Dec. 27 Conference: ‘The Dot.Comedy of the EToystory,’” RTMark Rhizome Archive, December 27, 1999, <http://archive.rhizome.org/artbase/1693/etoylunenfeld.html>.

⁴⁹⁸ etoy has taken down the original Toywar Platform website, and the Internet Archive does not have an old enough version of it to see what it looked like in 1999 and early 2000. However, pieces of it have been converted into a *Toywar* timeline in etoy’s history pages, including the LEGO-like soldier characters, as well as bomb, camera, and justice scale icons that represent information campaigns, media reports, and changes in the lawsuit, respectively. The history pages also offer a “tourist login” for prospective Toywar Platform users (click on “TOYWAR.login”), displaying another LEGO-like character in the role of “tour guide.” While this login no longer functions, the pages collectively give viewers a sense of how etoy chose to visually represent the campaign. See etoy, “TOYWAR.COM (Etoy.Com History Pages),” etoy.HISTORY, accessed November 7, 2017, <http://toywar.eto.com/>. Wishart and Bochsler provide a detailed description of the Toywar Platform in Wishart and Bochsler, *Leaving Reality Behind*, 277–78.

ready the Platform for release.⁴⁹⁹ Meanwhile, they had a new, more aggressive attorney who succeeded in forcing eToys to deliver a straightforward settlement offer that would have ended the current lawsuit with etoy keeping their domain.⁵⁰⁰ However, the Toywar Platform was not ready to be released yet and so etoy stalled, responding to press coverage of the settlement offer by dropping hints on email lists that the corporation may only have been claiming to make an offer in order to forestall bad press.⁵⁰¹ ®TMark responded with their own press release, noting that “it’s good that eToys is now being shamed into lying to the press” and vowing to keep up the fight.⁵⁰² And etoy’s lawyer got ahead of the inevitable discovery of etoy’s delaying tactics by arguing that one of the settlement conditions, in which eToys had asked the group to remove “offensive material” to avoid confusing prospective toy shoppers, was tantamount to a demand that the group cede artistic control over their work.⁵⁰³ This mollified activists who were

⁴⁹⁹ Wishart and Bochsler report that etoy sent out an email just before Christmas promising that the Toywar Platform would be released in a matter of days. Wishart and Bochsler, *Leaving Reality Behind*, 278. An update on the case posted to the Slashdot forums on December 29 reports that “toywar.com promises ‘TOYWAR.com 1.0 will leave the etoy.BETA-LABS in a few days’ but it’s been saying that for weeks,” suggesting that people paying attention to the lawsuit had noticed the ongoing delays in the website’s release. See Jamie McCarthy, “Etoy Update,” Slashdot, December 29, 1999, <https://yro.slashdot.org/story/99/12/29/1122217/etoy-update>.

⁵⁰⁰ In mid-December eToys had lost a bid to renew one of the patents on which the suit had rested, so the case itself was less strong. Wishart and Bochsler, *Leaving Reality Behind*, 278–79. Meanwhile, eToys, Inc.’s stock was suffering significant losses after underperforming in the 1999 Christmas season, which may have also contributed to their declining interest in the case. Wishart and Bochsler track eToys, Inc.’s financial decline during these months in Wishart and Bochsler, 245–95. And a financial analysis of the state of eToys stock prices, with speculation on the reasons for their decline in the context of the dot com bubble, is available at Jim Cramer, “Of EToys and Dot-Coms,” *TheStreet*, December 22, 1999, <https://www.thestreet.com/story/846137/1/of-etoys-and-dot-coms.html>.

⁵⁰¹ Word of the settlement offer got out right away, possibly through eToys spokespersons. Craig Bicknell, “EToys Relents, Won’t Press Suit,” *WIRED*, December 29, 1999, <https://www.wired.com/1999/12/etoys-relents-wont-press-suit/>.

⁵⁰² ®TMark, “QUIT ETOYS! DISINVEST!,” RTMark Rhizome Archive, December 29, 1999, <http://archive.rhizome.org/artbase/1693/etoyprwin.html>.

⁵⁰³ The interview in which etoy’s lawyer, Chris Truax, argued that the demands in the settlement offer were essentially censorship is available at Steve Kettman, “Etoy: ‘The Fight Isn’t Over,’” *WIRED*, December 30, 1999, <https://www.wired.com/1999/12/etoy-the-fight-isnt-over/>.

becoming suspicious of etoy's delays because it targeted their fear that the company was using economic bullying to threaten free speech.⁵⁰⁴

Impatient to get their own version of *Toywar* launched, etoy sent out a call for Toy Soldiers to start signing up on December 31, but the platform was not ready and the site crashed. Finally, on January 10, 2000, the day of the next hearing, the Toywar Platform went live. Users reported being disappointed that, after all of that anticipation, it was mostly just a chat room where participants (the Toy Soldiers) could share information about the case. But the lawsuit still did not settle, and etoy was able to slow down the case for two more weeks as they built up their site. Then on January 24, the group sent the Toywar Soldiers their first call to arms, and on the following day a settlement agreement was reached.⁵⁰⁵ After delaying the case until they could execute at least one action on the Toywar Platform, etoy attributed the legal victory to their own Toy Soldiers. Unsurprisingly, this rankled some of the activists who had been involved in the other campaigns, and resurrected the tension between the two *Toywar* narratives.⁵⁰⁶ In subsequent discussions on email lists, etoy was accused etoy of exploiting an issue that was important to many people simply for self-promotion. The artists responded by pointing out that

⁵⁰⁴ ®™ark frequently compared the eToys lawsuit against etoy to Strategic Litigation Against Public Participation (SLAPP) lawsuits. Corporations had long been using this tactic to intimidate and silence activists with the financial burden of a lawsuit that was frivolous, but too expensive to fight. After the case against etoy ended, ®™ark compiled a list of similar lawsuits, and touched on their similarity to SLAPP suits, at ®™ark, "Corporate Aggression and the Internet," RTMark Rhizome Archive, 2001, <http://archive.rhizome.org/artbase/1693/netabuse.html>.

⁵⁰⁵ A copy of the first Toywar Platform call for action is available at etoy, "URGENT! TOYWAR.Order," etoy.corporation, January 24, 2000, <http://www.etoys.com/de/blog/archive/2000/01/24/urgent-toywar-order.html>. The final terms of the settlement are detailed in Wishart and Bochsler, *Leaving Reality Behind*, 290.

⁵⁰⁶ etoy's tone was not entirely exclusionary—they celebrated the settlement of the case by declaring "TOTAL VICTORY for the etoy.CORPORATION AND THE INTERNET COMMUNITY:?" etoy, "VICTORY*VICTORY*VICTORY*VICTORY*VICTORY." Nevertheless, their insistence that the Toywar Platform's brief campaign had superseded weeks of activists' efforts on their behalf were not well received, leading an ®™ark spokesperson to observe, in reference to one of etoy's earlier works, that this had been a "digital activist hijack." Wishart and Bochsler, *Leaving Reality Behind*, 308.

“branding and promoting” were exactly what they did.⁵⁰⁷ The group then set out to absorb the *Toywar* events into their branding practice by promoting the fictional narrative of the Toy Soldiers’ victory. They did so online and in an exhibition at Postmasters Gallery in New York the following May, *Impact Management: The etoy.CORPORATION in Manhattan*, at which the artists arrived with their clothing plastered with sponsors’ logos.⁵⁰⁸ A year later, etoy even attempted to file their own trademark lawsuit against eToys as part of the reassertion of their corporate identity, although this case was accompanied with much less fanfare.⁵⁰⁹ For etoy, *Toywar* became another act of publicity to promote their brand in the mass-cultural digital public sphere.

At the time, ®™ark was among the groups who were frustrated by etoy’s use of their “vener machine” to overshadow the activists’ fight against destructive corporate behavior online.⁵¹⁰ However, ®™ark ultimately came to see *Toywar* as a success for them as well because it helped the group refine their opposition tactics.⁵¹¹ Although, as noted in the preceding chapter, core ®™ark members Igor Vamos and Jacques Servin were beginning to transition to the Yes Men, ®™ark continued to practice as a group for a few years. In the marketing materials they

⁵⁰⁷ Wishart and Bochsler, *Leaving Reality Behind*, 291–92.

⁵⁰⁸ Wired Staff, “Etoy: They’ll Take Manhattan,” *WIRED*, May 5, 2000, <https://www.wired.com/2000/05/etoy-theyll-take-manhattan/>.

⁵⁰⁹ etoy ultimately lost their trademark suit, although eToys separately ended up filing for bankruptcy anyway. A summary of this case is available at etoy. VENTURE assoc, et al v. eToys Inc, No. 3:01-cv-00136-J-AJB (United States District Court Central District of California (Western Division - Los Angeles) November 9, 2001). Wishart and Bochsler report that one of etoy’s motivations for this countersuit was to distance themselves from the activist posturing of the original lawsuit, reframing the issue as simply corporation going against corporation. Wishart and Bochsler, *Leaving Reality Behind*, 302.

⁵¹⁰ An ®™ark representative used the phrase “etoy’s vener machine” to describe the group’s distortion of the *Toywar* events in Wishart and Bochsler, *Leaving Reality Behind*, 308.

⁵¹¹ Vamos, interview. The group also continued to fight reverse domain hijacking, posting a list of ongoing cases on ®™ark, “Corporate Aggression and the Internet.”

produced to promote their “mutual funds” after *Toywar*, they described themselves as an organization that “creates publicity in return for a more dynamic and interesting public sphere...®™ark takes the corporate body and loans it to anyone who wants to have a voice in the dominant communications infrastructure of our time.”⁵¹² Thus even as etoy claimed *Toywar* as a victory for their corporate brand, ®™ark claimed it as a victory in the fight to maintain individuals’ access to “the dominant communications infrastructure of our time.” In so doing, they continued to frame the network as a platform for publicity in the ongoing, perhaps unrealizable, struggle to carve out a self-determined digital public sphere.

⁵¹² ®™ark, “How to Lose Money and Influence People,” *National Forum: The Phi Kappa Phi Journal* 81, no. 3 (Summer 2001): 42.

CHAPTER EIGHT: New Net Aesthetics and the Digital Public Sphere

When *Toywar* started, it seemed like the heady growth of the late 1990s “new economy” would last forever, buoyed by the “entirely new channels of commerce [being] created by digital technology.”⁵¹³ In fact, the dot com stock market bubble propping up that growth burst right on the heels of the resolution of the etoy lawsuit. The litigants reached a settlement on January 25, 2000; the etoy.com website was put back up on February 14; and the case was officially dismissed on February 16.⁵¹⁴ The following month, major financial publications began to warn of an impending financial disaster as stock values started to fall on the NASDAQ, the stock exchange that carries most internet companies.⁵¹⁵ Then by mid-April 2000, the NASDAQ had crashed dramatically, signaling the end of the dot com bubble.⁵¹⁶ Although this did not stop the growth of online business, it began to temper some of the most ambitious claims for the transformative power of the internet. For example, John Perry Barlow, who had once advocated

⁵¹³ Kevin Kelly, “The Roaring Zeros,” *WIRED*, September 1, 1999, <https://www.wired.com/1999/09/zeros/>.

⁵¹⁴ The terms of the January 25, 2000 settlement and the February 14, 2000 restoration of www.etoys.com are described in Wishart and Bochsler, *Leaving Reality Behind*, 290–95. Record of the official dismissal of the lawsuit (without prejudice, which means that the issue could have been re-adjudicated) is available in the LA Superior Court case summary: *eToys, Inc vs. Martin Kubeli*.

⁵¹⁵ One of the most frequently cited articles that predicted the impending crash is Jack Willoughby, “Burning Up,” *Barron’s U.S. Edition*, March 20, 2000, <http://www.barrons.com/articles/SB953335580704470544>. Examining a stock evaluation study produced for *Barron’s*, Willoughby pointed out that at least a quarter of internet companies would be completely out of cash reserves by the end of the year, and thus predicted a dramatic “winnowing” of the over-crowded market. He was writing nine days after the NASDAQ had started to lose value.

⁵¹⁶ Between March 10, 2000 and April 6, 2000, the total value of stocks on the NASDAQ dropped from \$6.71 trillion to \$5.78 trillion, a loss of nearly a trillion dollars. A timeline of the bubble and crash is available at Ben Geier, “What Did We Learn From the Dotcom Stock Bubble of 2000?,” *Time*, March 12, 2015, <http://time.com/3741681/2000-dotcom-stock-bust/>. The combination of this crash in the stock market and the dangerously low cash reserves identified in the aforementioned *Barron’s* study precipitated the closure of many internet-based companies, as well as a reassessment of the practice of investing in companies with little to no profits simply because of their association with the internet—at least, as the Geier *Time* article points out, until the next internet business stock market bubble began to form in the 2010s. See Jack Willoughby, “Up In Smoke,” *Barron’s U.S. Edition*, June 19, 2000, <http://www.barrons.com/articles/SB96119562499629700>.

for the internet to remain an unregulated “global social space,” observed that much of the enthusiasm that had built up around computer networks during the 1990s had been “counter-productive.”⁵¹⁷ Then about a year later, the events of 9/11 further destabilized financial markets and the global economy, forcing even the most optimistic analysts to acknowledge that the economic boom of the 1990s was over.⁵¹⁸

As the effects of the crash percolated throughout the economy, the excitement over internet culture waned alongside the cooling of the fervor for internet business. This decline also negatively affected institutional interest in internet-based art. For example, the Walker Art Center closed Gallery 9, one of the most influential museum net art initiatives in the US during its six years of operation. Opened in 1997 under the tutelage of curator Steve Dietz, Gallery 9 helped the Walker develop their award-winning web presence by producing online exhibitions, scholarship on net art, and experimental digital supplements for gallery shows.⁵¹⁹ Gallery 9 also

⁵¹⁷ However, like many other internet advocates, Barlow did not fully abandon his hopes for the “revolutionary” power of computer networks. Instead, he blamed the crash on the incursion of old-fashioned business models into a fundamentally new environment, and argued that people who were predicting the development of a new, more egalitarian, networked society had simply expected such changes to happen too quickly. Barlow, *Trouble Ahead, Trouble Behind*, Interview with John Perry Barlow for Tech News - CNET.com (Wayback Machine Archive).

⁵¹⁸ For example, journalist Richard Stevenson argues that the 2001 Enron scandal took on such an outsized role in the narrative of US culture in the early twenty-first century because it became emblematic of the realization that the bursting of the dot com bubble was causing a much larger financial decline: Richard W. Stevenson, “The Nation; Why a Scandal Became a Spectacle,” *The New York Times*, February 17, 2002, sec. Week In Review, <https://www.nytimes.com/2002/02/17/weekinreview/the-nation-why-a-scandal-became-a-spectacle.html>.

⁵¹⁹ Under the auspices of Gallery 9, the Walker created several online and virtual reality projects to complement gallery exhibitions, an endeavor that was still relatively unusual in a period when most museums were still figuring out how to build basic, informational exhibition websites. For example, in conjunction with the 1998 Walker exhibition *Joseph Beuys: Multiples*, Julie Luckenbach and Luis Mazza produced a “hyperessay,” *Beuys/Logos*, that used the web’s graphical interface and hyperlinking capabilities to visually explore different facets of Beuys’s life and practice. *Beuys/Logos* received the first annual Web 100 Award from the American Center for Design, one of many awards that the Walker has won over the years for their online content. A brief description of the project is available at Julie Luckenbach and Luis Mazza, “Beuys/Logos Introduction,” Gallery 9 - Walker Art Center, 1998, <http://gallery9.walkerart.org/bookmark.html?id=105&type=edunit&bookmark=1>. The Walker has since removed the project itself from their website, but a mostly intact version can be found through the Internet Archive at Julie Luckenbach and Luis Mazza, “Beuys/Logos (Wayback Machine Archive),” 1998, <https://web.archive.org/web/19990224083636/http://www.walkerart.org:80/beuys/hyper/>.

provided significant support for net art outside of the Walker with activities like commissioning net art projects, hosting symposia, and bringing the archives of smaller online organizations into their collection for preservation.⁵²⁰ Gallery 9's closure was a blow to many artists, critics, and curators in the field, and it quickly came to be seen as representative of the waning interest in net art among arts institutions, which many people attributed to the more general drop in enthusiasm for net culture following the crash—some even (prematurely) declared net art dead.⁵²¹ However, as former Guggenheim curator Jon Ippolito has observed, net art had always occupied a precarious position in art museums, and the dot com crash may not have had as direct a financial connection to policy changes at other institutions as it did at the Walker.⁵²² Rather, Ippolito argues, the crash became a catalyst for more cautious institutions to take a step back from an art form that was still relatively new and had been difficult to absorb into existing museum systems for valuation and acquisition.⁵²³ Whitney Museum curator Christiane Paul also argues that the

⁵²⁰ *Life Sharing* (chapter five) was among the many Walker Gallery 9 commissions. Archives absorbed and preserved by the Walker include both the Art Dirt net art/culture radio show and the āda'web internet art development project: G.H. Hovagimyan, Robbin Murphy, and Adrienne Wortzel, "Art Dirt Internet Culture Interview Archives," Gallery 9 - Walker Art Center, 1998, <http://gallery9.walkerart.org/bookmark.html?id=2682&type=archive&bookmark=1>. "Āda'web," Walker Art Center, 1999, <http://adaweb.walkerart.org/>. And symposia organized through Gallery 9 include *Emergence and Convergence* in 1999 and *Media Arts in Transition 2: "Sins of Change"* in 2000 (see appendix II).

⁵²¹ In a text published after a pair of symposia on net art held in 2001 and 2002 at the Künstlerhaus Bethanien (*Netsplit and Esc*; see appendix II), a series of artists and critics ask, "How can Net Art die, as long as the Internet is still alive?" This inquiry was part of an exploration of what a net art practice might look like as the internet's first, utopian era was passing. Gohlke et al., *Esc*.

⁵²² In an October, 2003 letter to the Jerome Foundation, which had been a partial financier of many of the Walker's digital initiatives, Director Kathy Halbreich reported that losses in their endowment, combined with increasing uncertainty in other fundraising areas "due to financial turmoil," were forcing the institution to consolidate their digital programs and end the Gallery 9 project. The Walker's funding structure may also have been unusually susceptible to fluctuations in financial markets. In the letter, Director Halbreich observed that: "...we tend to be more dependent on our annual endowment draw than many more traditional organizations of our size." Kathy Halbreich, Director, Walker Art Center to Robert Byrd, Program Officer, Jerome Foundation, "Letter Regarding the Emerging Artists/Emergent Medium Program," October 22, 2003, Folder: Emerging Artists Emergent Medium Grant Program, Walker Art Center Archive.

⁵²³ Jon Ippolito, interview by author, February 24, 2016.

decline in institutional interest in net art in the early 2000s was not as closely related to economic factors as many people claimed in the years immediately following the crash. Paul points out that the initial enthusiasm for net art had already started to fade as museums grew increasingly frustrated with the many obstacles in exhibiting internet-based projects.⁵²⁴ Not only was it difficult to capture a museum visitor's attention with a bank of small screens sitting in a gallery, it was difficult to keep the artworks functioning on those screens.⁵²⁵

Of course, artists did not stop using computer networks in their work, and internet art did not completely disappear from the museum. Although many institutions slowed down the pace of their net art commissions and exhibitions, most started up again after a few years and have continued to work in some fashion with internet-based art ever since.⁵²⁶ This is partly due to the

⁵²⁴ Paul, interview. Even institutions that had more experience with art and technology faced challenges showing net art. In 1999, ZKM hosted *net condition*, the first large-scale exhibition to attempt to review the full breadth of internet-based art practices that had emerged over the past decade. The show, and the catalog ZKM produced for it, played an important role in the still-nascent process of historicizing and theorizing these practices. See Peter Weibel and Timothy Druckrey, eds., *Net condition: Art and Global Media* (Graz, Austria : Karlsruhe, Germany : Cambridge, Mass: The MIT Press, 2001). However, its installation brought the problems with exhibiting net art to the fore as curators experimented with a range of alternative display strategies that achieved varying levels of success, from artist-designed physical environments you could walk into before being brought back to a small computer screen to look at the work itself, to a human body-sized "browser" screen that explored the idea that web browsing could be experienced as a physical act, but was reportedly so difficult to manipulate that many people found it challenging to actually view the artworks that were being shown on the screen. Rudolf Frieling, a ZKM curator who was not involved with organizing *net condition* but was working for the museum at the time, reflected on the exhibition and the different display challenges that it faced with me in Frieling, interview.

⁵²⁵ During the 1990s, this was a problem even at institutions dedicated to technology because internet connections simply were not yet reliable. For example, curator Gerfried Stocker, now the director of Ars Electronica, recalls that technical difficulties, including frequent connection problems, plagued "Welcome to the Wired World" (1995), the first Ars Electronica Festival dedicated to the internet: Gerfried Stocker, interview by author, September 24, 2015. And Christiane Paul has pointed out that arts institutions were relatively slow to adopt more consistent broadband internet connections and typically did not have an internet-savvy in-house technical support team even by the early 2000s. Paul recalls having to ask Wolfgang Staehle of THE THING to come in and provide last minute assistance for the 2002 *Data Dynamics* exhibition at the Whitney. Paul, interview.

⁵²⁶ For example, the Guggenheim stopped commissioning net art in 2002, almost as soon as they began, although then-Guggenheim curator Jon Ippolito reports that they were one of the very few institutions that immediately brought their commissions into the collection. Ippolito, interview. By contrast, although they paused in 2003, both the Whitney and the Tate had resumed their net art programs by 2006. The Tate, however, has not added a new commission since 2011, whereas the Whitney's net art program, the Artport, has remained active under the guidance of curator Christiane Paul, and was finally absorbed into their official collection in 2015: Marisa Olson, "Collectible

fact that, while most art historical narratives continue to associate the phrase “net art” with the specific field of new media, the practice of internet art as this dissertation has been defining it—those works that interrogate the technological, social, and/or political bases of computer networks—started to be absorbed into the broader field of contemporary art as it began to diversify and art institutions began to blend these works into their general programs. For example, although 2002 was the last year that the Whitney Biennial had a specified net art section, subsequent Biennials simply included individual artworks that addressed or engaged computer networks in some fashion.⁵²⁷ This integration of net art, or network-engaged art, into contemporary art more generally was facilitated by changes in how artists began displaying such works in gallery spaces. As noted in the introduction, the most common strategy for exhibiting net art during the 1990s was the lounge or office model, in which visitors are invited to sit down at a bank of terminals and view the works on a computer screen. This well-meaning attempt to mimic the natural context in which someone might otherwise encounter net art came under a lot of criticism for being awkward or uncomfortable, or simply failing to capture the attention of museum goers.⁵²⁸

After All: Christiane Paul on Net Art at the Whitney Museum,” *Rhizome* (blog), August 10, 2015, <http://rhizome.org/editorial/2015/aug/10/artport-interview-christiane-paul/>.

⁵²⁷ In 2004, the next festival after the Whitney ended the net art section, they included Golan Levin’s *The Secret Lives of Numbers* (2002), a digital application that uses online data sources. The website for the 2004 Biennial can be viewed at: Whitney Museum of American Art, “Whitney Biennial 2004,” 2004, <http://whitney.org/www/2004biennial/flash/poplg.php>. Because it is a Flash site I cannot link directly to Levin’s project, but viewers can find it under “Explore Biennial Art and Artists.” Fast forward to 2017, the Whitney’s most recent Biennial, and visitors found at least two works that resemble models of net art first developed in the years during the dissertation: Porpentine Charity Heartscape’s web-based game *With Those We Love Alive* (2014) and Occupy Museums’ documentation of data gathered online for their developing *Debtfair* project, shared via an installation featuring a website projected onto a wall that visitors can use to browse through this data and related artworks. Whitney Museum of American Art, “Whitney Biennial 2017,” 2017, <http://whitney.org/Exhibitions/2017Biennial>.

⁵²⁸ The friction this often caused between net art and art institutions was particularly salient at documenta x in 1997, when curators first tried to include internet-based works in the exhibition. (Correspondence, curatorial statements,

By the early 2000s, a growing number of artists had started to explore how computer networks could be integrated into physical installations that decentered the monitor or screen. The immersive physical and auditory environment that Ben Rubin and Mark Hansen created for *Listening Post* in 2001 (covered in chapter four) inspired critics and curators to herald it as a new way for “net art to compete with the more sensual pleasures that we associate with sculpture.”⁵²⁹ Looking back on this transition, Natalie Bookchin argues that in its movement from screen to installation, net art lost two types of site specificity that had previously defined the practice: its ability to easily circulate outside of the museum, and its lack of scarcity.⁵³⁰ Previously, most net art was designed to be viewed by anyone, anywhere with a computer and an internet connection. As long as someone could connect to the network, early net art would be as easy and inexpensive

and plans for building the net art section of documenta x are available in documenta, “documenta X - Internet, Mitarbeiter / Lamunier,“ n.d., d10, folder 275a, documenta Archive Kassel.) They displayed several works of net art on the documenta website, then used the office model to design a complementary physical installation in Kassel, which they placed inside their Hybrid Workstation lounge and event space. Many visitors found it unappealing, while the artists themselves complained that the choice to take the computers offline and present the works as static websites (a common tactic to try to avoid those pernicious technical difficulties) meant that the works had lost the most important part of their context—the internet itself. Moreover, the documenta curators planned to take the works off the web at the end of the festival, which many net artists felt was forcing their work to follow the temporal rhythms of museum exhibitions rather than the natural rhythms of the internet, where “opening” and “closing” dates of exhibitions are purely arbitrary. In response, artist Vuk Ćosić created an exact copy of the documenta website, which remains live today. Documentation of this process and a link to the site can be found in the Rhizome Net Art Anthology at Rhizome, “Vuk Ćosić’s Documenta Done (1997),” Net Art Anthology, October 27, 2016, <https://anthology.rhizome.org/documenta-done>. Josephine Bosma outlines the many complaints that net artists had about the net art and Hybrid Workstation sections of documenta x in Bosma, “Net.Art: From Non-Movement to Anti-History,” 151–54.

⁵²⁹ Eeley, “Review: Mark Hansen and Ben Rubin.” Curators were also thinking about how physical installations could complement, rather than simply replicate, screen-based net art. In 2002, for instance, Christiane Paul solicited internet-based works for the Whitney show *Data Dynamics*, requiring that submissions be initially conceived as installations, then to be paired with a component that could be viewed online. Although the main website for the exhibition is no longer online, there are still working links to information about the individual works on the *Data Dynamics* exhibition summary provided at Whitney Museum Artport, “Whitney Artport: Past Exhibitions,” 2002, <http://artport.whitney.org/exhibitions/past-exhibitions.shtml>. Note that while several of the installations do include screens, these serve as interfaces with which visitors can provide feedback that will alter the installation, rather than passive viewing stations. Paul discussed the order in which the works were designed in Paul, interview.

⁵³⁰ Natalie Bookchin, “Grave Digging and Net Art: A Proposal for the Future,” in *Network Art: Practices and Positions*, ed. Tom Corby (London; New York: Routledge, Taylor & Francis Group, 2006), 70.

for them to view as it was for artists to produce, and there was (typically) no restriction on the number of internet users who could gain access to any given work.⁵³¹ Even artworks like *Toywar* were primarily accessed online. Although ephemeral, time-based projects like this were structured around a series of actions and collaborations facilitated by the network rather than an individual website, they produced documentation and other materials that could circulate among anyone using the web and its communication platforms. As noted in chapter one, these two factors were a significant part of why internet-based art was often perceived to be inherently public in its early years. Art found online was typically granted de facto public status during the 1990s simply because access to an institution was not required to gain access to the work. Networked sculptural installations, on the other hand, can only be viewed at certain times, in certain places, and by the people who can get to those places, which are, of course, usually museums or galleries. While this transition to installation meant that net art could no longer be defined by its wide and potentially limitless accessibility, it did solve many of the exhibition and collection problems that net art had faced in the museum context.⁵³² But as Bookchin observes, it also changed the character of the practice, creating a split in which screen-oriented works fell

⁵³¹ A few artists and organizations did attempt to create artificial scarcity through paid website subscription systems, but this was usually poorly received. For example, in 1999 Eva and Franco Mattes received an invite for temporary access to *Hell.com*, a net art website hidden behind such a paywall. They promptly downloaded the entire contents of the site and published their own duplicate version. See Mattes, “Copies (1999).”

⁵³² The scarcity of installation also adds financial value to internet-based works on the private sales market. For example, contemporary artist Rafaël Rozendaal makes websites that he editions as single works (meaning that he will never make a copy of the site) and then sells the files and their maintenance to private buyers. He typically prices these websites under \$5,000 because, while the works are given the artificial uniqueness of a singular edition, they are still viewable by anyone on the web. However, the gallery that represents him sells his physical installations for almost \$10,000 more than the individual websites. Carolina A. Miranda, “The New World of Net Art,” *ARTnews*, June 12, 2013, <http://www.artnews.com/2013/06/12/the-new-world-of-net-art/>.

into the realm of new media, and installation practices became integrated more into contemporary art writ large.⁵³³

The parameters that define the publicness of internet art also began to shift in the early 2000s. Given the close connection between net art's capacity for circulation outside of the museum and its perceived status as public art, it is unsurprising that this would change as the practice became more adapted to museum exhibition contexts. However, there were also ongoing changes in the online environment that affected how all internet users experience the publicness of space, speech, and interpersonal relationships in the context of computer networks. One of these shifts, as noted in chapter five, was connected to the US government's near-immediate expansion of its own surveillance powers following 9/11. This included moving away from focused spying strategies like the FBI's eavesdropping on individual communications through the Carnivore program, and toward dragnet strategies authorized by the Patriot Act, with which government agencies could survey and collect records of online activities in bulk and save them indefinitely.⁵³⁴ Although concerns about the visibility of our online actions had been brewing since the early 1990s, this exacerbated those fears and brought the subject of surveillance to the

⁵³³ It is worth emphasizing again that many art museums did continue to commission and exhibit screen and/or web-based works of net art, albeit less frequently and often less prominently. In addition to the aforementioned Tate and Whitney programs, Dia's web projects commission series, which began in 1995, continued uninterrupted. In conversation, former Dia curator Lynne Cooke reflected that this may have been because their program was qualitatively different than the net art initiatives at many other art institutions. First, they worked primarily with artists with whom they had other relationships, focusing on encouraging artists who were not already using technology to explore computer networks as a new form of site. Second, they did not attempt to hold the commissions program to a standard museum exhibition timeline, allowing the works to be completed and go live on the Dia website at their own pace. This created many temporal gaps in the release of works in the program, but also reduced the stress on museum resources. Lynne Cooke, Dia curator 1991-2008, interview by author, March 1, 2016. All of the works in the Dia program, which is still ongoing, can be viewed at Dia Art Foundation, "Artist Web Projects."

⁵³⁴ A description of the changes to US government surveillance following 9/11 and the Patriot Act is available in American Civil Liberties Union, "Surveillance Under the USA/PATRIOT Act."

fore of popular debate.⁵³⁵ Artists had already confronted internet-based surveillance in their investigations into what the dissertation has described as the theater of visibility model of online public space with works like *Carnivore* and *Life Sharing*. However, as *Life Sharing* artists Eva and Franco Mattes have reflected, in the beginning of the twenty-first century the internet still felt like a relatively safe and experimental environment in which they could explore exposure and visibility as characteristics of the network without worrying that their actions would result in any serious threats to their freedom or independence.⁵³⁶ This began to change as online government surveillance grew more threatening in the years following 9/11, and there is one particular event that marked the finality of this shift for many net artists.

In 2004, the FBI exercised its new surveillance powers to launch a bioterrorism investigation into artist Steve Kurtz, a founding member of Critical Art Ensemble, after they encountered biomedical equipment and specimens that he was storing in his home for an upcoming CAE installation.⁵³⁷ Kurtz and CAE were well known to most artists and activists working online. They had been practicing since the late 1980s and, as noted in chapter six, helped to define the field of online artist activism in the mid-1990s with their concept of

⁵³⁵ See, for example, Olsen, "Patriot Act Draws Privacy Concerns."

⁵³⁶ Mattes, interview.

⁵³⁷ In the spring of 2004, Kurtz, who was also a professor at the University of Pittsburgh at the time, called 911 in response to his wife's medical emergency (she was also a member of CAE). The medics were unable to revive her, and because her death was unexpected they called the local police. Answering this call, the police found biomedical equipment and specimens Kurtz had been storing for an installation at the Massachusetts Museum of Contemporary Art of the CAE's ongoing genetic modification research project. The police called the FBI, setting off a bioterrorism surveillance and investigation operation the Bureau justified under provisions of the Patriot Act. The details of the case and an interview with Kurtz while it was still ongoing are available in Robert Hirsch, "The Strange Case of Steve Kurtz: Critical Art Ensemble and the Price of Freedom," *Afterimage* 32, no. 6 (June 2005): 22–32. The FBI was unable to charge Kurtz with terrorism, but they did indict him, and a geneticist with whom he had been collaborating, for mail fraud because the pair had ordered some of the specimens online, although ultimately those charges were dropped. Details about the conclusion of the case can be found in this archived copy of a press release sent out by his defense fund: Critical Art Ensemble, "ARTIST CLEARED OF ALL CHARGES IN PRECEDENT-SETTING CASE," Critical Art Ensemble Defense Fund, June 11, 2008, https://web.archive.org/web/20080914150359/http://www.caedefensefund.org/releases/cleared_6_11_08.html.

“electronic civil disobedience.”⁵³⁸ Although he was quickly released, Kurtz’s arrest sent shockwaves throughout the international network of net artists and activists. This reaction intensified after several of Kurtz’s associates came to the conclusion that the FBI had gained information about them and their communications during its investigation thanks to their expanded internet surveillance capabilities since 2001.⁵³⁹ The government’s case against Kurtz ultimately did not stick. The terrorism charges were lessened to mail fraud, related to him ordering the specimens online, and in 2008 the fraud charges were dismissed as well. However, many artists still cite Kurtz’s arrest as a transformative moment in which they realized that they could no longer find safe harbor for experimentation and play in the internet’s public spaces of visibility.⁵⁴⁰

Of course, this realization did not represent a change in the fundamental principle that we are in public when we are online because we cannot be in private. Artists who had been interested in the issue of visibility on the network had always treated it as an inherent quality of computer networking, one that could as easily be implicated in surveillance (the Superpanopticon) as information sharing (the electronic agora). But the tenor of net art’s response to this condition of visibility was changing in the early 2000s. For example, Eva and Franco Mattes went from plastering the deliberately flippant motto PRIVACY IS STUPID across

⁵³⁸ Critical Art Ensemble, “Electronic Civil Disobedience.” Originally published in 1994.

⁵³⁹ Artist Lynn Hershman Leeson produced a film on Kurtz’s arrest and the subsequent investigation, *Strange Culture*, which was released in 2007 while the case was still being resolved. It is a hybrid documentary/fictionalization, combining interviews with artists and others involved in the case with dramatizations of the events leading up to Kurtz’s arrest. Through the interviews, the film offers insight into the enormous effect that the arrest had on net artists and activists, and the degree to which they attributed many of the FBI’s activities to the fruits of online surveillance, even though that was not the source of the original arrest. Lynn Hershman-Leeson, *Strange Culture*, Documentary, 2007, <http://www.strangeculture.net/>.

⁵⁴⁰ Eva and Franco Mattes, for example, specifically cite Kurtz’s arrest and the following incidents as the turning point in their experience of computer networks. Mattes, interview.

the side of the *Life Sharing* server to producing the recent *Dark Content* series, a collection of videos and installations that plunge viewers into the corners of the internet where anonymity is still posited as not only possible, but, the Matteses argue, necessary for democracy.⁵⁴¹ Back in 2002, while the relatively optimistic *Life Sharing* experiment was still ongoing, artist Hasan Elahi launched his now-famous *Tracking Transience* project, which reframes *Life Sharing*'s principle of voluntary information sharing through the specific lens of government surveillance. Following a misunderstanding about Elahi's identity, the FBI started repeatedly interrogating the artist. Elahi responded by building a website that still to this day uses GPS and photographs to track his every movement, offering this data up as a way to reduce its value (by reducing its scarcity), while drawing attention to the US government's surveillance activities (Figure 8.1).⁵⁴² And in 2003, the arts and education group Tactical Technology Collective formed with the broad goal of combatting techno-utopianism using a combination of trainings, guides, and artistic interventions that explore the risks that technology, and in particular networked technology, pose to privacy and civil liberties. Recently, the group has gained more prominence with *The Glass Room* (originally *The White Room*), a 2016-17 traveling installation that featured a rotating selection of artworks dealing with the (in)security of personal data on the growing number of networked platforms and devices that have infiltrated daily life, exacerbating the condition that

⁵⁴¹ The Matteses discussed their own changing relationship to visibility, anonymity, and the public/private tension on computer networks, including the contrast between *Life Sharing* and *Dark Content*, in Mattes. More information about the *Dark Content* series and the artists' reflections on the nature and necessity of the "deep web" is available at Ted Loos, "Illuminating the 'Dark' Web and Content Monitoring," *The New York Times*, June 24, 2016, <http://www.nytimes.com/2016/06/26/arts/design/illuminating-the-dark-web-and-content-monitoring.html>.

⁵⁴² Elahi outlines the history of *Tracking Transience* at Elahi, "Giving the F.B.I. What It Wants." You can visit the project at Elahi, "Tracking Transience v2.2."

Mark Andrejevic described as “ubiquitous surveillance.”⁵⁴³ Projects like *Tracking Transience* and groups like the Tactical Technology Collective came together at the beginning of a wave of artworks focused on surveillance. These works have since become so prevalent that critics have started to use the term “artveillance” to refer to a category of artistic practice that interrogates the reciprocal relationship contemporary art has formed with the procedures of surveillance through art’s inquiries into visibility, technology, and control.⁵⁴⁴ Of course, not all of this work is focused specifically on the internet, but it is inseparable from computer networks because of the degree to which contemporary surveillance depends on them. Art on surveillance has thus become exemplary of the integration of computer networks throughout contemporary art, whether or not these practices define themselves as net art.

Of course, this integration is not limited to the topic of surveillance. As it was installed in *Public, Private, Secret* (2016-17), an exhibition at the International Center of Photography in New York, Natalie Bookchin’s *Testament* demonstrates how computer networks have threaded

⁵⁴³ Tactical Technology Collective, “Tactical Tech: A Short History,” Tactical Tech, accessed January 23, 2018, <https://tacticaltech.org/pages/tactical-tech-a-short-history/>. *The Glass Room* was originally exhibited as *The White Room*, an installation included in *Nervous Systems: Quantified Life and the Social Question*, a 2016 collaboration between the Tactical Technology Collective and Berlin’s Haus der Kulturen der Welt (HKW): Tactical Technology Collective and HKW, “Nervous Systems - Quantified Life and the Social Question,” 2016, <https://nervoussystem.org>. It then traveled to New York in 2016 and London in 2017 as *The Glass Room*: Tactical Technology Collective, “The Glass Room,” *The Glass Room*, accessed January 23, 2018, <https://theglassroom.org/>. See also Jenna Wortham, “Finding Inspiration for Art in the Betrayal of Privacy,” *The New York Times*, December 27, 2016, <http://www.nytimes.com/2016/12/27/magazine/finding-inspiration-for-art-in-the-betrayal-of-privacy.html>. For more on Andrejevic’s principle of ubiquitous surveillance, which describes the constant state of hypervisibility that results from carrying around constantly network-connected devices, see chapter five and Andrejevic, “Ubiquitous Surveillance.”

⁵⁴⁴ Andrea Mubi Brighenti, “Artveillance: At the Crossroads of Art and Surveillance,” *Surveillance & Society* 7, no. 2 (2010): 175–86. The term artveillance also appears in surveys of contemporary art in newspapers and magazines, such as Peter Maass, “Art in a Time of Surveillance,” *The Intercept*, November 13, 2014, <https://theintercept.com/2014/11/13/art-surveillance-explored-artists/>. The field of “artveillance” was actually initiated in the 1990s by artist Julia Scher. Although she did not focus primarily on computer networks, she did experiment with using net art to explore the theme of surveillance in *Securityland* (1995) and its follow up, *Wonderland* (1997), on which she collaborated with äda’web: Julia Scher, welcome to securityland, 1996, <http://www.adaweb.com/project/secure/corridor/sec1.html>.

across photography, video, and installation to bridge net art's inquiries into privacy and visibility more broadly with its responses to other changes in the online environment that have affected public dialogue, interpersonal relationships, and self-representation in the digital public sphere. First produced in 2009, *Testament* is a growing collage of video clips that Bookchin collects from strangers' video logs on YouTube, remixing and reorganizing them around themes that, the artist argues, reveal an impulse toward collectivity within the performance of individual identity.⁵⁴⁵ The artist then re-publishes the individual collage chapters on her own YouTube channel, and exhibits them in the gallery as a projected, multi-panel video installation (Figure 8.2).⁵⁴⁶ *Testament's* wide-ranging extension into multiple forms and circulation routes is characteristic of many of the works in *Public, Private, Secret*, which include works in photography, video, found images, installation, montage, and collage. When these works incorporate computer networks, they deploy them as subject, data source, site, and/or alternative circulation path.⁵⁴⁷ *Testament* sits alongside the rest of the exhibition not as a categorically separate work of net art, but as an installation whose examination of the show's themes takes place in the territory of computer networks. Specifically, the work was included in the exhibition for its exploration of how the boundary between the public self and the secret self has become porous as contemporary social media and publishing platforms, like YouTube, encourage new

⁵⁴⁵ Blake Stimson, "Out in Public: Natalie Bookchin in Conversation with Blake Stimson," Rhizome, March 9, 2011, <http://rhizome.org/editorial/2011/mar/09/out-public-natalie-bookchin-conversation-blake-sti/>.

⁵⁴⁶ Chapters like "Laid Off," "My Meds," and "I Am Not" can be viewed at Natalie Bookchin, "Natalie Bookchin," YouTube, accessed January 23, 2018, <https://www.youtube.com/channel/UC4qBbcSJIWQbcUSwmeZYjMA>. A video of the work installed in a gallery is available on the artist's own website at Natalie Bookchin, "Testament," Natalie Bookchin, accessed January 23, 2018, <https://bookchin.net/projects/testament/>.

⁵⁴⁷ International Center of Photography, "Public, Private, Secret," Public, Private, Secret, 2016, <http://www.publicprivatesecret.org/>. A significant portion of the exhibition as it was installed can be seen a video produced by PBS, which also features an interview with Bookchin on *Testament*: PBS, "Segment: How One Exhibit Is Rethinking Privacy in a World That's Always Watching," *PBS NewsHour*, August 15, 2016, <https://www.pbs.org/newshour/show/one-exhibit-rethinking-privacy-world-thats-always-watching>.

forms of public confessionals.⁵⁴⁸ Through their repetition, however, the confessions Bookchin has collected begin to appear contrived, revealing what media scholar Sarah Whitcomb Laiola argues is *Testament*'s critical stance toward the distortions social platforms generate as they exploit concepts like personal representation and community engagement in the pursuit of financially valuable user data.⁵⁴⁹ In this way, the work reframes the issue of visibility through the lens of contemporary social media, responding to another change from the early 2000s that has affected how we experience publicness online.

As noted in the introduction, well before the term became a commonplace there was some form of social network. These groups started to form as soon as computer networks became accessible outside of institutions, from Community Memory in the 1970s to the proliferation of bulletin boards, Usenet groups, chat room channels, web forums, and so on throughout the 1980s and 1990s. There are two main characteristics shared by the myriad platforms that arose during these early years. The first is decentralization, or the tendency for there to be many different networks run by many different people based in many different places, rather than a single, dominant network. The second is accessibility, or the fact that the applications on which most of these platforms ran were often free or low cost and could easily be installed and managed by any interested individual, like the web forums that Natalie Bookchin and Jacqueline Stevens used for *agoraXchange*. By the end of the 1990s, the first social websites

⁵⁴⁸ ICP curator Charlotte Cotton discusses Bookchin's work in the context of the *Public, Private, Secret* exhibition in Nicole Miller, "Charlotte Cotton: Surveillance Revisited," *Guernica: A Magazine of Global Art and Politics*, June 15, 2016, <https://www.guernicamag.com/surveillance-revisited/>.

⁵⁴⁹ Laiola argues that *Testament* does not simply critique today's social websites, however. Rather, Laiola describes *Testament* as an "*alt-social network*" through which Bookchin imagines an alternative use of these platforms that might be able to reclaim some of the internet's ability to produce interpersonal connection as well as, in light of Bookchin's earlier works (like *agoraXchange*), group political action. See Sarah Whitcomb Laiola, "The Alt-Social Network of Natalie Bookchin's Testament," *Television & New Media* 18, no. 5 (July 1, 2017): 459–77, <https://doi.org/10.1177/1527476416670011>.

that resemble today's social media platforms started to appear; these, by contrast, were typically run by commercial entities and aimed to centralize all of their users' social activities.⁵⁵⁰ Some, like BlackPlanet, even became fairly large, but it was not until Myspace appeared in 2003 that the internet's gathering places began to consolidate into the relatively few, massive in scale, commercially-owned, and proprietary platforms that dominate the internet today, like Facebook, Instagram, and Twitter.⁵⁵¹ Meanwhile, a series of other changes were happening in online publishing, content management, and information sharing that have since come to be lumped under the label "web 2.0." Coined by O'Reilly Media, the phrase web 2.0 refers very broadly to the (mostly) web-based platforms that lower the technical requirements for people to manage, share, and control information online.⁵⁵² From an individual internet user's point of view, this change meant that one could use any of a growing number of commercial tools, like blogs or YouTube or simple website builders, that were designed to make it easy to construct a web presence and share content without any web coding skills. Thus at the same time that the internet's public gathering places were shrinking and being consolidated into commercial social media sites, the internet's platforms for publicity, those places where art and ideas can circulate

⁵⁵⁰ Danah M. Boyd and Nicole B. Ellison, "Social Network Sites: Definition, History, and Scholarship," *Journal of Computer-Mediated Communication* 13, no. 1 (October 1, 2007): 210–30, <https://doi.org/10.1111/j.1083-6101.2007.00393.x>. The key distinction being made here between individual and commercial operation is that older, decentralized platforms like BBSes, MOOs, IRC, Listservs, and web forums ran on free or low-cost applications that could be installed and managed by anyone. Commercially-managed sites may have used similar applications early on (like the web forums of BlackPlanet), but the larger scale platforms that started to appear with Friendster in 2002, and then become successful with Myspace in 2003, were proprietary systems that created fully enclosed, commercial environments, like Facebook and Twitter today.

⁵⁵¹ Friendster, launched in 2002, had actually attempted this kind of consolidation before Myspace, and is thus often credited with being the real "first" social media site. However, Friendster was unable to keep up with its own popularity, and the site's poor functionality meant that it ultimately lost the growth battle to its rival, making Myspace the first successful social network in the model that is familiar today. A brief history of social network websites is available at CBS, "August 2003: MySpace," Then and now: a history of social networking sites, February 4, 2014, <https://www.cbsnews.com/pictures/then-and-now-a-history-of-social-networking-sites/>.

⁵⁵² O'Reilly, "What Is Web 2.0."

as public speech, were also beginning to shift primarily into third-party commercial environments.

Of course, these changes in the spaces and discourses that shape the digital public sphere affected how internet users experience the publicness of computer networks. As noted in the preceding chapters, scholars like Jodi Dean had already rejected the concept of a digital public sphere, demonstrating how the conflict-driven environment of computer networks and the facility with which they are adopted by the structures of “communicative capitalism” undermine the basic principles of democratic debate and egalitarian access to information through which it was defined.⁵⁵³ One might expect that popular discourse would follow, especially as the most utopian claims for computer networking were tempered by the effects of the dot com crash in 2000. But in fact, web 2.0 actually renewed and expanded claims for the development of a digital public sphere because the new social media sites and publishing tools were so much easier to use. This made the internet’s spaces for debate and platforms for publicity appear significantly more accessible, giving rise to concepts like citizen journalism, which frame participation in web 2.0 platforms as a form of social and political action that can influence global politics, blurring the distinction between on and offline public spheres. And the idea that social media and online publishing represent a digital public sphere with far-reaching political consequences persists even today. For example, in 2017 the Knight First Amendment Institute sued the US federal government for blocking individuals from accessing the president’s Twitter account. Their case

⁵⁵³ Dean, “Why the Net Is Not a Public Sphere.”

centered on the claim that this account, and by extension Twitter itself, must be considered a “public forum” under the First Amendment.⁵⁵⁴

Scholars, however, have continued to criticize the model of the internet as digital public sphere, pointing out that the way discourse circulates online may actually be anti-democratic. Looking back on the growth of web 2.0 during the 2000s, Geert Lovink challenges the assertion that increasing participation in the web’s discursive spaces and publicity platforms amounts to increasing “democratic participation,” or an improvement in the public’s ability to affect the political sphere. Instead, he argues, there are a growing number of “echo chambers” in which internet users retrench deeper into their existing political and ideological positions without engaging in the process of consensus-seeking debate. This produces what Dean had already identified early in the 2000s as an ineffective or “detached” illusion of political engagement with none of the strength of unified public opinion that gave members of Habermas’s public the power to affect the actions of the state.⁵⁵⁵ In other words, while social media and web 2.0 introduced significant changes in the institutions of the digital public sphere that amplified our perception of the publicness of computer networks, the reality of a politically powerful digital public sphere remains unrealized.

Artistic practice has also responded to the effects of contemporary social media and web 2.0 in the online environment. Many of these responses are focused on the structural changes

⁵⁵⁴ An outline of the Knight Institute lawsuit, including amicus briefs from legal organizations and internet advocacy group Electronic Frontier Foundation as well as a concession letter from the government, can be found at Knight First Amendment Institute, “Knight Institute v. Trump — Lawsuit Challenging President Trump’s Blocking of Critics on Twitter,” accessed January 24, 2018, <https://knightcolumbia.org/content/knight-institute-v-trump-lawsuit-challenging-president-trumps-blocking-critics-twitter>.

⁵⁵⁵ Geert Lovink, *Networks Without a Cause: A Critique of Social Media*, 1st edition (Cambridge, UK ; Malden, Mass: Polity, 2012), 1–2. Lovink made this prescient observation about the “echo chambers” of web 2.0 social media and discussion platforms well before it became a subject of popular debate surrounding the 2016 US presidential election.

introduced into computer networking by these new platforms, exploring what this might mean for an internet-specific art practice. At the same time that net art was beginning to expand into installation in order to better accommodate exhibition in physical gallery spaces, artists were also approaching web 2.0 platforms as sites for new forms of net art that could still circulate on the network, with many artists adapting their works simultaneously to both environments, as with Bookchin's *Testament*. Since the early 2000s, works have proliferated whose native online environment is not an independent website, but rather, like Mendi + Keith Obadike used eBay for *Blackness for Sale*, an existing platform like Myspace, YouTube, blogging sites, and their many inheritors.⁵⁵⁶ In a series of roundtables organized by Rhizome between 2006 and 2013, a group of artists and critics speculatively described this changing field of internet-based practice as "Net Aesthetics 2.0" or, now that even web 2.0 platforms appear to be giving way to something new, "Post-Net Aesthetics."⁵⁵⁷ These are deliberately broad categories, united more by their investigations of a common environment than any universally shared forms or

⁵⁵⁶ Critic Carolina Miranda surveys practices that use contemporary social media websites and mobile apps like Tumblr, Facebook, and Instagram, including quite a few works that manipulate the rules of those platforms to reveal how they affect our contemporary understanding of self and public presentation, in Miranda, "The New World of Net Art."

⁵⁵⁷ Unsurprisingly, internet-based art practices shift as quickly as all other forms of internet activity, and there have been many attempts to define a series of separate waves in net art since the early 2000s. These include the phrase "post net art" (now mostly fallen out of favor), which does not describe a period of artistic practice that is "post-network," but rather a group of artists who have been using the internet their entire lives. In 2011, curator Christiane Paul gave a presentation examining what she calls the "upgrade path," or changes in networked art practice in response to the movement toward web 2.0: Christiane Paul, *The Upgrade Path: Networked Art 1.0 - 2.0 - PART 1 of 4* (Sabanci University, 2011), https://www.youtube.com/watch?v=UJ_Iw7tdUyw. In 2015, Rhizome and New Museum curator Lauren Cornell co-edited the first scholarly text to critically survey the broadly-define field of internet-based art practice since 2000, which includes summaries of the aforementioned three Rhizome roundtables: Lauren Cornell and Ed Halter, eds., *Mass Effect: Art and the Internet in the Twenty-First Century*, 1st edition (Cambridge, Massachusetts: The MIT Press, 2015). And in 2017, The Kitchen exhibited *Asymmetrical Response*, a show examining aesthetic shifts in art's response to computer networks by pairing Olia Lialina and Cory Arcangel, artists who are associated with either side of the early 2000s transition in net art, although both of their practices actually straddle this temporal divide: The Kitchen, "Asymmetrical Response," The Kitchen Archive, 2017, <http://archive.thekitchen.org/?p=18172>.

procedures. Net art from the 1990s was already very diverse, and the growing number of tools available to artists interested in computer networks means that internet-based art is becoming even more heterogeneous, making the boundary that had once defined net art as a separate practice increasingly elusive.

Artists have also approached social media and web 2.0's new platforms as subject as well as site, identifying new areas of inquiry for net art that respond to the changing online environment. For example, net art's investigation into the condition of visibility on the network today has not been limited to those practices focused specifically on surveillance. Works like *Testament* also consider how social media and content sharing platforms have influenced questions related to visibility, like how we represent our public and private selves and how that affects the urge to connect with strangers that has long motivated internet use. There are also many works that examine how contemporary social media has shaped the interpersonal networks formed by those connections. In 2011, Ed Fornieles and collaborators produced *Dorm Daze*, in which they used Facebook to perform a complex and increasingly bizarre series of fictional social conflicts between personas they had created out of an amalgam of existing user profiles, while carefully maintaining the appearance that these were sincere interactions (Figure 8.3).⁵⁵⁸ The project violated more than Facebook's real name rules; it refused the distinction that platforms like Facebook attempted to enforce between the fictive and the real in online communication when they initiated a significant change in social network norms from users representing themselves with anonymous usernames to building detailed, self-identifying

⁵⁵⁸ A few years after *Dorm Daze* was produced, one of the project's participants wrote a Tumblr novel based on the scenarios they had acted out. Ed Fornieles gave a detailed interview on the project on the occasion of the release of that novel in "The Tumblr Novel of the Facebook College Sitcom," Dazed Digital, February 4, 2015, <http://www.dazeddigital.com/artsandculture/article/23483/1/exclusive-the-tumblr-novel-of-the-facebook-college-sitcom>.

profiles. *Dorm Daze* thus draws attention to a shift in internet users' expectations of the nature of the interpersonal connections they will form across computer networks. No longer do internet users look to the public horizon of stranger relationality constructed by the default anonymity presumed by bulletin boards and web forums, that entire world lurking just beyond the screen. Instead, they build relatively enclosed networks of, in the parlance of Facebook, "friends" who connect through shared identification with one another's personal brands, those carefully cultivated characteristics used to represent individuals on their profiles. *Dorm Daze* points out the obvious: this cultivated network retains all of the potential artifice of an anonymous network, each a form of storytelling that, in words that could have been taken directly from etoy, Fornieles describes as "the means to generate another world."⁵⁵⁹ However, in its attention to how this world building affects user interactions and associations on the platform, *Dorm Daze* also suggests the networks that we build in the other-world of social media are not connected through public discourse. Rather, they are built through a form of shared identification with elements of users' personal brands that mimics the kind of shared identification with corporate brands that Warner identified in the mass cultural public sphere of the 1990s. *Dorm Daze* thus reimagines social media as neither a sphere of public discourse nor a public sphere of experience, but the kind of internet-based, mass cultural sphere of lifestyle identification that etoy anticipated with their "ELECTRONIC LIFESTYLE FOR THE NEW TRAVELLING GENERATION."

As web 2.0 platforms have grown, net art has also considered the specific kinds of collective production that they enable and how that production can give form to the internet's publics. Some projects, like Ryan Trecartin and collaborators' *riverthe.net* (2010), follow a

⁵⁵⁹ Fornieles in "The Tumblr Novel of the Facebook College Sitcom."

model that resembles the accumulative approach of *The World's First Collaborative Sentence*, building the work out of the endless collection of direct visitor contributions, while responding to changes in online content production that have significantly altered what this kind of collectivity can look like (Figure 8.4). To participate in *riverthe.net*, users submit ten second video clips, which they label with user-created tags. Visitors to the site are confronted with a hyperactive, shifting stream of video that feels as though it has condensed into one place the frenetic pace of video production across the entire web. They can just sit and watch, or begin to move through the video collection by clicking on the tag links at the bottom of the screen. These links construct an infinitely forking series of paths that recreate one of the definitive experiences of web 2.0, losing oneself browsing through its never-ending rush of content.⁵⁶⁰ With *riverthe.net*, Trecartin and his collaborators present this streaming, shifting, chaotic pulse as both the new condition of video production as it responds to the pace and structure of the web, and the new condition of internet art as it is shaped by the endless growth of the web's content-producing publics.⁵⁶¹ Other works attempt to capture a piece of the massive flow of web 2.0 content where it already lives, treating the collectivity of the network as material to be restructured and reworked. Bookchin's *Testament* serves as an example again here with her use of video clips found on YouTube. Even as the work strips the clips of their individual contexts by reorganizing them into thematic

⁵⁶⁰ Paddy Johnson, "Artist Ryan Trecartin Debuts Riverthe.Net," Art F City, October 5, 2010, <http://artfcity.com/2010/10/05/afc-exclusive-artist-ryan-trecartin-debuts-riverthe-net/>. *riverthe.net* can be viewed (and added to) at Ryan Trecartin et al., "Riverthe.Net," accessed January 24, 2018, <http://riverofthe.net/>.

⁵⁶¹ Works like Petra Cortright's *VVEBCAM* (2007) take a closer look at the specific conditions of video consumption following the rise of web 2.0 platforms. Originally released on YouTube, *VVEBCAM* depicts the artist staring mindlessly back at her camera, confronting the YouTube viewer with an image of herself as she surfs through the endless accumulation of online content. Cortright periodically introduces low fi effects into the screen, such as flower graphics popping up around the frame, an allusion to early web 2.0 net aesthetics that presaged the more recent popularity of visage-altering filters and frames in image sharing platforms like Snapchat and Instagram. See Rhizome, "Petra Cortright's VVEBCAM," Rhizome Artbase, 2007, <http://rhizome.org/art/artbase/artwork/vvebcam/>.

chapters, *Testament* preserves the context of YouTube itself both in the video's format (the clips look like they have come from YouTube) and in Bookchin's choice to re-circulate the chapters on the site. The work thus treats YouTube, along with web 2.0's other native sites of accumulative production, as a framework that actively influences the content found there and thereby shapes the interpersonal networks that it forms. And by layering the clips together thematically to reveal repetition across the platform, *Testament* identifies the impulse toward collectivity that comes out of each individual's contributions, examining what this collective public looks like in the specific context created by the web's new platforms for production.

The counterpublics articulated by Cornelia Sollfrank's *Female Extension* (1997) and Mendi + Keith Obadike's *Black.Net.Art Actions* (2001–2003) have also changed since these works were produced. This is not because the issues that they confront have disappeared; in fact, just the opposite. It no longer makes sense to describe the publics formed by the circulation of such discourses online as counterpublics because their discourses are no longer suppressed. Instead, the model of a universal, race- and gender-blind digital public sphere has been replaced by heightened attention to the ways in which our subject positions affect our experiences on computer networks, and the multiplicity of publics that are formed out of those experiences. Consider, for example, Black Twitter, a phrase that defines something more than a simple demographic evaluation of networks formed among social media users. Rather, researchers argue that the term describes a series of high-profile racial discourses that have crystallized out of conversations circulating on the Twitter platform, including discourses that reflect back on the

racialization of the social media contexts in which they formed.⁵⁶² The field described by Black Twitter thus exemplifies the movement of once-marginalized discourses toward the center of the conversation on how publics come together online. Likewise, the relationship between computer networks and identity characteristics like race, gender, and sexuality (and the many intersections therein) have become a significant part of the expanded field of internet art. For example, self-described “conceptual entrepreneur” Martine Syms has produced a diverse body of web-based work, installation, videos, and speculative texts/manifestos that explore, among other topics, the territory formed by the conflict between the notion that art can be “post black” and the proposal that a peculiar form of “black vernacular” has developed in digital and internet-based art.⁵⁶³ Rhizome, which often hosts Syms’s work, also recently exhibited *New Black Portraitures*, which features works by eight artists examining how images of blackness and the black body circulate on computer networks (Figure 8.6). The web-based exhibition asks how these forms of representation and self-presentation navigate both the promises and the threats produced by the state of heightened visibility in which such bodies find themselves online.⁵⁶⁴ Meanwhile, the

⁵⁶² An introduction to Black Twitter and interview with journalism scholar Meredith Clark, who recently completed a dissertation on the topic, is published in Donovan X. Ramsey, “The Truth About Black Twitter,” *The Atlantic*, April 10, 2015, <https://www.theatlantic.com/technology/archive/2015/04/the-truth-about-black-twitter/390120/>. Clark’s dissertation is available at Meredith D. Clark, “To Tweet Our Own Cause: A Mixed-Methods Study of the Online Phenomenon ‘Black Twitter’” (The University of North Carolina at Chapel Hill, 2014).

⁵⁶³ Some of the experimental texts Syms has produced on these topics include: Martine Syms, “The Mundane Afrofuturist Manifesto,” *Rhizome* (blog), December 17, 2013, <http://rhizome.org/editorial/2013/dec/17/mundane-afrofuturist-manifesto/>. Syms, “Black Vernacular.” A selective history of her practice is available at Martine Syms, “Selected Work,” Martine Syms — Conceptual entrepreneur based in Los Angeles, CA, accessed January 26, 2018, <http://martinesyms.com/>. In that list visitors will find works like *Black Culture in America* (Figure 8.5), a replica Syms created of a Geocities website she once stumbled across that quizzes viewers on the history of African slavery in the US: Martine Syms, “Black Culture in America,” accessed January 30, 2018, <http://blackcultureinamerica.com/>. The project explores how racial discourses permeate both web culture and the net art strategies that interrogate it, including appropriation, duplication, and the proliferation of ideas and imagery as they circulate through an ever-expanding number of pathways online.

⁵⁶⁴ The artists featured in *New Black Portraitures* include Rindon Johnson, Hamishi Farah, Sondra Perry, Redeem Pettaway, Pastiche Lumumba, N-Proleta, Manuel Arturo Abreu, and Juliana Huxtable. Although many of the

discussions surrounding gender, technology, and feminist cultural production that were initiated in the 1990s by cyberfeminism have also responded to the changing environment in computer networking and net art. For example, artists like Petra Cortright (Figure 8.7) and Silvia Bianchi (Figure 8.8) are producing video series that interrogate the different ways in which the female body is (mis)represented and manipulated online when social media platforms and mobile apps encourage users to reframe, distort, and enhance their own images.⁵⁶⁵ And as computer networks and other digital tools have become more integrated into contemporary art practice, internet-based feminist groups like Topical Cream have brought the dialogues on art and technology introduced into net art by cyberfeminist collectives in the 1990s into a more general program of support for cultural production by female and gender nonconforming artists, whether they practice online or off.⁵⁶⁶ In 2017, a group of artists and scholars came together to explore the relationships being built between historical and contemporary cyberfeminist practice at the Post-Cyberfeminist International, an event hosted by the London Institute of Contemporary Art to honor the twenty year anniversary of the First Cyberfeminist International at documenta x.

works are time-based performances that were distributed on the web over several weeks in 2017, their documentation has been collected in an online exhibition at Rhizome, “New Black Portraitsures,” 2017, <https://newblackportraitsures.rhizome.org>. The curator of the exhibition, Aria Dean, connects it to the larger field of black artistic practice online in André-Naquian Wheeler, “Online Black Art Is Moving from Instagram to Bitmapping,” i-D, January 31, 2018, https://i-d.vice.com/en_us/article/mbp8wv/online-black-art-is-moving-from-instagram-to-bitmapping.

⁵⁶⁵ Among other cyberfeminist inquiries, the 2017-18 cyberfeminist exhibition *Mozart’s Ghost* at Göteborgs Konsthall in Sweden examines contemporary representations of feminine bodies and beauty standards online through a pair of Cortright and Bianchi works. Bianchi exhibits a series of looping videos that display bodies being rapidly digitally improved, while in the *Cat Spirt Spsit Spit video game* YouTube short included in the exhibition Cortright replaces her head with a leering cat. See “Mozart’s Ghost,” Göteborgs Konsthall, accessed February 6, 2018, <http://www.konsthallen.goteborg.se/utställningar/mozarts-ghost>.

⁵⁶⁶ See “Topical Cream,” Topical Cream, accessed February 6, 2018, <http://topicalcream.info/>. For more on the history and activities of the group, see Rachel Hahn, “Meet Topical Cream, the Internet Collective Highlighting Femme and GNC Artists Online and IRL,” *Vogue*, January 31, 2018, <https://www.vogue.com/article/topical-cream-contemporary-art-platform-women-femmes-nonbinary-artists-lyndsy-welgos-whitney-mallett-anti-bodies-moma-ps1>.

Performances, panels, and installations at the event tackled topics like the expansion of cyberfeminism to explore queer identity and gender nonconformity; how artists are confronting the rise of gendered violence online, including the intensification of sexual harassment campaigns and the theft and sharing of private images; the specific social media strategies that have developed around the discursive intersections produced by black feminism; and how long-standing cyberfeminist ideas about the relationship between the biological and the machinic can be updated to address contemporary challenges surrounding issues like queerness and reproductive justice.⁵⁶⁷

The activist orientation of the Post-Cyberfeminist International is not incidental. The role of computer networks in activist organizing, communication, and direct action has grown steadily since the 1999 WTO protests, and the politics of technology and the internet are a central theme in many of contemporary art's engagements with computer networks.⁵⁶⁸ Like the artist/activist practices of the late 1990s and early 2000s, many of these works approach the network's communication tools as a platform for publicity, but they can now capitalize on changes that platforms like social media have introduced into the way such speech circulates online. For example, while the ®™ark founders have turned primarily to performance and

⁵⁶⁷ London Institute of Contemporary Art, "Post-Cyber Feminist International," ICA.art, 2017, <https://www.ica.art/whats-on/season/post-cyber-feminist-international>. In an edited volume published on the occasion of the 2016 Transmediale festival, Cornelia Sollfrank reflected on the development of cyberfeminism in the 1990s and how the practice's artistic and political strategies have shifted over time in Sollfrank, "Revisiting the Future: Cyberfeminism in the Twenty-First Century."

⁵⁶⁸ Although the works described here are very explicitly activist and political, author and media scholar Tung-Hui Hu has identified another strain of politics in contemporary internet art: lethargy, a form of passive resistance that gives both artist and viewer a respite from the "imperative to communicate" that, he argues, is characteristic of network activity in our current state of "semicapitalism," the concept with which Baudrillard has described the psychological crisis of overproduction. Tung-Hui Hu describes this strategic lethargy in works by Cory Arcangel, Katherine Behar, and Tega Brain and Surya Mattu in Tung-Hui Hu, "Wait, Then Give Up: Lethargy and the Reticence of Digital Art," *Journal of Visual Culture* 16, no. 3 (December 1, 2017): 337–54, <https://doi.org/10.1177/1470412917742566>.

documentary film for their current group, the Yes Men, they still address computer networks as a subject in their work and exploit newer platforms like Twitter to magnify their publicity efforts. In 2016, the Yes Men performed “*Anger Marketing*” at *Roskilde*, for which they installed fake signs at a Danish music festival alerting attendees that all of their internet activities would be monitored, and that the festival reserved the right to collect and market this data (Figure 8.9). Attendees’ angry reactions to the signs were significantly amplified by discussions on Twitter, even reaching Scandinavian media outlets and generating publicity for the second component of the performance, in which an actor playing Edward Snowden pretended to be so outraged that he left Russia to come to the festival. (The real Snowden was in on the prank, and addressed the festival the following day via video.)⁵⁶⁹ The Yes Men thus exploited the tendency of social media platforms to accelerate and distort acts of public speech in order to bring attention both to the work itself, and to the concerns about government and commercial surveillance that it addresses.⁵⁷⁰ Web and mobile apps are another part of the online environment that artists are exploring as a means to accelerate the dissemination of public speech across user networks. In 2017, Dark Inquiry, a collective of artists, writers, and researchers who create “rhetorical software,” released *Bail Bloc*. The project is an artwork/web application that turns users’ computers into cryptocurrency mining tools and donates the proceeds to a fund that helps poor people pay their bail bonds in order to avoid spending unnecessary time in jail (Figure 8.10). The

⁵⁶⁹ Edward Snowden is a former contractor at the US NSA who in 2013 leaked a large trove of NSA documents regarding government surveillance, and as of the time of this writing remains in Russia to avoid arrest in the United States. He has since become a prominent figure among anti-surveillance activists. See Glenn Greenwald, Ewen MacAskill, and Laura Poitras, “Edward Snowden: The Whistleblower behind the NSA Surveillance Revelations,” *The Guardian*, June 11, 2013, sec. US news, <http://www.theguardian.com/world/2013/jun/09/edward-snowden-nsa-whistleblower-surveillance>.

⁵⁷⁰ Yes Men, “‘Anger Marketing’ at Roskilde,” The Yes Men, 2016, <http://theyesmen.org/roskilde>.

“rhetoric” of this piece of rhetorical software is the group’s use of the application to promote their ultimate goal, the cause of prison abolition. The more people who install and run *Bail Bloc*, the more effective it becomes, not only in collecting currency but also in spreading this message. Critics have thus compared the project to a happening wherein artists function less like authors and more like choreographers of a collective social act. Like *FloodNet* before it, *Bail Bloc* reveals the human actors behind collective actions that occur across computer networks, and proposes that creative practice can give voice to those actors.⁵⁷¹

The works described here only just begin to reveal the expansive field of practice called net art today. As noted, the growing presence of computer networks in the activities of daily life has been paralleled by the growing presence of computer networks as subject, source, and site in a wide range of contemporary art practices. This diversification of the forms of internet art started to accelerate in the early 2000s alongside significant shifts not only in the number of people online, but in the basic tools through which we use computer networks, and particularly the web. These new tools altered the social and political environment of the internet, from the intensification of online surveillance to the enclosure of interpersonal networks through social media to the proliferation of accessible speech platforms through web 2.0. The effects of these changes on internet art were as significant as the appearance of the web barely a decade earlier, and so the main period of the dissertation is positioned between these two points: the crystallization of net art as a practice following the rise of the web in the mid-1990s, which also intensified claims that the internet was becoming a new, digital public sphere, and the absorption

⁵⁷¹ You can explore *Bail Bloc* at Dark Inquiry, “Bail Bloc,” *The New Inquiry*, accessed January 26, 2018, <https://bailbloc.thenewinquiry.com/>. A more detailed analysis of the work is available at Daniel Penny, “Can a Social-Justice App Be Art?,” *The New Yorker*, November 17, 2017, <https://www.newyorker.com/culture/culture-desk/can-a-social-justice-app-be-art>.

of computer networks into the larger field of contemporary art in the early 2000s, which occurred alongside fundamental changes in how that sphere is experienced. During this period, one of the most persistent claims facing internet art was the idea that the presumed public status of the network would also be conveyed onto all art on the network. The works in the dissertation interrogate that claim by investigating the interpersonal networks, spaces of discourse and visibility, and platforms for publicity that shaped the digital public sphere. In so doing, they simultaneously refine our understanding of the publicness of computer networks and, in light of the expanding role of those networks in contemporary politics and culture, redefine the contours of public art.

APPENDIX I: Links

The list of links below provides access to many of the artworks and related projects discussed or mentioned in the study. These links are all current as of the time of completion of the dissertation.

Chapter One

- Kit Galloway and Sherrie Rabinowitz, *Electronic Café*, installation commissioned by MOCA for the Los Angeles Olympic Arts Festival (1984).
 - A description of the project can be found at <http://ecafe.com/museum/history/ksoverview2.html>.
 - The artists' manifesto for the project can be found on http://ecafe.com/museum/about_festo/84manifesto.html.
- THE THING, which operated as a BBS between 1991 and 1995 and was a hub for debates surrounding the development of internet-specific art practices.
 - Select archives from the discussions on art and computer networks can be found at <http://old.thing.net/html/art94.html>.
- nettime, an email list launched in 1995 and still active today, which was crucial for facilitating net art collaborations and critical debate.
 - The current list and links to its archives can be found at <http://nettime.org/>.

Chapter Two

- Douglas Davis, *The World's First Collaborative Sentence*, 1994.
 - Documentation on the history and preservation of the work is available on its Whitney Artport page: <http://whitney.org/Exhibitions/Artport/DouglasDavis>.
 - The archival, historic version of the *Sentence* starts here: <http://artport.whitney.org/collection/DouglasDavis/historic/>.
 - The live version of the *Sentence*, to which you can still add, starts here: <http://artport.whitney.org/collection/DouglasDavis/live/>.
- Heath Bunting, *Project X*, 1996.
 - The page visitors would see when following the chalked URL can be found here (note that the form no longer works): <http://www.irational.org/x/>.
 - The archived page of form results, which visitors would have seen after submitting the survey, is available at <http://www.irational.org/cgi-bin/x/x.cgi?where=&why=&who=>.

Chapter Three

- VNS Matrix, *A Cyberfeminist Manifesto for the 21st Century*, 1991.
 - The full text of the manifesto and documentation of the posters and billboards on which it originally circulated can be found at <https://anthology.rhizome.org/a-cyber-feminist-manifesto-for-the-21st-century>.
- Cornelia Sollfrank, *Female Extension*, 1997.
 - Sollfrank's own documentation of the project can be found at <http://artwarez.org/femext/>.
 - The work has been entered into the Rhizome Net Art Anthology at <https://anthology.rhizome.org/female-extension>.
- Mendi + Keith Obadike, *Blackness for Sale*, 2001, the first of three works in the *Black.Net.Art Actions* suite.
 - An archived version of the original eBay page is available at <http://web.archive.org/web/20011221173617/http://obadike.tripod.com/ebay.html>.
- Mendi + Keith Obadike, *The Interaction of Coloreds*, 2002, the second of three works in the *Black.Net.Art Actions* suite.
 - The IOC website can be viewed at <http://www.blacknetart.com/IOC.html>.
- Mendi + Keith Obadike, *The Pink of Stealth*, 2003, the third of three works in the *Black.Net.Art Actions* suite.
 - The project was designed with Flash for legacy browsers, so some functionality may be altered, but the original version of the work can be viewed at <http://www.blacknetart.com/pink/PINK-1.html>.
 - The artists' more recent description of the project, including a video excerpt of the Flash game component, can be viewed at <http://obadike.squarespace.com/#/ice/>.
- Mendi + Keith Obadike, *Black.Net.Art Actions*, 2001 – 2003.
 - A slightly different version of the suite, in which the Obadikes chose to highlight one of their earlier hypertext poems, is available in the Rhizome Net Art Anthology at <https://anthology.rhizome.org/black-net-art-actions>. Note that the artists consider *Blackness for Sale*, *The Interaction of Coloreds*, and *The Pink of Stealth* to be the definitive set of *Black.Net.Art Actions*.

Chapter Four

- Ben Rubin and Mark Hansen, *Listening Post*, 2001.
 - The video that the artists supplied with their submission for the 2004 Ars Electronica prize, which collects recordings of several of the work's phases from different installations, can be viewed at <http://archive.aec.at/prix/showmode/88/>.

- Rubin has made several short recordings of different *Listening Post* installations available on his own Vimeo channel at <https://vimeo.com/benrubin/videos>.
- Natalie Bookchin and Jacqueline Stevens, *agoraXchange*, 2003.
 - The artists' archive of the site's first phase is available at <http://www.agoraxchange.org/>.
 - The project's original domain now hosts the second phase, which is also no longer active, at <http://www.agoraxchange.net/>.
 - The work's Tate net art commission page is available at <http://www2.tate.org.uk/intermediaart/entry15278.shtm>.

Chapter Five

- RSG (Alexander Galloway), *Carnivore*, 2000/2001.
 - The code libraries required to download and use *Carnivore*, along with a sample client and technical documentation, are available at <http://r-s-g.org/carnivore/>.
 - A partial list of clients produced with *Carnivore* is available at <http://digitalpublicsphere.art/carnivore-clients.html>.
- Eva and Franco Mattes (0100101110101101.org), *Life Sharing*, 2000.
 - The artists have taken down their own documentation of the project in favor of its entry in the Rhizome Net Art Anthology, which includes an emulation of the original experience of visiting the site and browsing through their personal computer. You can find this emulation, along with screenshots and other documentation, at <https://anthology.rhizome.org/life-sharing>.

Chapter Six

- ®™ark, *GATT.org*, 1999
 - The Wayback Machine archived version of the original website from which I have drawn my visual analysis is available at <https://web.archive.org/web/19991128040518/http://gatt.org:80/>.
 - A Wayback Machine archived version of the WTO site that GATT.org parodies is available at <https://web.archive.org/web/20000229125123/http://www.wto.org:80/>.
 - The Rhizome Net Art Anthology entry for this project, with an Old Web Emulator version of the site in Netscape Navigator, can be viewed at <https://anthology.rhizome.org/gatt-org>.
- ®™ark, *rtmark.com*, 1997 - 2001.
 - ®™ark used this domain to execute early website parodies (such as the McDonald's and Shell alternate home pages), document their many projects,

distribute the press releases related to those projects, and share essays and links related to their projects' underlying goals. The domain is no longer active, but Rhizome has stored a full copy of it in their Artbase at <http://archive.rhizome.org/artbase/1693/>. The site copy is fully browsable; links to specific relevant records can be found in footnotes in the dissertation. Rhizome records date the project as 2001, suggesting that their copy of the website was made that year.

Chapter Seven

- ®™ark, *etoy fund*, 1999.
 - Documentation of ®™ark's involvement in Toywar, including its relationship to the larger problem of corporations attempting to take over domains, is available at <http://archive.rhizome.org/artbase/1693/etoymain.html>.
- etoy, *etoy.CORPORATION*, n.d.
 - Although the etoy artist group is no longer active, the most recently updated version of their online identity can be viewed at <http://www.etoymain.com/>.
- etoy, *etoy.TANKSYSTEM*, 1994.
 - A partial archive of etoy's Tanksystem, the "parallel world" they used to build their first online brand identity, is available at <https://web.archive.org/web/19961104074842/http://www.etoymain.com:80/>.
- etoy, *etoy.SHARES*, 1998.
 - The most visually complete (most working image files) archive of the etoy.SHARES pages from 1998 and 1999 can be viewed at <https://web.archive.org/web/19990508125850/http://www.etoymain.com:80/SHARE/>.
- etoy, Toywar Platform, 2000.
 - There is not an old enough archive available to view the original Toywar Platform as it was displayed on www.toywar.com, but etoy offers a narrative of the Toywar events that reuses several of the Platform's visual elements at <http://toywar.etoymain.com/>.

Chapter Eight

- Eva and Franco Mattes, *Dark Content*, 2015.
 - A brief description of the Dark Content series, with video previews and installation photographs, is available on the artists' website at <http://0100101110101101.org/dark-content/>.
- Hasan Elahi, *Tracking Transience*, 2002.

- Elahi's live location and photographs of his surroundings can be tracked at <http://elahi.umd.edu/track/>.
- Tactical Technology Collective, *The Glass Room*, 2016-17.
 - A summary of the ongoing project and some of the works that have been installed with it is available at <https://theglassroom.org/>.
- Natalie Bookchin, *Testament*, 2009.
 - A video of the work installed in the gallery is available at <https://bookchin.net/projects/testament/>.
 - Individual chapter videos can be found on Bookchin's YouTube channel at <https://www.youtube.com/channel/UC4qBbcSJIWQbcUSwmeZYjMA>.
- Ed Fornieles and collaborators, *Dorm Daze*, 2011.
 - Although there appears to be no working archives of the project online, a description of it is available alongside an interview with Fornieles at <http://www.dazeddigital.com/artsandculture/article/23483/1/exclusive-the-tumblr-novel-of-the-facebook-college-sitcom>.
- Ryan Trecartin and collaborators, *riverthe.net*, 2010.
 - The live video can be viewed and contributed to at <http://riverofthe.net/>.
- Martine Syms, “conceptual entrepreneur,” 2007 - the present.
 - A collection of Syms's works and texts is available at <http://martinesyms.com/>.
 - Syms's “Afrofuturist Manifesto” is available at <http://rhizome.org/editorial/2013/dec/17/mundane-afrofuturist-manifesto/>.
 - Syms's analysis of the “Black vernacular” of new media is available at <http://martinesyms.com/black-vernacular-reading-new-media/>.
 - *Black Culture in America* can be viewed at <http://blackcultureinamerica.com/>.
- *New Black Portraits*, 2017, organized by Rhizome.
 - Documentation of the works in this web-based exhibition is available at <https://newblackportraits.rhizome.org/>.
- *Mozart's Ghost*, 2017-18, exhibited at Göteborgs Konsthall.
 - A description of the exhibition's three cycles and the works included in each one is available at <http://www.konsthallen.goteborg.se/utstallningar/mozarts-ghost/>.
- Post Cyberfeminist International, 2017, organized by the London Institute of Contemporary Art.
 - Documentation of the artworks and events featured at the Post Cyberfeminist International is available at <https://www.ica.art/whats-on/season/post-cyber-feminist-international>.
- The Yes Men, “*Anger Marketing*” at Roskilde, 2016.
 - Documentation of the hoax and responses is available at <http://theyesmen.org/roskilde/>.
- Dark Inquiry, *Bail Bloc*, 2017.

- The Bail Bloc web application can be downloaded at <https://bailbloc.thenewinquiry.com/>.

APPENDIX II: Timeline

This timeline outlines the formation of some of the major organizations, on and offline social infrastructure, artist collectives, events, cultural initiatives, and exhibitions that helped to shape the development of internet-based art from the 1950s to the present, tracking relevant developments in computer networking in both technological and cultural terms. Each entry is footnoted with the most easily accessible sources for more information; detailed citations on many of the entries can be found elsewhere in the dissertation. A version of this timeline is also available on the web.⁵⁷² Inevitably, a timeline like this will always be incomplete; the web version of this timeline will be updated as more records become available.

1950s

The development of rudimentary modems allows for direct communication between mainframe computer terminals for the first time.⁵⁷³

1960s

The Defense Department begins building ARPANET, the predecessor to the computer networks that will eventually make up the backbone of the worldwide internet. Basic packet switching, a computer communication protocol, is also developed during the decade.⁵⁷⁴

Early 1970s

Researchers develop a specific type of packet switching communication protocols called TCP/IP (Transmission Control Protocol and Internet Protocol), on which the modern internet is still largely based.⁵⁷⁵

⁵⁷² Megan Driscoll, "Timeline," *Art on the Internet and the Digital Public Sphere, 1994 - 2003*, 2018, <http://digitalpublicsphere.art/timeline.html>.

⁵⁷³ Amos Joel, "Telecommunications and the IEEE Communications Society," *IEEE Communications Magazine* 40, no. 5 (May 2002): 6–162, <https://doi.org/10.1109/MCOM.2002.1006966>.

⁵⁷⁴ Bolt, United States, and Defense Advanced Research Projects Agency, *A History of the ARPANET*.

1972 – 1974

The first iteration of Community Memory appears in the California Bay area. This project represents an early attempt to make computer networking available to people outside of research institutions, and its main database will later reappear in *Electronic Café*, one of the first networked art installations.⁵⁷⁶

1978 – 1979, 1981

A group of artists and researchers use a combination of fax, teletype, and word processing technologies to converse over two ARPANET-connected systems (PLANET and EIES), holding a pair of forums that explore how computing and other electronic technologies might be useful to artists, historians, and museums. The Whitney Museum of American Art reportedly co-sponsored the second conference.⁵⁷⁷

1980s

The National Science Foundation (NSF) begins building its own computer networks and taking over management of the internet. By the end of the decade NSFNET emerges, representing the core of the physical infrastructure that will eventually become the “backbone,” or network of cables and data routers, that connect the modern internet.⁵⁷⁸

1980

- to 1991: ARTBOX, renamed ARTEX in 1982, is one of the first arts-oriented online bulletin boards, with bases in Canada and Austria. Built on the private Canadian Mailbox system run by I.P. Sharp, which was similar to other online bulletin boards but offered easier international messaging, it was managed by artists who used it to build computer networks into their existing telecommunications practices. It was closed by Mailbox in 1991.⁵⁷⁹

1981

⁵⁷⁵ Lawrence G. Roberts, “The Evolution of Packet Switching,” *Proceedings of the IEEE* 66, no. 11 (November 1978): 1307–13, <https://doi.org/10.1109/PROC.1978.11141>.

⁵⁷⁶ Szpakowski, “Community Memory.”

⁵⁷⁷ Franklin Furnace, “PLANET and EIES Teleconferences,” In *The Flow: Alternate Authoring Strategies*, 2000, <http://franklinfurnace.org/research/projects/flow/PLANETandEIES/PLandEIESframe.html>.

⁵⁷⁸ National Science Foundation, “A Brief History of NSF and the Internet.”

⁵⁷⁹ Adrian X, “ARTEX - Artists’ Electronic Exchange System 1980-1990.”

- to present: V2_ opens as a small artist collective based in Rotterdam, the Netherlands. It will move into its permanent location and become the V2_ Institute for Unstable Media in the early 1990s, supporting many net art related endeavors, from hosting festivals and events to preserving and sharing archival materials.⁵⁸⁰

1983

A group of Brazilian artists install a Videotexto exhibition at the Bienal de São Paulo. The installation showcases the work using the Videotexto platform, a Brazilian system similar to the French Minitel, which uses videotex technology to send messages and limited graphics across a network to end user terminals. Due to scarcity of private phone lines, the network was relatively centralized and most terminals were found in places like libraries rather than in individual homes. Nevertheless, quite a few Brazilian artists experimented with using the Videotexto terminals to host and distribute an early form of networked art.⁵⁸¹

1984

- FIDONET, a tool that makes it easier to connect multiple BBS servers into one larger network, is released. During the 1980s and early 1990s, it is used for several arts BBSes, including THE THING.⁵⁸²

- The Interface art and technology festival is held in Adelaide, Australia. It helps to build momentum for organizations that will eventually build into a robust support network for art and technology practices throughout the country.⁵⁸³

- Sherrie Rabinowitz and Kit Gallery produce the *Electronic Café* proto-network installation for MOCA's Los Angeles Olympic Arts Festival ahead of the 1984 Games. The work connects a server at the museum with terminals at easily accessible sites across the city that offer tools for socializing, collaborative art making, and performance across the custom network.⁵⁸⁴

1985

⁵⁸⁰ V2_ Institute for Unstable Media, "A Brief History of V2_," V2_ Institute for the Unstable Media, accessed December 29, 2017, <http://v2.nl/organization/history>.

⁵⁸¹ Hunt, "Brazil's 'Telematic Revolution': Net Art at the End of the Dictatorship." See also Rhizome, "Eduardo Kac's Reabracadabra."

⁵⁸² Randy Bush, "FidoNet: Technology, Use, Tools, and History," Fidonet.org, 1993, https://www.fidonet.org/inet92_Randy_Bush.txt.

⁵⁸³ "Interface (1984)," Scanlines, accessed December 30, 2017, <http://scanlines.net/event/interface>.

⁵⁸⁴ Summary of *Electronic Café*: Sherrie Rabinowitz and Kit Galloway, "Historic Overview: The Telecollaborative Art of Kit Galloway & Sherrie Rabinowitz," Electronic Café International, accessed December 29, 2017, <http://ecafe.com/museum/history/ksoverview2.html>. More detail: Levine and Glahn, "Interrogating Invention."

- to the present: Short for Whole Earth 'Electronic Link, The WELL is co-founded by Larry Brilliant and Stewart Brand, publisher of the *Whole Earth Catalog* during the late 1960s and early 1970s. The WELL was one of the largest and most enduring BBSes, and it was closely connected with the intersection of Bay Area counterculture and the growth of Silicon Valley technology's industry. Although it was not primarily focused on the arts, it hosted arts-oriented sub-boards and was central to the development of early internet culture.⁵⁸⁵

1986

- ACEN (the Art Com Electronic Network) was a collection of arts-oriented digital networks, organized loosely around the electronic *Art Com Magazine*. The discussion boards included a BBS that was a node of the WELL focused specifically on the arts, with a mail art specialization; it was also connected to an arts-oriented Usenet group and available as an emailed magazine, which allowed its reach to spread outside of the local WELL node.⁵⁸⁶

1987

- to 1993: Based in Breda, the Netherlands, the TAM-Bulletin BBS digitized its founder's paper magazine on mail art, allowing board members to share information about mail art activities. The board also attempted to create a digital mail art distribution platform.⁵⁸⁷

1988

- The Australian Network for Art and Technology (ANAT) incorporated in this year. It emerged out of the 1984 Interface festival, and became one of the main Australian government funding programs that encouraged regional art/tech initiatives.⁵⁸⁸

- to 1994: Based in Montreal, Le Musée Standard was a messaging and art distribution network that also described itself as a virtual museum because of its limited graphics-sharing capabilities. It was built on Alextel, a Canadian adoption of the French Minitel videotex system, which also attracted experiments by artist groups like the Toronto Community Videotex collective. It is associated with La Société de Conservation du Présent.⁵⁸⁹

⁵⁸⁵ Early history of The WELL: Rheingold, *The Virtual Community*. Current status: "What Is The WELL?"

⁵⁸⁶ Anna Couey, "Art Works as Organic Communications Systems," *Leonardo* 24, no. 2 (1991): 127–30, <https://doi.org/10.2307/1575280>.

⁵⁸⁷ Janssen, "History of the TAM-Bulletin."

⁵⁸⁸ "History of ANAT," Australian Network for Art and Technology, accessed December 30, 2017, <http://www.anat.org.au/about/history/>. On the history of art and technology programs during the 1980s and 1990s in Australia, see Pierce, "Update."

⁵⁸⁹ l'Agence TOPO, "(La Société de Conservation Du Présent) 1985-1994."

1989

- The first commercial internet service provider (ISP), The World, launches this year. The service makes it possible for individuals without institutional access to dial into the central internet backbone, rather than just the isolated networks created by individually-managed servers like the BBSes. However, internet use still would not become popular until the rise of the web.⁵⁹⁰
- to 1998: Following the success of their 1984 *Electronic Café* installation, Kit Galloway and Sherrie Rabinowitz open a permanent media center in Santa Monica, California called the Electronic Café International. During the ECI's ten years of operation, the artists offered a space for socializing, learning about using the internet and/or making digital art, and hosting events ranging from poetry readings to the annual international "New Year's Eve Telebrations."⁵⁹¹
- to 2004: Opened by artists in Bielefeld, Germany, BIONIC eventually became one of the largest Mailbox bulletin board networks in the region. The artists managed the core platform out of the lab in which they offered technical support and artist collaboration, building a robust digital communication network that reached into central Europe. While most BBSes closed in the 1990s, they kept BIONIC running well after the growth of the web because its affiliates were facilitating communication in areas affected by the Balkan wars, where phone lines existed but internet infrastructure was still unreliable.⁵⁹²

1990

- to 2000: The London-based Arts Technology Center (better known as Artec) received financial backing from UK and EU governmental organizations to explore how new technologies might be used to solve social and economic problems. Although it emphasized things like job training programs, the center also provided material resources and technical support for artistic programs spearheaded by internet artists.⁵⁹³
- to 2001: Echo, one of the first large-scale BBSes on the east coast of the United States, is formed in New York City. Although not specifically arts-focused, Echo introduced many New York-area artists to computer networking.⁵⁹⁴
- to 2009: *Postmodern Culture* (PMC) is founded as a multifaceted experiment in online scholarly publishing. It centered around an academic electronic journal, but also contained

⁵⁹⁰ Software Tool & Die, "The World," 2010, <http://world.std.com/>.

⁵⁹¹ Kit Galloway and Sherrie Rabinowitz, "ECI Highlights - 1989," Electronic Café International, accessed December 21, 2017, <http://www.ecafe.com/museum/hilites/1989.html>.

⁵⁹² Tangens, "Art d'Ameublement and Zerberus - from Erik Satie to the Mailbox." On the ZamirNet BIONIC affiliate in the Balkans, see Gessen, "Balkans Online."

⁵⁹³ Charlotte Frost, "Media Lab Culture in the UK," *Metamute*, January 24, 2012, <http://www.metamute.org/community/your-posts/media-lab-culture-uk>.

⁵⁹⁴ Horn, *Cyberville*. See also John Markoff, "Sound Bytes; An Electronic Salon, in N.Y.," *The New York Times*, March 27, 1994, sec. Business, <http://www.nytimes.com/1994/03/27/business/sound-bytes-an-electronic-salon-in-ny.html>.

several communication platforms that promoted online discussion of art and critical theory. Starting as a BBS run through North Carolina State University's BITNET system, PMC later transitioned to a Majordomo email list, thus widening access to the discussion group beyond the university-based network. The organization also ran PMC2, the PMC-MOO, a platform for real-time social and academic exchanges.⁵⁹⁵

- to present: LambdaMOO becomes one of the largest and most popular MUDs, platforms combining text-based gaming and social environments that introduced many artists to computer networking during the early 1990s.⁵⁹⁶

1991

- NSFNET alters its acceptable use policy to allow commercial traffic.⁵⁹⁷

- Tim Berners-Lee, who first developed the concept of the web in 1989 while working at CERN, releases the three main technical protocols that structure it (HTML, URI, HTTP). Other researchers' experiments with these protocols eventually lead to the development of web browsers and the foundations of today's web.⁵⁹⁸

- CyberNet, a loosely-organized group of art/hacker culture BBSes, starts in several locations throughout Italy. The network included Senza Confine, Hacker Art (which later became Virtual Town), Lamer Xterminator, Bits Against the Empire, and Decoder, affiliated with the Italian hacker/cyberpunk/digital art magazine *Decoder*.⁵⁹⁹

- The Wetware art and tech convention is held in Amsterdam. Although not focused on computer networking, the event introduced many people to the art/tech social environment that nurtured net art throughout the 1990s.⁶⁰⁰

- to 1995: Artist Jordan Crandall circulates *Blast* multimedia magazine, an early experiment in combining print and online publication.⁶⁰¹

⁵⁹⁵ Postmodern Culture, "PMC Archives," October 27, 2000, <http://pmc.iath.virginia.edu/>. Postmodern Culture, "PMC2 (PMC-MOO) Archives," accessed December 20, 2017, <http://pmc.iath.virginia.edu/pmc-moo.html>.

⁵⁹⁶ Eric Roberts, "The History of LambdaMoo," accessed December 20, 2017, <http://cs.stanford.edu/people/eroberts/cs181/projects/controlling-the-virtual-world/history/mud.html>. A description of what it's like to use LambdaMOO and how it relates to similar MUDs is available at Josh Quittner, "Johnny Manhattan Meets the Furry Muckers," *WIRED*, March 1, 1994, <https://www.wired.com/1994/03/muds-3/>.

⁵⁹⁷ National Science Foundation, "The Internet, Nifty 50," 50.

⁵⁹⁸ Berners-Lee and Fischetti, *Weaving the Web*.

⁵⁹⁹ Bazzichelli, *Networking: The Net as Artwork*, 76–84.

⁶⁰⁰ Monoskop, "Wetware Convention," Monoskop, October 3, 2007, https://monoskop.org/Wetware_Convention.

⁶⁰¹ Jordan Crandall, Triple Canpoy - Unmarked Box on a Counter, interview by Caleb Waldorf, nd, https://www.canopycanopycanopy.com/contents/unmarked_box_on_a_counter.

- to 1998: Cyberconf starts. It was a series of academic conferences on computer-mediated communications periodically touching on internet-based art. Held every one to two years at different locations around the world, it also brought in net artists as speakers.⁶⁰²

- to present: THE THING BBS, focused specifically on the discussion and circulation of contemporary art, is launched. Its main, artist-run node was based in New York, and for a brief period of time it was also linked to nodes in Germany, Austria, Switzerland, and Sweden. In 1995 THE THING converted to a web-based platform that eventually included an informational email list and a web forum. It also started offering website hosting services for artists and activists.⁶⁰³

1992

- ARTNET begins as a short-lived BBS based in New York City, run by artists who want to use it to help other local artists share and promote their work. In 1993 they transition the project onto the web with the Artnetweb site, which sponsored many net art curatorial initiatives. The group also managed a physical storefront that operated as an artist-run media arts lab. The website is still online, but Artnetweb curatorial and lab activities have ceased.⁶⁰⁴

- Artist group Van Gogh TV installs *Piazza Virtuale* for the documenta IX Rahmenprogramm. It is an experiment in video and multi-directional communication that integrates computer networks to create a live, interactive video performance.⁶⁰⁵

- The Third International Symposium on Electronic Art (TISEA) is held in Sydney, Australia. Sponsored by ANAT, it brings more funding and attention to the art and technology initiatives that will soon support a growing network of internet-based artists in Australia.⁶⁰⁶

- to 1993: The first, minimal web browsers begin to appear, including Mosaic.⁶⁰⁷

- to 1993: ZEROnet is launched as a combined BBS, curatorial, and symposium initiative that explores the intersection of art, transportation, and communication technologies. It is managed by one of the co-organizers of the ARTEX BBS, and helps to extend that network's promotion of the use of computer networks in telecommunications-based art practices.⁶⁰⁸

⁶⁰² "Cyberconf: The International Conference on Cyberspace (Wayback Machine Archive)," 2007, <https://web.archive.org/web/20160817155005/http://www.cyberconf.org/>.

⁶⁰³ Wolfgang Staehle, "Thing.Net," accessed December 20, 2017, <http://thing.net/>.

⁶⁰⁴ Campopiano, "Artnetweb."

⁶⁰⁵ ZKM, "Media Art Net | Ponton/Van Gogh TV."

⁶⁰⁶ "Third International Symposium on Electronic Art (TISEA)," ISEA Symposium Archives, accessed December 21, 2017, <http://www.isea-archives.org/sample-page/tisea-1992/>. See also Pierce, "Update."

⁶⁰⁷ Calore, "April 22, 1993."

⁶⁰⁸ V2_Institute for Unstable Media, "ZEROnet," V2_Institute for Unstable Media, 1993, <http://v2.nl/archive/works/zeronet>.

- to 1996: Cybercafé BBS, run by net artists who used to coordinate early network experiments, is established in London. It became affiliated with the Cybercafé website, which eventually transformed into the long running net art hosting and collective site irrational.org (see below).⁶⁰⁹
- to 1999: The Soros Open Society Institute (OSI, now known as the Open Society Foundations) begins expanding its arts center in Budapest to open several more Soros Centers for Contemporary Art (SCCAs) throughout central and eastern Europe. Several of them will eventually host media arts labs that provide critical resources for the development of net art. Many still exist today as independent arts centers, well after the closure of the SCCA program.⁶¹⁰

1993

- “Online: Kunst im Netz,” first of a series of three symposia on art and telecommunications technologies, concludes the ZERONet initiative. Held in Graz, Austria, the symposium, representing one of the first attempts to formally theorize an art history for computer networking in art, dealt with artists’ approaches to computer networks as telecommunications systems.⁶¹¹
- to 2003: The Next 5 Minutes festivals, hosted every three years in Amsterdam and Rotterdam, bring together artists, journalists, activists, and scholars from all over the world to share resources and explore new possibilities for tactical media, a form of cultural and political activism that relies on low-cost media platforms like radio, public television, and, eventually, computer networks. The internet did not figure prominently in the event until 1996, after which it played a critical role in the articulation of an explicitly political model of artistic practice over computer networks. The festivals help to form a bridge between net art and practices like experimental/guerrilla television.⁶¹²
- to present: The New York Digital Salon begins hosting exhibitions, educational programs, lectures, and other in-person events related to digital arts, collecting and distributing materials from the events via their websites in order to circulate them online.⁶¹³
- to present: The New Media Center opens in Moscow as one of the eastern European media arts centers built out of the SCCAs. Although it starts off as a room inside of the larger Center for Contemporary Arts, many Russian artists cite it as critical for providing both the resources and peer support they needed to get online. It also hosted several net art exhibitions and events

⁶⁰⁹ Bunting, “Cybercafe Net Art Projects.”

⁶¹⁰ Octavian Eșanu, “Dictionary: SCCA,” [contemporary.org](http://www.contemporary.org), accessed September 20, 2016, <http://www.contemporary.org/dictionary/view/7>. The OSF provides little information about the OSI’s historical SCCA program, but does address its closure in Open Society Foundations, “Soros Foundations Network 1999 Annual Report,” 1999, https://www.opensocietyfoundations.org/sites/default/files/a_a_complete_99_0.pdf.

⁶¹¹ Helga Konrad, ed., *On Line: Kunst Im Netz Katalog*, ZERO - The Art of Being Everywhere (Vienna: REMAprint, 1993).

⁶¹² “Next 5 Minutes :: Festival of Tactical Media,” Tactical Media Files, 2003, <http://www.tacticalmediafiles.net/n5m4/about.jsp.html>. See also Garcia and Lovink, “The ABC of Tactical Media.”

⁶¹³ “Mission of NYDS,” New York Digital Salon, accessed December 30, 2017, <http://www.nydigitalsalon.org/mission.php>.

during the mid-1990s, and by the end of the 1990s it grew into the independent Moscow MediaArtLab, still operating today.⁶¹⁴

- to present: The AltX Online Network for experimental art and writing opens its website and launches the Hyper-X net art online gallery in 1995. Hyper-X mounted their last exhibition in 2007, but the AltX and Hyper-X websites are still online.⁶¹⁵

1994

- Netscape Navigator, the first widely-available commercial web browser, is released. Internet Explorer follows almost immediately afterwards, and together they initiate a very rapid increase in internet use in the parts of the world that already have network infrastructure.⁶¹⁶

- New Media Logia, the first international media art symposium, is hosted by the MediaArtLab in the Moscow SCCA. It connected the history of media and technology experimentation in Russian art with mid-1990s scholarship on video and the brand-new developments in digital and internet-based art.⁶¹⁷

- The Interactive Media Festival is held in Los Angeles. This small event brought together several US and European net and telecommunications artists, helping to connect on and offline collaborative efforts.⁶¹⁸

- to 1996: The first of three MetaForum conferences is held in Budapest, Hungary. These low-budget, deliberately chaotic events sought to spark dialogues and debates on the broad topic of “multimedia,” highlighting in particular the effects of global wealth and infrastructure disparities on artists’ access to new telecommunications technologies.⁶¹⁹

- to 1996 and 2011: The Virtual Futures conference in Coventry, UK, takes a broad, interdisciplinary approach to exploring cyberfuturism, looking at the ways that science and critical theory interact with art, music, fiction, and other media. It was held annually between

⁶¹⁴ MediaArtLab Center for Art and Culture, “MediaArtLab,” accessed December 21, 2017, <http://www.mediaartlab.ru/?lang=en>.

⁶¹⁵ AltX, “ALTX Online Network,” accessed January 1, 2018, <http://www.altx.com/>.

⁶¹⁶ David Shedden, “Today in Media History: The First Commercial Web Browser, Netscape Navigator, Is Released in 1994,” Poynter, October 13, 2014, <https://www.poynter.org/news/today-media-history-first-commercial-web-browser-netscape-navigator-released-1994>. This page shows the growth in internet use between 1993 and 1996, worldwide and by country; the tool can be manipulated to track any time period: International Telecommunication Union, “Individuals Using the Internet (% of Population).”

⁶¹⁷ Moscow MediaArtLab, “New Media Logia,” Da-Da-Net Festival, 1994, http://www.da-da-net.ru/98/e_history.html#logia.

⁶¹⁸ “Interactive Media Festival,” The Daniel Langlois Foundation - CR+D/Event, accessed December 21, 2017, <http://www.fondation-langlois.org/html/e/eve.php?NumEnregEve=e00004097>. One of the participants, Gerfried Stocker, briefly describes his contribution in Gerfried Stocker, “Winke Winke at Interactive Media Festival,” accessed December 21, 2017, <http://www.kunstradio.at/GERFRIED/festival/winke.eci.html>.

⁶¹⁹ Lovink, McCarty, and Sugár, “MetaForum Conference Series.”

1994 and 1996, then briefly resurrected in 2011 to revisit how these ideas had changed ten years into the twenty-first century.⁶²⁰

- to 1996: Desk, a multi-faceted organization started by internet artists as “the flying desk” media lab in Amsterdam, becomes the Desk.nl website in 1995, adding web hosting, tools for getting online and making websites, technical support, and discussion groups focused on internet art and free speech. One sector of the organization eventually splits off to become Desk.org, a web hosting service for artists.⁶²¹

- to 1998: The äda'web website is founded by a curator, an entrepreneur, and a designer interested in bridging the nascent field of net art with other areas of contemporary art. In its four years online, this “digital foundry” provided technical support for artists who wanted to develop internet-based projects and hosted many of them on its site, which was itself designed as a work of web-based art. After closing, the äda'web archive was acquired by the Walker Art Center's Gallery 9 initiative.⁶²²

- to 1998: The artist-run De Digital Stad (the Digital City, or DDS) connects with an effort in Amsterdam to provide widespread internet access at the municipal level, helping DDS rapidly become a large-scale (for the time) online community. DDS extended the urban metaphor to provide personal, household, neighborhood, and city-level “spaces” for interaction on the site, including a very early effort at personalizable avatars for users. The network also had a physical presence through public terminals installed around the city, which became social gathering spots as well as DDS access points. The Amsterdam Museum has recently launched a web archaeology project to excavate its archives.⁶²³

- to 1998: Inspired by the DDS project, net artists in Berlin launch the Internationale Stadt (IS). Like DDS, IS provided the technical resources and services artists and activists needed to get online and explored the possibilities for art and activism offered by the web. It also supported a range of local projects and in-person events, grounding the organization in the Berlin context.⁶²⁴

- to 2004: The Spoon Collective, a network of email lists focused on critical theory that frequently explored art history and criticism, is formed out of the ThinkNet group. It would

⁶²⁰ “Conferences,” Virtual Futures, 2016, <http://www.virtualfutures.co.uk/events/category/conferences/>.

⁶²¹ Walter van der Crujjsen, “Desk History,” Desk.org, 2002, <http://www.desk.org:8080/Desk/The%20flying%20Desk>.

⁶²² Robert Atkins, “What Is Äda'web?,” WAC | Gallery 9, September 1998, <http://gallery9.walkerart.org/bookmark.html?id=141&type=text&bookmark=1>. The archived site can be viewed at “Äda'web.”

⁶²³ Waag Society, “Projects: Digital City (DDS),” Waag Society, accessed December 21, 2017, <http://waag.org/en/project/digital-city-dds>. An outline of the Amsterdam Museum's DDS web archaeology program is available (in Dutch) at Amsterdam Museum, “Re:DDS De Reconstructie van De Digitale Stad, Case Studie Voor Webarcheologie,” Hart Amsterdammuseum, accessed December 21, 2017, <http://hart.amsterdam/nl/page/521/re-dds>.

⁶²⁴ Joachim Blank and Karl-Heinz Jeron, “The ‘Internationale Stadt Berlin,’” digitalcraft, accessed December 21, 2017, http://www.digitalcraft.org/?artikel_id=80.

eventually be hosted by the University of Virginia's Institute of Advanced Technologies in the Humanities (IATH), which also currently hosts the archives for PMC.⁶²⁵

- to 2006: Like DDS in Amsterdam and IS in Berlin, Public Netbase/t0 (the Institute for New Culture Technologies) is founded as a non-profit by artists in Vienna to provide internet access and support as well as a web-based platform for discussion and collaboration. The organization also hosted symposia, exhibitions, workshops, and other events supporting internet-based art and cultural activities, and remained active until it lost funding.⁶²⁶

- to 2014: The Dutch Electronic Arts Festival (DEAF) was originally organized and hosted by the V2_ Institute in Rotterdam, although it broke off to become an independent event in 2012. DEAF is a general media and culture gathering that was never primarily focused on computer networks, but was an important part of the in-person social infrastructure that promoted collaboration and helped to nurture internet art.⁶²⁷

- to present: Like Moscow's MediaArtLab, Ljudmila (the Ljubljana Digital Media Lab in Slovenia) launched with funds from the regional SCCA to be managed by a local group of artists and activists. The still-thriving organization provides a wide range of support for digital media projects and internet art, including material and technical assistance, production and archiving services, and exhibitions, symposia, and other events. The center played a critical role for the development of European net art through several initiatives that local net artists launched through Ljudmila during the 1990s.⁶²⁸

1995

- The NSFNET internet backbone is decommissioned as the privatization of physical internet infrastructure accelerates.⁶²⁹

- *TalkBack! A Forum for Critical Discourse*, a web-based arts criticism project, produces three issues.⁶³⁰

⁶²⁵ M. Askanas, "A Brief History of the Spoon Collective," accessed December 20, 2017, http://driftline.org/spoon_collective.html.

⁶²⁶ "Netbase / T0 Institute for New Culture Technologies," Netbase, accessed December 21, 2017, <http://www.netbase.org/t0/about>.

⁶²⁷ V2_ Institute for Unstable Media, "DEAF - Dutch Electronic Art Festival," V2_ Institute for Unstable Media, accessed December 21, 2017, <http://v2.nl/events/deaf>.

⁶²⁸ "About Ljubljana Digital Media Lab (M3C)," Ljudmila.org, accessed December 21, 2017, [https://wiki.ljudmila.org/Ljubljana_Digital_Media_Lab_\(M3C\)](https://wiki.ljudmila.org/Ljubljana_Digital_Media_Lab_(M3C)). For a more detailed history, see "Ljudmila - Ljubljana Digital Media Lab," Culture.si, August 24, 2016, http://www.culture.si/en/Depot:Ljudmila_-_Ljubljana_Digital_Media_Lab.

⁶²⁹ National Science Foundation, "A Brief History of NSF and the Internet."

⁶³⁰ Witte de With, "TalkBack! A Forum for Critical Discourse (Wayback Machine Archive)," 2000, <https://web.archive.org/web/20000901025458/http://talkback.lehman.cuny.edu:80/tb/>.

- The growing presence of art and museums on the web is featured on the cover of the December issue of *Art in America*.⁶³¹
- The Ars Electronica art and technology festival, which had been running annually in Linz, Austria since 1979, introduces an internet-focused theme for the first time: “Welcome to the Wired World (Mythos Information).” The Prix Net Art is also introduced this year, and Ars Electronica receives funding to expand its festival and prize program to include a permanent museum and research building in Linz.⁶³²
- The first Gwangju Biennale is held in South Korea, showcasing a web-based work of internet art.⁶³³
- Richard Kriesche's networked project, *Telematische Skulptur 4*, is presented in the Austria pavilion at the Venice Biennale.⁶³⁴
- Art & Science Collaborations, Inc. (ASCI) sponsors two "cyberfairs" in New York City that explore the effect that computer networks have on the arts, both from the point of view of artists and from the point of view of arts institutions. The first event featured organizations like Artnetweb and THE THING, and was so successful that ASCI held a second event later that year. This cyberfair featured major figures from New York's contemporary art scene, including keynotes by artist Laurie Anderson and Michael Govan, director of Dia at the time.⁶³⁵
- to 1999: The artist-run website Stadiumweb launches with a goal to host and develop works produced through collaboration between conceptual artists and net artists. Dia acquired the Stadiumweb server in 1999.⁶³⁶
- to 2000: The Firefly Network music recommendation platform is started by graduate students in the MIT Media Lab; it eventually becomes an independent company. Firefly is widely considered to be an early form of social network/media because of its popular social components.⁶³⁷

⁶³¹ *Art in America*, volume 83, number 12, December, 1995.

⁶³² Ars Electronica Linz, “Welcome to the Wired World (Mythos Information).”

⁶³³ Gwangju Biennale, “History of the Gwangju Biennale.”

⁶³⁴ ZKM, “Richard Kriesche: Telematische Skulptur 4 (1995).”

⁶³⁵ Art & Science Collaborations, Inc. (ASCI), “12 Years @ Art & Science Collaborations, Inc.,” 2000, Internet Archive, ASCI, http://web.archive.org/web/20111015050645/http://www.asci.org/about/asci_12year_report_web.pdf.

⁶³⁶ There are no archives of the original Stadiumweb projects available online; even the Wayback Machine archive of the site is non-functional. Co-founder Ron Wakkary briefly discussed the project with me in Ron Wakkary to Megan Driscoll, “Stadiumweb?,” January 24, 2018. There is documentation of Dia’s acquisition of the project available online at: Dia Art Foundation, “Dia Center for the Arts Forms Alliance With the Website Stadium,” Dia Art Foundation - Press Releases, February 26, 1999, http://diaart.org/press_releases/main/137.

⁶³⁷ Daniel Lyons, “The Buzz About Firefly,” *The New York Times*, January 29, 1997, sec. CyberTimes Technology, <http://www.nytimes.com/library/cyber/week/062997firefly.html>.

- to 2003: The Cyberfemin Club is a cyberfeminist arts collective that was hosted by the Techno Art Center in St. Petersburg, Russia. It supported artist projects, mounted exhibitions, and produced educational events, in addition to circulating an electronic journal.⁶³⁸

- to present: Dia begins commissioning web-based net art projects. Their program, which is still running intermittently today, focuses on helping artists who do not normally use computers in their work explore the concept of site-specificity online.⁶³⁹

- to present: The nettime email list is launched by a group of artists and critics, rapidly becoming many net artists' first contact with other artists using computer networks, and one of the most influential social platforms for the development of net art. In addition to hosting wide-ranging discussions on internet culture and politics, it serves as a kind of "mobile studio" for net artists to share ideas and develop collaborations.⁶⁴⁰

1996

- The Community Connect commercial social network company is founded. It funds social websites that cater to nonwhite ethnic and racial groups, which had previously been largely ignored as internet-using demographics. Their sites include AsianAvenue, BlackVoices, Netnoir, UrbanMagic, MiGente, and BlackPlanet (see below). Some still exist as independent networks today, although the status of the parent company is unclear.⁶⁴¹

- Digital Chaos, an art/hacker conference, is hosted by Cybercafé/irational in Bath, UK.⁶⁴²

- Held as a mini-conference at the V2_Institute for Unstable Media during the 1996 Next 5 Minutes events in Rotterdam, V2_East brought together artists from across Europe to talk about the development of new media and internet-based practices after the fall of the Soviet Union. It launched several influential pan-European arts initiatives, including the Syndicate network.⁶⁴³

- Organized under the auspices of the Ljubljana Digital Media Lab and advertised through the nettime mailing list, net.art per se is a small, internet-focused gathering that was held during the 1996 Teatro Telematico art and technology festival in Trieste, Italy. Although few people attended, the intimate atmosphere helped to strengthen the bonds that were nurturing

⁶³⁸ Experimental Sound Gallery, "Cyber-Femin Club History."

⁶³⁹ Dia Art Foundation, "Artist Web Projects." Dr. Lynn Cooke described the impetus of the Dia program and director Michael Govan's interest in the concept of the internet as site in Cooke, Dia curator 1991-2008, interview.

⁶⁴⁰ "Nettime Mailing List."

⁶⁴¹ Gangemi, "A MySpace That Speaks Your Language."

⁶⁴² "Digital Chaos - Slacker Cyber Conference, Bath, UK," irational.org, 1996, <http://www.irational.org/cybercafe/chaos/>.

⁶⁴³ V2_Institute for Unstable Media, "V2_East Startup," V2_Institute for Unstable Media, accessed December 22, 2017, http://v2.nl/events/v2_east-startup.

collaborations online. The event has thus taken on a significant role in narratives describing the collaborative, social ethos of net art.⁶⁴⁴

- The Museum of Modern Art in New York hosts “Technology in the 1990s: The Human/Machine Interface,” a series of symposia on new media arts that is paired with a web forum run by äda’web.⁶⁴⁵

- New York-based gallery and performing arts archive Franklin Furnace mounts a combined online and in-gallery exhibition, “In the Flow: Alternative Authoring Strategies.” The show includes networked social platforms, like THE THING, that had encouraged non-traditional authorship strategies in net art.⁶⁴⁶

- Postmasters Gallery in New York City exhibits *Can You Digit?*, a digital art show that includes some experiments with computer networks.⁶⁴⁷

- Artspace Gallery in Auckland, New Zealand, exhibits *Electronic Bodyscapes*, a show on art, digital technologies, and the body that includes internet-based art.⁶⁴⁸

- to 1998: Artists G.H. Hovagimyan, Robbin Murphy, and Adrienne Wortzel host Art Dirt, a web-based radio program featuring interviews on net culture with artists, scholars, critics, and designers. The program’s archives were collected by Gallery 9.⁶⁴⁹

- to 1998: Terminal Bar, a company that provided early internet service to the Czech Republic, had an internet café in Prague open from 1996 to 1998. Although not known for providing the same level of support to internet artists as many of the other internet café and media labs in this timeline, Terminal was represented at media art festivals and events like Next 5 Minutes, where they described themselves as a resource that could combine the information-circulating capabilities of computer networks with the collaboration-sparking environment of an in-person meeting place.⁶⁵⁰

⁶⁴⁴ Vuk Ćosić, “Net.Art per Se,” Ljudmila.org, 1996, <http://www.ljudmila.org/naps/home.htm>.

⁶⁴⁵ Museum of Modern Art, “Technology in the 1990s: The Human/Machine Interface (Video Viewpoints Symposia on Video and Digital Media),” March 1996, MoMA Press Releases, https://www.moma.org/momaorg/shared/pdfs/docs/press_archives/7420/releases/MOMA_1996_0015_15.pdf?2010. “Technology in the 1990s: The Human/Machine Interface @ MoMA,” äda’web Walker Archive, 1996, <http://adaweb.walkerart.org/context/events/moma/technology.html>.

⁶⁴⁶ Franklin Furnace, “In the Flow: Alternative Authoring Strategies,” 1996, <http://franklinfurnace.org/research/projects/flow/>.

⁶⁴⁷ Postmasters Gallery, “About Can You Digit?,” 1996, <http://www.postmastersart.com/digit/id.html>.

⁶⁴⁸ “Exhibition Highlights 1986-1996,” Artspace, accessed December 30, 2017, <http://www.artspace.org.nz/exhibitions/19861996/>.

⁶⁴⁹ Hovagimyan, Murphy, and Wortzel, “Art Dirt Internet Culture Interview Archives.”

⁶⁵⁰ “Terminal Bar Internet Cafe Prague & ISP (Wayback Machine Archive),” Terminal.cz, January 25, 1999, <https://web.archive.org/web/19990125103806/http://www.terminal.cz:80/>. “Terminal bar,” *Wikipedie*, September 8, 2017, https://cs.wikipedia.org/w/index.php?title=Terminal_bar&oldid=15301403. These sparse resources represent what little information about Terminal Bar still exists online, but more extensive paper documentation is available as a result of their participation in the 1996 Next 5 Minutes festival: Next 5 Minutes Festival, “Terminal Bar Documentation,” 1996, Next 5 Minutes Video and Documentation Collection; Box: N5M2 divers Next 5 Minutes

- to 1999: Backspace (better known as Bakspc) opens in London as an independently run cybercafé growing out of collaborations between several net artists. The physical space offered computer terminals and internet access for relatively low fees and became a lively center for artists and hackers to share resources, collaborate, and hang out. In contrast to the commercial internet cafés that would eventually spring up all over the world, Backspace built a highly social atmosphere operating on a cooperative business model.⁶⁵¹

- to 2001: Founded at V2_East, the Syndicate network and email list facilitated pan-European discussion on art, the internet, and digital media, with a focus on opening up new lines of communication and collaboration within central and eastern Europe as well as across the continent. Several exhibitions and events were organized through Syndicate as well.⁶⁵²

- to present: Artist Heath Bunting launches irrational.org. Co-managed by artist Rachel Baker, irrational.org is a net art hosting site and social collective that still exists online today as an archive of the many different projects that it has hosted over the years.⁶⁵³

- to present: Turbulence.org becomes the online arm of New Radio and Performing Arts, commissioning, exhibiting, and collecting net art.⁶⁵⁴

- to present: The Soros Centers for Contemporary Art began as an initiative in Budapest in 1985, and in 1996, as part of the OSI's larger initiative funding new media labs at some of the central and eastern European SCCAs, they launched the C³: Center for Culture & Communication. Like the other SCCA media labs, it offered invaluable resources and training, and hosted many networking events and artist residencies. In 1999 C³ became an independent organization, and it is still operating in Budapest today.⁶⁵⁵

- to present: The E-LAB Center for Arts and Electronic Media, opened in Riga, Latvia in 1996, is another eastern European media arts organization that was funded in the beginning as part of an SCCA. It is fully independent now, and became RIXC in 2000. Like many other European media labs, it provides an array of services, including technical and production resources, developing events and exhibitions, and helping to build regional cultural networks. RIXC also co-founded the Liepaja University's Art Research Lab & New Media Art program, has built a net art archive,

10; Folder: Tsjechisch Terminal, International Institute of Social History,
https://socialhistory.org/en/image_sound/n5m.

⁶⁵¹ backspace, "Backspace Archived Website," December 22, 1999, <http://bak.spc.org/>. Frost, "Media Lab Culture in the UK."

⁶⁵² Andreas Broeckmann and Inke Arns, "Rise and Decline of the Syndicate: The End of an Imagined Community," Tactical Media Files, October 6, 2013, http://www.tacticalmediafiles.net/articles/3624/Rise-and-Divide-of-the-Syndicate_-the-End-of-an-Imagined-Community.

⁶⁵³ Heath Bunting and Rachel Baker, "Irrational.Org," accessed December 30, 2017, <http://www.irrational.org/>.

⁶⁵⁴ "Turbulence | Commissioning and Supporting Net Art," present 1996, <http://turbulence.org/>.

⁶⁵⁵ "A Brief History of C³," C³: Center for Culture & Communication, accessed December 21, 2017, <http://www.c3.hu/c3/c3tortenete.html>.

and hosted the XCHANGE net radio / experimental sound project and mailing list when it was still active.⁶⁵⁶

- to present: Rhizome starts as a net art focused email list based in New York City. Although the email list closed in 2003, the Rhizome organization has expanded over the years to become one of the most influential institutions in net art, beginning with the now-closed Artbase, one of the first attempts to create a large scale online repository for net art. Over time Rhizome developed into a multi-pronged initiative affiliated with the New Museum of Contemporary Art, supporting the archiving, researching, commissioning, and exhibiting of born-digital art, including the ongoing Net Art Anthology restoration and online exhibition project.⁶⁵⁷

1997

- documenta X includes net art for the first time, featuring an exhibition of it on their website and a Hybrid Workstation space in Kassel managed by artists and critics affiliated with net art. The Workstation offers offline computer terminals for viewing the browser-based works in addition to hosting a series of panels and social events, including the First Cyberfeminist International.⁶⁵⁸

- The Austria Pavilion at the Venice Biennale features *Die Wiener Gruppe* (The Vienna Group), a multi-part, intermedia installation exploring the historical artist group of the same name. One of the elements of the installation is a website using early VRML (Virtual Reality Modeling Language) that offers a 3D, “walk-in” version of the Pavilion with an overlaid virtual installation. Visitors to the Biennale could view the site and virtual installation using a local network (internet connections there were too unstable to maintain the live website). The website is also hosted on the Graz University web servers and made available to anyone with an internet connection during the Biennale and for three subsequent years.⁶⁵⁹

- The Beauty and the East net art conference is held in Ljubljana, Slovenia. It is organized by local net artists, promoted as a nettime and Syndicate mailing list collaborative event, and results in an online publication culled in part from the combination of on and offline conversations. The conference title is a playful riff on the V2_East meeting of the preceding year, which had been

⁶⁵⁶ RIXC, “About RIXC Center for New Media Culture,” accessed December 21, 2017, <http://rixc.org/en/center/0/>.

⁶⁵⁷ “Rhizome.Org,” Rhizome, accessed December 20, 2017, <http://rhizome.org/>. Rhizome.

⁶⁵⁸ “Documenta X - Home,” documenta X Exhibition of Contemporary Art Archive, accessed December 30, 2017, http://www.documenta12.de/archiv/dx/english/firm_home.htm. Tilman Baumgärtel, Kathy Rae Huffman, and Margarete Jahrmann, “The Opening of Documenta X, A First Flash Report,” Telepolis, June 27, 1997, <http://www.heise.de/tp/artikel/4/4073/1.html>.

⁶⁵⁹ Because of damage to the Graz University servers, the website for *Die Wiener Gruppe* is no longer online, but Orhan Kipcak, who did the media design for the project, keeps screenshots and information available at Orhan Kipcak, “Venice Biennale 1997,” adm, accessed January 15, 2018, <http://adm.at/index.php?mod=2&sub=1&subsub=10&site=biennale.htm>. The overall planning and execution of the project was managed by scholar and curator Peter Weibel, Commissioner for the Austria Pavilion in 1997. The main room for the Pavilion was filled with thousands of copies of a catalog produced as part of the project: Peter Weibel, ed., *Die Wiener Gruppe. The Vienna Group. A Moment of Modernity 1954-1960. The visual works and the actions.* (Springer, 1997).

held in the Netherlands, as part of a conscious effort by artists to bring conversations about central and eastern European art practices back into the region itself.⁶⁶⁰

- Recycling the Future, a multi-part series of exhibitions and events, is held throughout Austria. Focused on contemporary art practices using technology for remixing, sampling, and collaging, the series culminates in a symposium and performance in Vienna.⁶⁶¹

- Organized by the Dutch Virtual Platform organization, the From Practice to Policy conference is held in Amsterdam and Rotterdam. With the support of the Council of Europe, the Ministry of Education, Culture and Science, and the Ministry of Foreign Affairs of the Netherlands, the conference aims to articulate how government policy could support a more robust European arts and media culture.⁶⁶²

- The MIT List Visual Arts Center shows *PORT: Navigating Digital Culture*, an exhibition of networked artworks organized by Artnetweb.⁶⁶³

- The MIT List Visual Arts Center exhibits *The Art of Detection: Surveillance in Society*, a survey of recent work exploring technology, art, and surveillance that includes a project by Julia Scher, in which she uses the web to explore themes of surveillance and control.⁶⁶⁴

- Artists Alexander Galloway and Mark Amerika curate *Digital Studies*, a conceptual net art exhibition hosted on the AltX network.⁶⁶⁵

- The FGA (aka Fucking Good Art) launches as an artist-managed Xerox zine and website. In 2001 it became a web-based collaboration and curatorial initiative that organizes on and offline exhibitions. Although it still has a blog website, FGA may not have been updated since 2012.⁶⁶⁶

- to 1998: 7-11, a short-lived, artist-run email list offers participants an unstructured, experimental environment for hosting and sharing net art that was often considered too disruptive in larger, more theoretical and discussion-oriented groups like nettime. Its home page

⁶⁶⁰ Ćosić, "Nettime May Meeting Beauty and the East." The publication can be viewed at nettime, "ZKP4: Beauty and the East - TABLE OF CONTENTS," 4, accessed December 10, 2015, <http://www.ljudmila.org/~vuk/nettime/zkp4/toc.htm>.

⁶⁶¹ Kunst Radio and Ars Electronica Linz, "Recycling the Future," 1997, <http://www.kunstradio.at/FUTURE/>.

⁶⁶² V2_Institute for Unstable Media, "From Practice to Policy," V2_Institute for Unstable Media, 1997, <http://v2.nl/events/from-practice-to-policy>.

⁶⁶³ "PORT: Navigating Digital Culture Organized by Artnetweb," MIT List Visual Arts Center, 1997, <https://listart.mit.edu/exhibitions/port-navigating-digital-culture-organized-r-t-n-e-t-w-e-b>.

⁶⁶⁴ "The Art of Detection: Surveillance in Society," MIT List Visual Arts Center, 1997, <https://listart.mit.edu/exhibitions/art-detection-surveillance-society>.

⁶⁶⁵ Alexander R. Galloway and Mark Amerika, "Digital Studies," 1997, <http://www.altx.com/ds/>.

⁶⁶⁶ Pedro Vélez and Michael Bulka, "The FGA *(Aka Fucking Good Art)," accessed January 24, 2018, <http://fuckinggoodartchicago.blogspot.com/>.

is also one of the early examples of the parody website practices that proliferated in net art in the late 1990s and early 2000s.⁶⁶⁷

- to 1998: American Express becomes the second experimental net art list and parody website managed by the operator of 7-11.⁶⁶⁸

- to 2000: SixDegrees.com launches. Widely considered to be the first full-fledged social network website, it never becomes popular and the site closes within a few years.⁶⁶⁹

- to 2000: The European Culture Backbone (ECB) is launched after the From Practice to Policy conference. It is a short-lived attempt by several media arts groups to build a lobbying organization to support independent media arts initiatives in Europe.⁶⁷⁰

- to 2003: The Walker Art Center launches Gallery 9, an internet-based arts initiative curated by Steve Dietz that becomes very influential for the development of net art during its six years in operation. Gallery 9 activities ranged from commissioning artworks and supporting scholarship on net art, including hosting several symposia, to collecting and archiving internet-based initiatives like äda'web and Art Dirt. It also built experimental online platforms to complement Walker exhibitions.⁶⁷¹

- to 2007: The Xchange network is started by E-LAB (now RIXC), a media art center / collective based in Riga, Latvia. It focused on net.radio, a term that refers broadly to experiments in sound art and music performed on and through computer networks. The mailing list, which closed in 2007, provided a forum for discussion, announcements, and sharing work, and the website hosted a range of net.radio artists, projects, and events, including audio and live streaming (now archived).⁶⁷²

- to present: The Berlin-based VideoFest becomes Transmediale, an intermedia festival that gradually integrates some internet-based art.⁶⁷³

⁶⁶⁷ List archives are available at Heath Bunting, "The 7-11 Archives," Ljudmila.org, 2006, <http://www.ljudmila.org/pipermail/7-11/>. Bunting keeps the takedown notice that closed 7-11 at Bunting, "7-ELEVEN Infringement on the World Wide Web."

⁶⁶⁸ Archives for American Express messages are unavailable, but you can view a web archive of its home page at Bunting, "American Express Home Page (Wayback Machine Archive)." And Bunting keeps the takedown notice that ended the list up at Bunting, "American Express Solicitors Letter to IRATIONAL.ORG."

⁶⁶⁹ Boyd and Ellison, "Social Network Sites."

⁶⁷⁰ Andreas Broeckmann, "Reflections on Building the European Cultural Backbone," Public Netbase: Non Stop Future New Practices in Art and Media, 2009, <http://nonstop-future.org/txt?tid=de9b0bd304a75c7877d91fe0da3f6721>.

⁶⁷¹ Walker Art Center, "Gallery 9 (Online Artwork, Scholarship, Project, and Collection Archives)," 2003, <http://gallery9.walkerart.org/>.

⁶⁷² Xchange, "Acoustic Space : Xchange Net Audio Network Email Archives," 2007, <http://xchange.re-lab.net/2009/maillinglist/index.html>.

⁶⁷³ transmediale, "Past Festivals 1988 - 2015," transmediale/archive, 2015, <https://transmediale.de/archive/pastfestivals>.

- to present: The HTMLles Montreal-based biennial launches as a festival focused on web-based art by women. Over time it has since expanded to include a range of intermedia work by female, trans, and gender nonconforming artists.⁶⁷⁴

- to present: The Redundant Technology Initiative (RTI) starts as a group of artists interested in recycling old computers and related hardware to find low-cost entry into digital and internet-based art. The RTI projects grow rapidly and within a few months they open the Lowtech Access Space in Sheffield, UK, a media lab that is still open today and offers free access to technology and peer learning as well as occasional art exhibitions.⁶⁷⁵

- to present: FACES, a feminist email list that focuses on the intersections between gender, art, and technology, is launched and remains active today. FACES immediately became an important gathering center for artists and activists interested in promoting and/or dissecting cyberfeminism, including helping to organize the 1997 "First Cyberfeminist International," a rotating group of women hosting task forces and public programs as part of the Hybrid Workspace at documenta X.⁶⁷⁶

- to present: The Old Boys Network (OBN), a cyberfeminist artist, critical, and curatorial collective and mailing list, is launched during the First Cyberfeminist International. The central organization is less active today, but it retains a web presence that offers a large archive of the debates, publications, and artistic practices that helped to define cyberfeminist practice in the late 1990s.⁶⁷⁷

1998

- The Ars Electronica festival theme is "Infowar," exploring narratives of art, communication, and conflict, many centering around computer networks.⁶⁷⁸

- The Guggenheim Museum acquires Lea Chang's web-based work *Brandon* (1998) for their permanent collection, restoring the work to full functionality in 2016. *Brandon* was the first of only three works of net art that the Guggenheim ever accessioned, although the museum has also provided more limited support for other internet-based projects.⁶⁷⁹

⁶⁷⁴ "The HTMLles Festival Mandate / History," HTMLles, accessed December 30, 2017, <https://htmlles.net/en/the-htmlles/>.

⁶⁷⁵ Redundant Technology Initiative, "Intro to Lowtech Ltd," accessed December 21, 2017, <http://www.lowtech.org/intro/>.

⁶⁷⁶ McCarty et al., "FACES – Gender, Technology, Art."

⁶⁷⁷ "Old Boys Network."

⁶⁷⁸ Ars Electronica Linz, "Infowar - Information.Macht.Krieg," Archive – Ars Electronica Festival, 1998, http://90.146.8.18/en/archives/festival_archive/festival_overview.asp?iPresentationYearFrom=1998.

⁶⁷⁹ Guggenheim Public Affairs, "Internet Art Commissions," Guggenheim, February 26, 2002, <https://web.archive.org/web/20110429032301/http://www.guggenheim.org/new-york/press-room/releases/press-release-archive/2002/668-february-18-internet-art-commissions>. Guggenheim Public Affairs, "Guggenheim Restores First Internet Artwork Acquisition through Conserving Computer-Based Art Initiative," Guggenheim, May 16, 2017, <https://www.guggenheim.org/press-release/guggenheim-restores-first-internet-artwork-acquisition->

- Walker Art Center's Gallery 9 curator Steve Dietz organizes the net art exhibition *Beyond Interface* for the Museums and the Web conference.⁶⁸⁰
- Rhizome representatives curate the online exhibition *Some of my Favourite Websites Are Art* for the 1998 edition of The Works, a visual arts festival held in Edmonton, Canada.⁶⁸¹
- Artist Jordan Crandall resurrects his *Blast* project to produce <eyebeam><blast>, an online forum / virtual symposium presented in part by the Eyebeam Atelier that blends conversations on net art and contemporary art writ large.⁶⁸²
- Hosted at the Künstlerhaus Bethanien in Berlin, Net – Art – World: Reception Strategies and Problems is the first of three net art symposium organized by curator Gerrit Gohlke.⁶⁸³
- to 1999: Gallery 9 and the Walker Art Center collaborate with the Davis Museum and Cultural Center, Wellesley College, the San Jose Museum of Art, the Wexner Center for the Arts, Ohio State University, and Rhizome to produce *The Shock of the View*, an exhibition of digital and internet-based art.⁶⁸⁴
- to 1999: The MediaArtLab at the Moscow SCCA produces Da-Da-Net, a short-lived annual festival featuring a range of online resources aimed at Russian artists that also includes an exhibition and juried art prize.⁶⁸⁵
- to 2008: Honor Harger and Adam Hyde start radioqualia, an artist collective based out of Australia and New Zealand that, when active, supported experimental net radio and internet-based audio art projects, and eventually became affiliated with the Xchange network.⁶⁸⁶
- to 2011: Art & Science Collaborations, Inc. (ASCI) hosts a series of annual digital art competitions that include categories for web design and/or net.art and combine online exhibitions with shows in New York venues.⁶⁸⁷

through-conserving-computer-based-art-initiative. Guggenheim, "Internet Art," Guggenheim, accessed January 1, 2018, https://www.guggenheim.org/artwork/artwork_type/internet-art.

⁶⁸⁰ "Beyond Interface: Net Art and Art on the Net (Wayback Machine Archive)," Gallery 9 - Walker Art Center, 1998, <https://web.archive.org/web/19990921054306/http://www.walkerart.org:80/gallery9/beyondinterface/>.

⁶⁸¹ Rachel Greene and Alexander R. Galloway, "The Works Presents 'Some of My Favourite Websites Are Art' (Wayback Machine Archive)," 1998, <https://web.archive.org/web/20000824141340/http://web.alberta.com/unfamiliarart/>.

⁶⁸² Jordan Crandall, "Eyebeam Blast," 1998, <http://jordancrandall.com/main/+BLAST/agencies/descrip.html>.

⁶⁸³ These symposia left very little record; it comes up in artists' memories of the period, and online you can find the call for proposals in circulating newsletters like Sue Gollifer, "Newsletter #067 Jul/Aug 1998," The Inter-Society for the Electronic Arts (ISEA), 1998, http://www.isea-web.org/_archives/newsletters/1998-2/067-julaug-1998/.

⁶⁸⁴ Walker Art Center, "The Shock of the View: Artists, Audiences, and Museums in the Digital Age (Wayback Machine Archive)," 1999, https://web.archive.org/web/19991004163727/http://www.walkerart.org:80/salons/shockoftheview/sv_front.html.

⁶⁸⁵ Moscow MediaArtLab, "Da-Da-Net Festival Home Page," accessed January 9, 2018, http://www.da-da-net.ru/98/e_index.html.

⁶⁸⁶ Jacques Perron, "Radioqualia," Daniel Langlois Foundation, 2003, <http://www.fondation-langlois.org/html/e/page.php?NumPage=384>.

- to 2015: The cyberfeminist artist collective subRosa was first formed in 1998 to offer exhibition, event organizing, and curatorial support for artists and help to develop and promote cyberfeminist critical theory. It still has a presence on the web, although no activity has been recorded in the last few years.⁶⁸⁸

- to present: The Web Artery Yahoo! discussion group focuses on internet-based creative practices that include literature and sound as well as visual arts.⁶⁸⁹

- to present: Franklin Furnace begins its Future of the Present online artist residency program. In 2008 it merged with the organization's Fund for Performance Art to create a single program, the Franklin Furnace Fund, that supports on and offline performative artworks.⁶⁹⁰

1999

- Art & Science Collaborations, Inc. (ASCI) sponsors a "cyberfair" in New York City that revisits questions proposed by the two cyberfairs they produced in 1995, and examines the changes that computer networks had introduced into artistic practice in the intervening years.⁶⁹¹

- Hosted by the MediaArtLab in the Moscow SCCA (now the independent Moscow MediaArtLab), the Trash Art Festival featured internet-based artworks that "revolted" against the materiality of their technological substrate and focused instead on the philosophical and ideological challenges artists encounter in computing and computer networks.⁶⁹²

- Sponsored by the Walker Art Center in Minneapolis, the Emergence and Convergence symposium gathered a group of north American internet artists, several of whom had recently completed works commissioned for Gallery 9. The event was divided into a series of project presentations and an open panel discussion that helped to bring some of the ongoing conversations on net art into a geographic region outside of their primary hubs in Europe, New York, and California.⁶⁹³

- to 2000: The German Rolux website briefly runs the art-critical email list Rolux.⁶⁹⁴

⁶⁸⁷ Art & Science Collaborations, Inc. (ASCI), "Exhibitions / Competitions," ASCI Archived Site, March 25, 2016, <http://web.archive.org/web/20160325103701/http://www.asci.org/artikel62.html>.

⁶⁸⁸ subRosa, "A Cyberfeminist Art Collective."

⁶⁸⁹ "Web Artery," Yahoo! Groups, accessed December 20, 2017, <https://groups.yahoo.com/neo/groups/webartery/info>.

⁶⁹⁰ Franklin Furnace, "Future of the Present Program," 2008, http://franklinfurnace.org/artists/funded_projects/future_of_the_present/.

⁶⁹¹ Art & Science Collaborations, Inc. (ASCI), "12 Years @ Art & Science Collaborations, Inc."

⁶⁹² Moscow MediaArtLab, "Trash Art Festival," MediaArtLab Archive, 1999, http://www.mediaartlab.ru/books/east/english_version/index.htm.

⁶⁹³ Walker Art Center, "WAC | Press Release | 1999 | Emergence/Convergence: Digital Media and Online Art (Wayback Machine Archive)," 1999, <https://web.archive.org/web/20041116164958/https://walkerart.org/archive/0/B1A391121E7680BF6131.htm>.

⁶⁹⁴ Rolux, "Rolux List Archive," 2000, <http://www.rolux.org/lists/rolux/>.

- to 2000: Coordinated by artist Natalie Bookchin, net.net.net was a series of lectures, presentations, workshops, and interviews that occurred primarily at CalArts and MOCA in Los Angeles. Because Bookchin had managed to get several prominent European internet artists to make a rare US appearance, she also organized a series of side events to fully capitalize on their presence, including taking a group of artists down to Tijuana, Mexico for local presentations and collaborations.⁶⁹⁵

- to 2000: ZKM in Karlsruhe, Germany exhibits *net_condition*, the first large-scale museum survey devoted entirely to internet-based art. Although curators were still working out the challenges of exhibiting internet-based artworks in physical gallery spaces, this exhibition has become very significant in histories of net art for the wide-ranging and detailed review it offered of 1990s internet-based practices, including a rich catalog that helped to consolidate and expand on existing efforts at theorizing these practices.⁶⁹⁶

- to present: BlackPlanet, an African American social networking site and subsidiary of the Community Connect network, is founded. It became one of the largest social platforms on the web before it was eclipsed by Myspace, and is still operating today.⁶⁹⁷

- to present: Launched in 1999, asco-o is a (loosely interpreted) ASCII art distribution list. Rather than provide a communication platform, asco-o exploits the popular mailing list format to experiment with the role of code in telecommunications art.⁶⁹⁸

- to present: The Guggenheim launches the Variable Media Initiative, an effort to develop new conservation strategies for preserving media-based and performative works, including net art. It later develops into the Variable Media Network (VMN), a collaboration between the Guggenheim, Rhizome, the University of Maine, the Berkeley Art Museum/Pacific Film Archives, Franklin Furnace, and the Performance Art Festival & Archives.⁶⁹⁹

- to present: The Multimedia Institute (MI2) in Zagreb, Croatia is launched as an extension of the local SCCA. In 2000, they opened the independent internet arts and culture center Mama Zagreb, which quickly became a thriving social center, offering low cost internet access as well as a library and spaces for music, film, and presentations and earning the nickname “Klub Mama.” MI2 itself is still an active non-profit that provides resources and technical support for cultural and political initiatives centered on computing and the internet.⁷⁰⁰

⁶⁹⁵ Natalie Bookchin, “<net.Net.Net>,” accessed March 1, 2016, <http://projects.bookchin.net/ntntnt/ntsite/html/index.html>.

⁶⁹⁶ ZKM, “Net_condition :: Netz_bedingung,” ZKM Archive, 1999, <http://on1.zkm.de/netcondition/>. Weibel and Druckrey, *Net_condition*.

⁶⁹⁷ Watts, “Interview.” “BlackPlanet.Com.”

⁶⁹⁸ Kristina Inciuraitė, “Metamorphosis. Net Art Presentation,” Contemporary Art Center, 2002, http://www.cac.lt/en/exhibitions/past/02/1533_d2b_and_mi_ga, “Asco-O,” accessed December 20, 2017, <http://asco-o.com/>.

⁶⁹⁹ Guggenheim, “The Variable Media Initiative,” Guggenheim, November 9, 2015, <https://www.guggenheim.org/conservation/the-variable-media-initiative>.

⁷⁰⁰ MI2, “Klub Mama / Multimedijalni Institut,” accessed December 21, 2017, <http://www.mi2.hr/en/>.

2000

- In April, a stock market crash signals the end of the “dot com bubble,” an era of rampant stock market speculation on internet-based businesses. Although this did not ultimately slow the growth of online commerce, it did mark the beginning of a cultural shift in attitudes toward computer networking, including a more skeptical approach to net culture writ large.⁷⁰¹
- Artist Frederic Madre opens and closes Palais Tokyo list for the distribution of his experiments in spam art, or emails generated by a spam engine the artist created as an act of resistance against attempts to contain fringe elements of internet traffic.⁷⁰²
- Bootlab, another Mikro project, is a Berlin arts and media lab that was organized in 2000 and officially opened in 2001. It stopped operating at some point after 2008.⁷⁰³
- Gallery 9 and the Walker Art Center host Media Arts in Transition 2: Sins of Change, a conference that was conceived as a follow up to Media Arts in Transition, a 1983 conference at the Walker Art Center on emerging forms of independent video and film. For Sins of Change, held in Minneapolis, Gallery 9 curator Steve Dietz took up similar questions about the social, economic, and aesthetic effects of changes in artistic production, but in the context of digital technologies and computer networks.⁷⁰⁴
- The Net.congestion festival is held in Amsterdam to explore how artists and other fringe groups could exploit the still-new phenomenon of internet-based streaming media, and subvert the hype surrounding it.⁷⁰⁵
- The Whitney Biennial includes internet art for the first time, touting it as the “first new art form to be introduced in a Biennial since video in 1975.”⁷⁰⁶
- ArtFutura, a Barcelona-based festival that launched in 1990, has its first internet-focused theme: “Internet as Cyborg.”⁷⁰⁷

⁷⁰¹ A classic example of the intensely optimistic atmosphere around internet speculation in the late 1990s: Kelly, “The Roaring Zeros.” An analysis of the crash: Geier, “What Did We Learn From the Dotcom Stock Bubble of 2000?”

⁷⁰² Frederic Madre, interview by Josephine Bosma, November 2000, <http://www.josephinebosma.com/web/node/84>.

⁷⁰³ Diana McCarty, BOOTLAB_Story/englisch, interview by Uschi Reiter, June 11, 2002, <http://www.firstfloor.org/ur/texts/bootlab.txt>.

⁷⁰⁴ Walker Art Center, “Media Arts in Transition 2: Sins of Change (Wayback Machine Archive),” 2000, <https://web.archive.org/web/20060112052209/http://www.walkerart.org/archive/E/A153E129363082E4616F.htm>.

⁷⁰⁵ “Net.Congestion Archive,” Tactical Media Files, accessed December 22, 2017, <http://www.tacticalmediafiles.net/netcongestion/>.

⁷⁰⁶ Whitney Museum of American Art, “Whitney Biennial 2000 (Wayback Machine Archive),” 2000, https://web.archive.org/web/20010107125100/http://www.whitney.org/exhibition/2kb_fs.html. The press release for the internet art portion of the biennial has been removed from their website, but can be found in the Whitney archive at: Whitney Museum of American Art, “Press Release: Internet Art Premieres at 2000 Biennial Exhibition,” 2000, 2000 Biennial Box 197, Whitney Museum of American Art.

- Jennifer Crowe curates the net art exhibition *Protocol Prone* for her Bard MA thesis. Crowe went on to manage the Rhizome Artbase.⁷⁰⁸
- Gallery 9 curator Steve Dietz mounts the *Art Entertainment Network* online exhibition / art survey on the Walker Art Center website.⁷⁰⁹
- Artist Patrick Lichty curates *Through the Looking Glass*, a digital art exhibition hosted at the Beachwood Center for the Arts in Ohio that features net art on its website.⁷¹⁰
- *SHIFT-CTRL: Computers, Games, and Art* is the inaugural exhibition at UC Irvine's Beall Center for Art and Technology. It includes several internet-based works, which are exhibited online alongside the in-gallery show and accompanied by a web-based catalog.⁷¹¹
- The Centre Pompidou commissions an exhibition of net art for their website, centrepompidou.fr/net.art.⁷¹²
- to 2001: Cristine Wang curates *Dystopia and Identity in the Age of Global Communication* at Tribes Gallery in New York. The program includes a panel discussion reflecting on the challenges of exhibiting internet-based art in a physical gallery.⁷¹³
- to 2004: MobileGaze is an artist collective and electronic magazine that, while it was still active, hosted net art projects, curated online exhibitions, and published interviews and theoretical texts on art and computer networks.⁷¹⁴
- to 2011: The Tate Museum exhibits their first internet-based artwork on their website. Then in 2002, the museum launches a formal net art commission program. They added new commissions intermittently through 2011, although the museum never accessioned the works into their collection.⁷¹⁵

⁷⁰⁷ ArtFutura, "Internet as Cyborg," [artfutura](http://www.artfutura.org/00/index_i.htm), 2000, http://www.artfutura.org/00/index_i.htm.

⁷⁰⁸ Jennifer Crowe, "Protocol Prone," [Artnetweb](http://www.artnetweb.com/protocol/), 2000, <http://www.artnetweb.com/protocol/>.

⁷⁰⁹ Steve Dietz, ">> Art Entertainment Network >> Hello!," [Walker Art Center](http://aen.walkerart.org/), 2000, <http://aen.walkerart.org/>.

⁷¹⁰ Patrick Lichty, "Through the Looking Glass: Technology and Creativity at the Beginning of the Next Millennium," 2000, <http://www.voyd.com/ttlg/>.

⁷¹¹ Antoinette LaFarge and Robert Nideffer, "SHIFT-CTRL: Introduction," [The Leonardo Gallery](https://www.leonardo.info/gallery/gallery351/lafargeintro.html), accessed January 3, 2018, <https://www.leonardo.info/gallery/gallery351/lafargeintro.html>.

⁷¹² The site itself is no longer online, and is not functional in the Internet Archive. Co-designer Grégory Chatonsky has provided screenshots on his website at [Chatonsky Grégory, "Centre Pompidou.Fr/Net.Art,"](http://chatonsky.net/centre-pompidou/) accessed March 26, 2018, <http://chatonsky.net/centre-pompidou/>.

⁷¹³ Cristina Wang, "Dystopia + Identity in the Age of Global Communications (Wayback Machine Archive)," [Tribes Gallery](https://web.archive.org/web/20010426071825/http://www.tribes.org:80/dystopia/), 2001, <https://web.archive.org/web/20010426071825/http://www.tribes.org:80/dystopia/>.

⁷¹⁴ MobileGaze, "MobileGaze Archive," 2004, <http://www.mobilegaze.com/>.

⁷¹⁵ Tate Online, "Intermedia Art Archive: Net Art by Date." The Tate's net art commissioning and collecting policies were discussed with me in Rellie, head of Tate Museum Digital Programs 2001 - 2007, interview.

- to present: Rohrpost is a primarily German email list focused on net art and media culture that was originally associated with the now-defunct Mikro, a Berlin-based curatorial group.⁷¹⁶

2001

- SF MOMA exhibits *010101: Art in Technological Times*, an online and in-gallery exhibition of digital and internet-based art that includes several original commissions and the acquisition of multiple works into the museum's collection.⁷¹⁷

- The Whitney Museum exhibits *BitStreams* and *Data Dynamics*, a pair of complementary shows on digital and internet-based art.⁷¹⁸

- The Tate Britain hosts *Art Now: Art and Money Online*, an exhibition and accompanying symposium that explores the impact of commerce on internet culture.⁷¹⁹

- Artist and Rhizome founder Mark Tribe curates the *net.ephemera* exhibition at the Moving Image Gallery in New York.⁷²⁰

- The MIT List Visual Arts Center exhibits *Race in Digital Space*, a show featuring intermedia art and some net projects exploring the relationship between race and technology.⁷²¹

- The Brooklyn Academy of Music includes an internet-based installation in their annual Next Wave: Arts in Multimedia Festival.⁷²²

- The University Art Gallery at Central Michigan University exhibits *Subverting the Market: Artwork on the Web*.⁷²³

- to 2002: Gerrit Gohlke hosts *Netsplit* and *Esc* at the Künstlerhaus Bethanien in Berlin, a pair of symposia exploring major transitions in internet-based art practices that were triggered in part by larger shifts in internet culture that occurred in the beginning of the 2000s.⁷²⁴

⁷¹⁶ Rohrpost, "Das Rohrpost Archiv," accessed December 20, 2017, <http://post.in-mind.de/pipermail/rohrpost/>.

⁷¹⁷ San Francisco Museum of Modern Art, "010101: Art in Technological Times," SFMOMA, 2001, <https://www.sfmoma.org/exhibition/010101/>.

⁷¹⁸ Neither exhibition website functions anymore, but they are both summarized in Whitney Museum Artport, "Whitney Artport: Past Exhibitions."

⁷¹⁹ Tate Online, "Art Now: Art and Money Online," Tate Britain, 2001, <http://www.tate.org.uk/whats-on/tate-britain/exhibition/art-now-art-and-money-online>.

⁷²⁰ Mark Tribe, "Net.Ephemera," *Rhizome* (blog), 2001, <http://rhizome.org/community/42762/>.

⁷²¹ "Race in Digital Space."

⁷²² See *Listening Post*, described here in chapter two and listed under the works list at Brooklyn Academy of Music, "Event Series: Next Wave Festival 2001 (Next Wave Down Under)," Leon Levy BAM Digital Archive, 2001, <http://levyarchive.bam.org/Detail/occurrences/2725>.

⁷²³ The University Art Gallery does not have an archival record of this exhibition, but they did produce a print catalog: Julia Morrisroe, ed., *Subverting the Market: Artwork on the Web* (Mount Pleasant, Michigan: University Art Gallery, Central Michigan University, 2001).

- to 2002: SF MOMA briefly opens *e.space*, an experimental platform for showcasing internet-based artworks that the museum had commissioned.⁷²⁵
- to 2002: ZKM exhibits *CTRL[Space]*, a diverse, far-reaching historical survey of art's investigations into the means and experiences of surveillance. It includes work exploring surveillance via computer networks, and results in a large-scale scholarly catalog.⁷²⁶
- to 2002: The Princeton Art Museum exhibits *Anxious Omniscience: Surveillance and Contemporary Cultural Practice*, featuring recent art investigating the mechanisms of surveillance, including multiple internet-based works.⁷²⁷
- to 2002: Steve Dietz curates the traveling internet-based art exhibition *Telematic Connections: The Virtual Embrace*, representing Gallery 9 and the Walker Art Center.⁷²⁸
- to 2002: Alex Galloway and Mark Tribe, representing Rhizome, curate a net art exhibition in conjunction with MASS MoCA's *Game Show*.⁷²⁹
- to 2003: *CrossFade* is an online exhibition and research project examining the intersection of experimental sound and visual art, hosted by SF MOMA and co-organized by The Goethe-Institut, ZKM Karlsruhe, and the Walker Art Center.⁷³⁰
- to 2004: The arc.hive email list was an experimental forum for discussing online and intermedia artistic practice and theory.⁷³¹
- to present: The SPECTRE mailing list opens as a follow-up to the Syndicate mailing list, which emerged from V2_East in the late 1990s and had become an important hub for European internet

⁷²⁴ As with Gohlke's earlier net art symposium at the Künstlerhaus Bethanien, there is very little record available, but this pair of symposia did result in a publication: Gohlke et al., *Esc*.

⁷²⁵ San Francisco Museum of Modern Art, "SFMOMA e.Space," San Francisco Museum of Modern Art, accessed March 21, 2016, http://www.sfmoma.org/exhib_events/exhibitions/espace.

⁷²⁶ Zentrum für Kunst und Medientechnologie Karlsruhe, "Ctrl[Space] : Rhetorics of Surveillance from Bentham to Big Brother," ZKM, 2001, <http://ctrlspace.zkm.de/e/>. Thomas Y Levin, Ursula Frohne, and Peter Weibel, *Ctrl [Space]: Rhetorics of Surveillance from Bentham to Big Brother* (Karlsruhe, Germany; Cambridge, Mass.: ZKM Center for Art and Media ; MIT Press, 2002).

⁷²⁷ The Princeton Art Museum doesn't keep a website archive of the show, but many of the included works can be found via artists' CVs, and the University's Media department has a record of it in conjunction with their 2001 – 2002 seminar on the theme of "Surveillance." Princeton University, "2001 - 2002: Surveillance."

⁷²⁸ Walker Art Center, "Telematic Connections: The Virtual Embrace," 2002, <http://telematic.walkerart.org/index.html>.

⁷²⁹ "Game Show," MASS MoCA, 2002, <http://massmoca.org/event/game-show/>.

⁷³⁰ "CrossFade," SFMOMA, 2003, <https://www.sfmoma.org/exhibition/crossfade/>.

⁷³¹ Alan Sondheim to nettime, "Announcement Regarding New _arc.Hive_ Mailing List (Fwd)," November 9, 2001, <http://nettime.org/Lists-Archives/nettime-bold-0111/msg00341.html>.

artists. SPECTRE continues today to focus on media culture, art, and politics in “Deep Europe,” defined as a pan-European “attitude and experience of layered identities and histories.”⁷³²

- to present: The Australian Fibreculture email list and media arts organization launches.⁷³³

- to present: The Whitney Museum launches the Artport, their online platform for hosting and curating internet-based artworks and exhibitions, curated by Christiane Paul. It became an official part of the Whitney’s permanent collection in 2015.⁷³⁴

2002

- Singaporean net art collective tsunamii.net performs *alpha 3.4* for documenta 11, a project that attempts to make visible the physical infrastructure and labor that shapes the internet.⁷³⁵

- The Barcelona-based festival ArtFutura focuses on internet art for the second time this year with the theme “The Web as Canvas.”⁷³⁶

- Manifesta 4, hosted this year in Frankfurt, features an internet-based performance.⁷³⁷

- The New Museum exhibits *Open__Source__Art__Hack*, featuring art that investigates surveillance and hacking, and contributing to the growth of installation as a strategy for showing internet-based art in the gallery.⁷³⁸

- to 2002: The Whitney Biennial includes a net art section for the second, and final, time. Artist Miltos Manetas also performs a “cybersquat” of whitneybiennial.com, putting the Biennial at the center of ongoing debates about best practices for exhibiting net art in a museum. Individual works of internet-based art do not disappear from the Biennial after this year, but curators no longer see a need to create a separate section for it.⁷³⁹

⁷³² Inke Arns, “SPECTRE Info Page,” accessed December 20, 2017, <http://coredump.buug.de/cgi-bin/mailman/listinfo/spectre>.

⁷³³ Fibreculture, “About Fibreculture,” accessed December 20, 2017, <http://www.fibreculture.org/about.html>.

⁷³⁴ Whitney Museum, “Artport,” Whitney Museum of American Art, accessed January 1, 2018, <http://whitney.org/Exhibitions/Artport>. Olson, “Collectible After All.”

⁷³⁵ Rhizome, “Tsunamii.Net’s Alpha 3.4.”

⁷³⁶ ArtFutura, “The Web as Canvas,” artfutura, 2002, http://www.artfutura.org/02/index_e_02.html.

⁷³⁷ “Project: VOPOS.”

⁷³⁸ New Museum, “Open__Source__Art__Hack,” New Museum Digital Archive, 2002, <https://archive.newmuseum.org/exhibitions/388>.

⁷³⁹ Whitney Museum of American Art, “Whitney Biennial 2002,” Whitney Museum of American Art, 2002, <http://whitney.org/www/2002biennial/index.shtml>. Lucas Pinheiro, “The Flash Artists Who Cybersquatted the Whitney Biennial,” Rhizome, August 14, 2015, <http://rhizome.org/editorial/2015/aug/14/flash-artists-cybersquatted-whitney-biennial/>.

- to present: The -empyre- email list is part of the Australia-based -empyre- group, which provides internet-based discussion forums and archives for major arts and cultural events.⁷⁴⁰

2003

- The Istanbul Contemporary Art Museum hosts its first web biennial.⁷⁴¹

- The Wood Street Gallery in Philadelphia exhibits *Critical Conditions: Information Atmospheres and Event Scenes*, featuring net art that explores how the information systems of computer networks can also serve the interests of power systems.⁷⁴²

- to present: The social network Myspace is founded. Although this is not the first web-based social platform and it has since been eclipsed by newer platforms, it is the first to attract a large, cross-cultural audience and attempt to construct the kind of fully-developed, independent online environment that is associated with the largest social networks today.⁷⁴³

2004

- Merriam Webster declares blog their “word of the year.”⁷⁴⁴

- O’Reilly Media hosts the Web 2.0 Conference. The concept of “web 2.0” was used to describe a shift toward easy to use self-publishing platforms, like social media and blogs. More recently, the concept of “web 3.0” has been introduced to suggest that an equally significant shift in how individuals use computer networks may be underway.⁷⁴⁵

⁷⁴⁰ Melinda Rackham and Nigel Kersten, “-Empyre- Soft_skinned_space,” 2008, <http://www.subtle.net/empyre/>.

⁷⁴¹ Istanbul Contemporary Art Museum, “Web Biennial,” 2003, <http://istanbulmuseum.org/webbiennial.html>.

⁷⁴² “Critical_Conditions: Information Atmospheres and Event Scenes,” Wood Street Galleries, 2003, http://woodstreetgalleries.org/portfolio-view/critical_conditions-information-atmospheres-and-event-scenes/.

⁷⁴³ CBS, “August 2003: MySpace.” Clive Thompson, “The Early Years: A Timeline of the History of Blogging,” *New York Magazine*, February 20, 2006, <http://nymag.com/news/media/15971/>.

⁷⁴⁴ Merriam Webster, “Word of the Year Retrospective : 2004: Blog,” 2014, <https://www.merriam-webster.com/words-at-play/2014-word-of-the-year-retrospective/2004-blog>.

⁷⁴⁵ O’Reilly, “What Is Web 2.0,” 0. Daniel Nations, “What in the World Is ‘Web 3.0’ and Is It Even Here Yet?,” *Lifewire*, October 24, 2017, 0, <https://www.lifewire.com/what-is-web-3-0-3486623>.

FIGURES

Chapter One

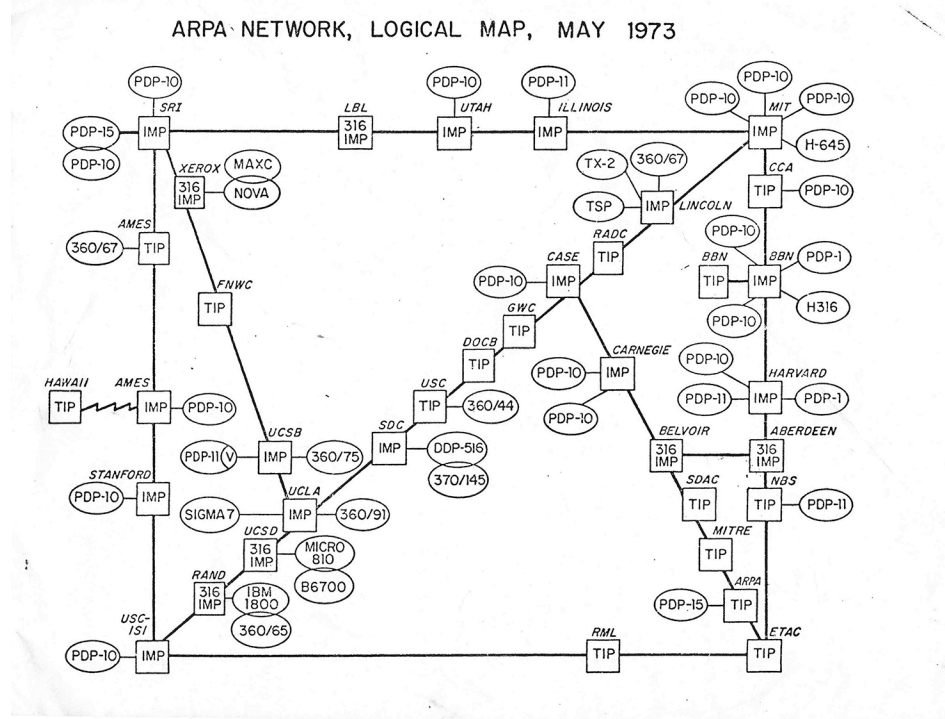


Figure 1.1 ARPA Network, Logical Map, May 1973

Courtesy of Paul and David Newbury Personal Archive.

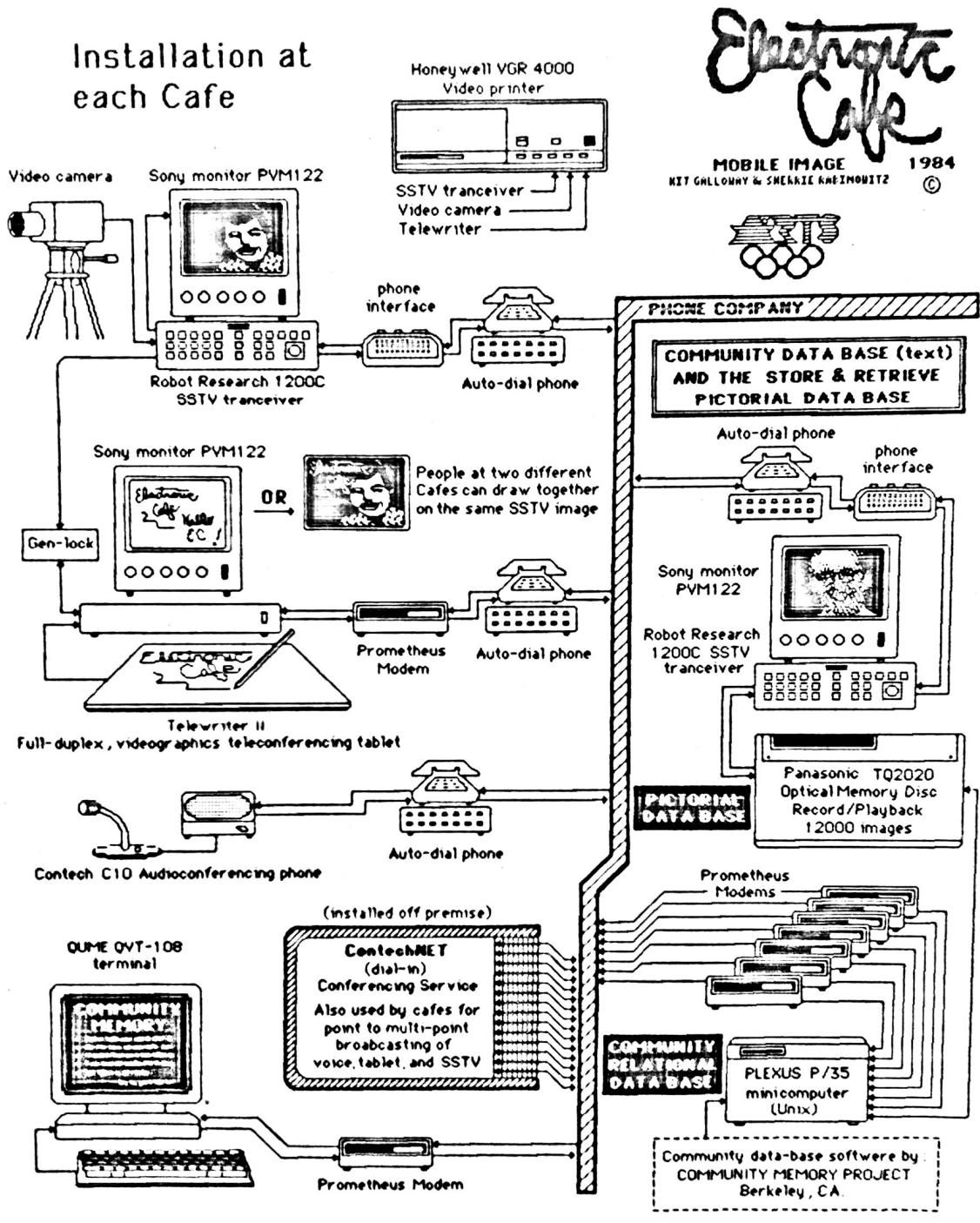


Figure 1.2 Mobile Image, *Electronic Café* installation plan for each workstation with network connections, Los Angeles, 1984

Courtesy of Sherrie Rabinowitz and Kit Galloway Archives.



The ELECTRONIC CAFE Restaurants



The Gumbo House, South Central Los Angeles



Ana Maria's, East LA



8th Street Restaurant, Koreatown



Guntiers, The Beach Community of Venice



The Museum of Contemporary Art, Downtown

Figure 1.3 Mobile Image, *Electronic Café* locations flyer, Los Angeles, 1984

Courtesy of Sherrie Rabinowitz and Kit Galloway Archives.



Figure 1.4 Judith Baca at *Electronic Café* Gunter's location using Telewriter and teleconferencing systems, Los Angeles, 1984

Courtesy of Sherrie Rabinowitz and Kit Galloway Archives.

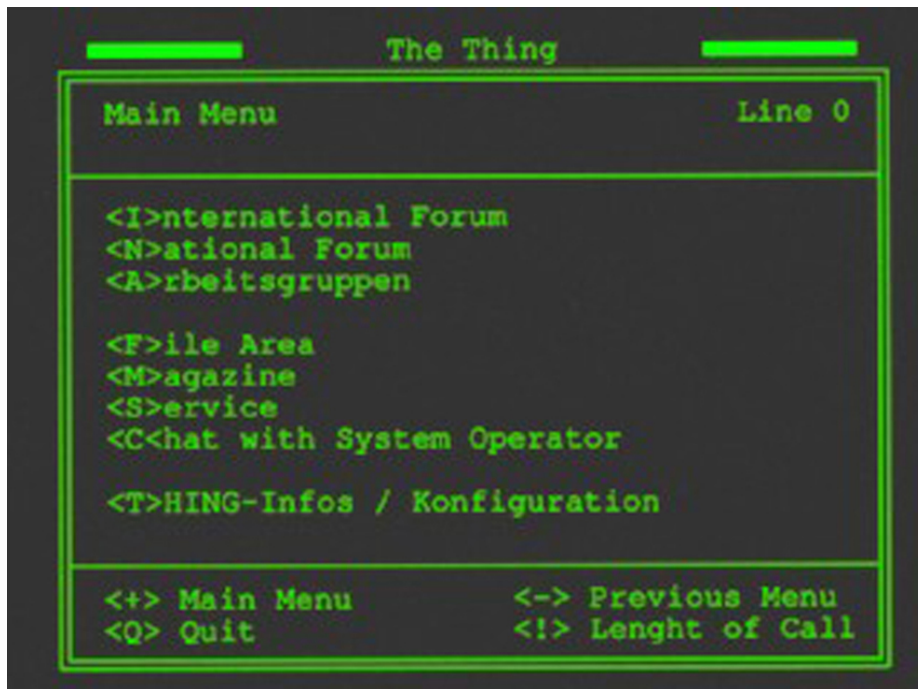


Figure 1.5 THE THING New York login screen, ca. 1992

Courtesy of Wolfgang Staehle.

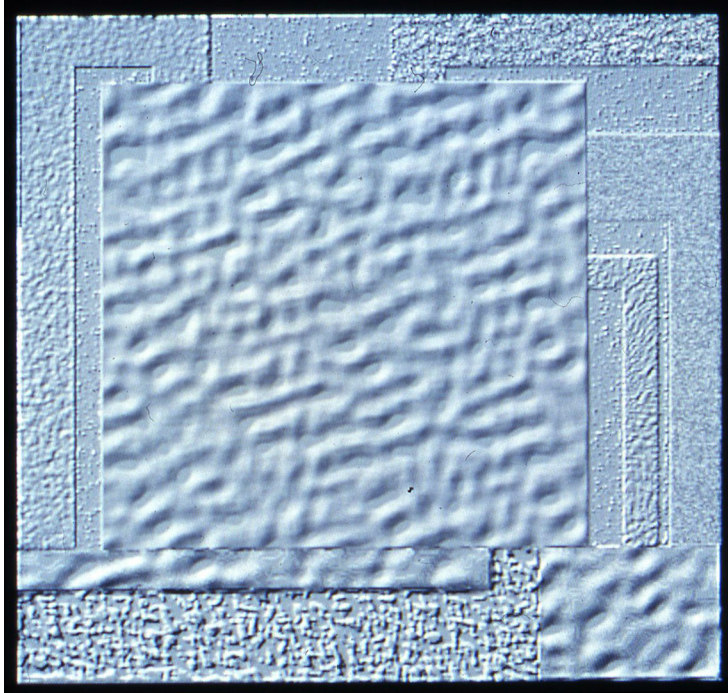


Figure 1.6 Peter Halley, *Superdream Mutation*, online print edition, THE THING, 1993
 Courtesy of Wolfgang Staehle.

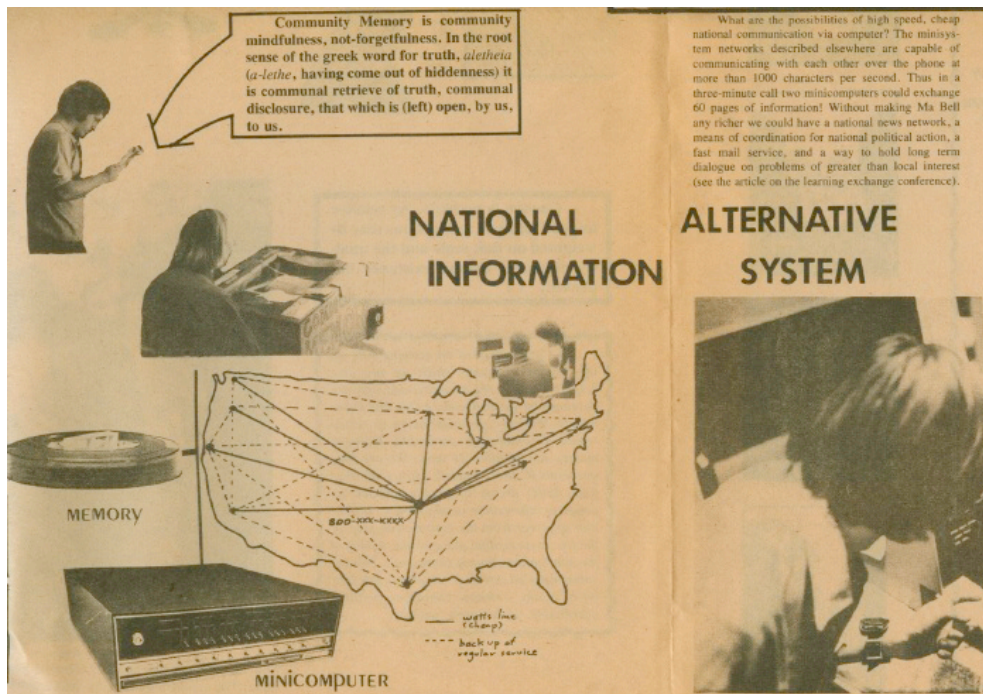


Figure 1.7 Community Memory, insert in Resource One Newsletter No.2, April 1974, p.4b
 Courtesy of Mark Szpakowski Community Memory archive: <http://www.well.com/~szpak/cm/>

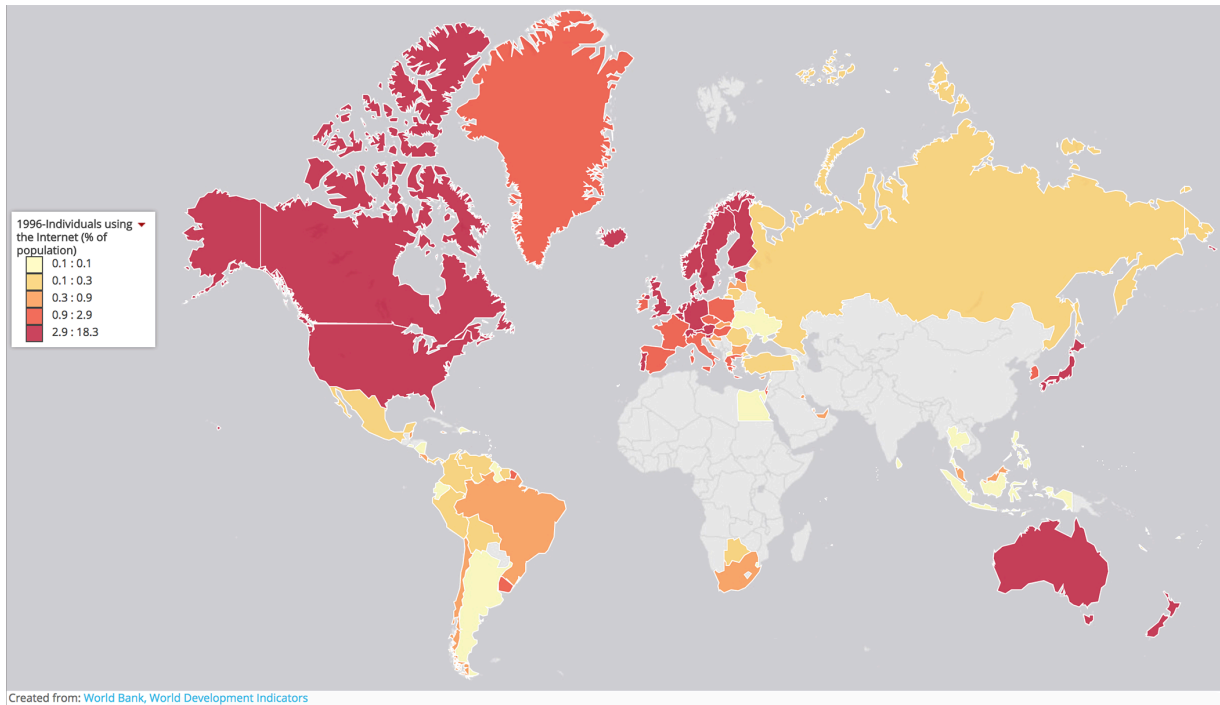


Figure 1.8 Map of percentage of population using the internet by country, 1996

The full World Bank dataset used to produce the map is available at http://databank.worldbank.org/data/reports.aspx?Report_Name=1996-Internet-Use-v2&Id=966c49ba#.

WWW.IRATIONAL.ORG/X

Where did you see this chalked ?
 (please give precise location including city and country)

Why do you think it was done ?

Who do you think did it ?

Figure 2.7 Heath Bunting, *Project X* (1996), home page
 Partial screenshot showing form.

Graffiti Street Internet Interface.

What other people suspected.

Where: Seen where: Embankment underground station, London, UK.
Why: To colide the known with the emergent.
Who: An artist type.

Where: On hungerford bridge - seen from the embankment stairs!, London, UK
Why: Somebody had something to say which could not be said meaningfully in the space available!
Who: A techno punk!, London, UK.

Where: Hungerford bridge, London, UK.
Why: To get me here.
Who: A bunch of anarchists.

Where: Charing x bridge, London, UK.
Why: To gauge the power of advertising!
Who: kilroy.

Where: Underneath the Hungerford bridge on the north side of the Thames.
Why: Something to do with homelessness?
Who: A homeless person possibly in conjunction with the Big Issue.

Where: Hungerford Bridge, London, UK.
Why: Get people to look at this site.
Who: No idea!

Where: Waterloo Bridge, London, UK.
Why: Why not?
Who: You did it!

Where: Embankment, London, UK.
Why: Fun.
Who: We did.

Where: On waterloo bridge in London, UK.
Why: Publicity?
Who: Political organisation - IRA.

Where: Hungerford Bridge, London, UK.
Why: To get me here.
Who: I dunno.

Figure 2.8 Heath Bunting, *Project X* (1996), results page
 Partial screenshot of page shown after filling out form (top).



Figure 2.9 Heath Bunting, *Project X* (1996), photograph of URL written on the Charing Cross underground station in London, 2006

Courtesy of Heath Bunting.



Figure 3.1 VNS Matrix, billboard based on *A Cyberfeminist Manifesto for the 21st Century* (1991), Tin Sheds Gallery, Sydney, Australia, 1992

Photo reproduced for the Rhizome Net Art Anthology.



Figure 3.2 Cornelia Sollfrank, *Female Extension* (1997), screenshot of sample submission

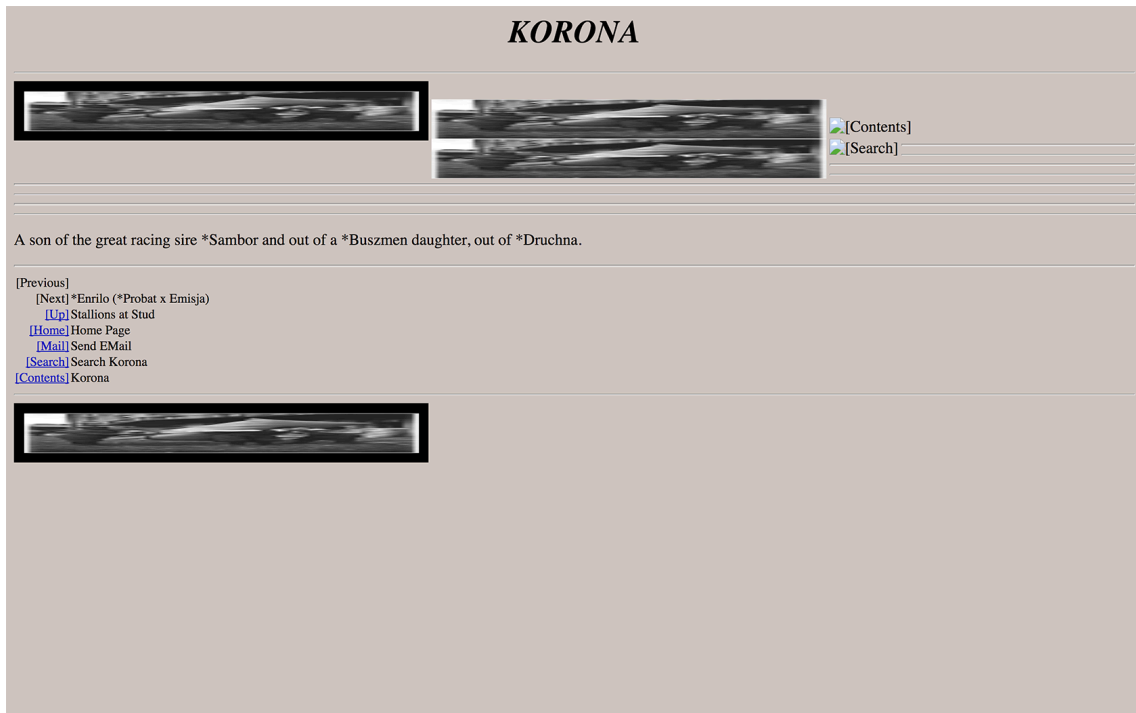


Figure 3.3 Cornelia Sollfrank, *Female Extension* (1997), screenshot of sample submission

Home, My eBay, Site Map, Sign In/Out

[Browse](#) | [Sell](#) | [Services](#) | [Search](#) | [Help](#) | [Community](#)
[find items](#) | [find members](#) | [favorite searches](#)

Keith Obadike's Blackness
Item #1176601036
[Black Americana](#)

[Description](#)

Currently	\$152.50	First bid	\$10.00
Quantity	1	# of bids	12 (bid history) (with emails)
Time left	6 days, 0 hours +	Location	Conceptual Landscape
		Country	USA/Hartford
Started	Aug-8-01 16:08:53 PDT		(mail this auction to a friend)
Ends	Aug-18-01 16:08:53 PDT		(request a gift alert)
Seller (Rating)	Obadike		
	(view comments in seller's Feedback Profile) (view seller's other auctions) (ask seller a question)		
High bid	itsfuntobid		
Payment	Money Order/Cashiers Checks, COD (collect on delivery), Personal Checks		
Shipping	Buyer pays actual shipping charges. Will ship to United States and the following regions: Canada		
Update item	Seller: If this item has received no bids, you may revise it. Seller revised this item before first bid.		

Seller assumes all responsibility for listing this item. You should contact the seller to resolve any questions before bidding. Auction currency is U.S. dollars (\$) unless otherwise noted.

Description

This heirloom has been in the possession of the seller for twenty-eight years. Mr. Obadike's Blackness has been used primarily in the United States and its functionality outside of the US cannot be guaranteed. Buyer will receive a certificate of authenticity. Benefits and Warnings: Benefits: 1. This Blackness may be used for creating black art. 2. This Blackness may be used for writing critical essays or scholarship about other blacks. 3. This Blackness may be used for making jokes about black people and/or laughing at black humor comfortably. (Option#3 may overlap with option#2) 4. This Blackness may be used for accessing some affirmative action benefits. (Limited time offer. May already be prohibited in some areas.) 5. This Blackness may be used for dating a black person without fear of public scrutiny. 6. This Blackness may be used for gaining access to exclusive, "high risk" neighborhoods. 7. This Blackness may be used for securing the right to use the terms 'sista', 'brotha', or 'nigga' in reference to black people. (Be sure to have certificate of authenticity on hand when using option 7). 8. This Blackness may be used for instilling fear. 9. This Blackness may be used to augment the blackness of those already black, especially for purposes of playing 'blacker-than-thou'. 10. This Blackness may be used by blacks as a spare (in case your original Blackness is whupped off you.) Warnings: 1. The Seller does not recommend that this Blackness be used during legal proceedings of any sort. 2. The Seller does not recommend that this Blackness be used while seeking employment. 3. The Seller does not recommend that this Blackness be used in the process of making or selling 'serious' art. 4. The Seller does not recommend that this Blackness be used while shopping or writing a personal check. 5. The Seller does not recommend that this Blackness be used while making intellectual claims. 6. The Seller does not recommend that this Blackness be used while voting in the United States or Florida. 7. The Seller does not recommend that this Blackness be used while demanding fairness. 8. The Seller does not recommend that this Blackness be used while demanding. 9. The Seller does not recommend that this Blackness be used in Hollywood. 10. The Seller does not recommend that this Blackness be used by whites looking for a wild weekend. \$Keith Townsend Obadike ##

Bidding

<p>Keith Obadike's Blackness Item #1176601036</p> <p>Opening bid: <input type="text" value="\$10.00"/></p> <p>Your maximum bid: <input type="text" value=""/></p> <p>(Minimum bid: \$10.00)</p>	<p>Description</p> <p>How to Bid</p> <ol style="list-style-type: none"> 1. Register to bid - if you haven't already. It's free! 2. Learn about this seller - read feedback comments left by
--	--

Figure 3.4 Mendi + Keith Obadike, *Blackness for Sale* (2001), archived listing
Screenshot of web archive of artists' original copy of eBay listing.

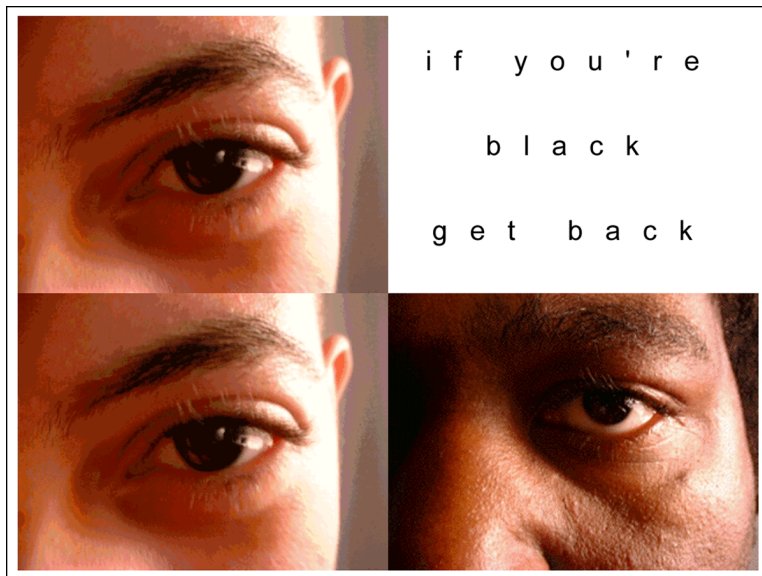


Figure 3.5 Mendi + Keith Obadike, *The Interaction of Coloreds* (2002), splash page
Screenshot of pop-up that loads above splash page, showing text on mouseover of top/right square. This represents a single still of the animation that rapidly cycles through different images of artist body parts on each of the four squares.



Figure 3.6 Mendi + Keith Obadike, *The Interaction of Coloreds* (2002), home page Screenshot of page shown after clicking on splash page pop-up grid.



Figure 3.7 Mendi + Keith Obadike, *The Interaction of Coloreds* (2002), partial screenshot of IOC Color Check System® page (top)



Figure 3.8 Mendi + Keith Obadike, *The Interaction of Coloreds* (2002), partial screenshot of IOC Color Check System® page (Hyper-Race® Analysis sample)

5. How do you currently identify racially?

6. How do you currently identify in terms of color?
 List all that apply:

7. How do others currently identify you in terms of color?
 List all that apply:

8. Has your skin color ever been in vogue?

9. When?

10. Where?

11. With whom?

12. Have you ever been allowed access to a place because of your color?

13. When?

14. Where?

Figure 3.9 Mendi + Keith Obadike, *The Interaction of Coloreds* (2002), partial screenshot of IOC Color Check System® application (example questions)



Figure 3.10 Mendi + Keith Obadike, *The Pink of Stealth* (2003), screenshot of splash page and pop-up

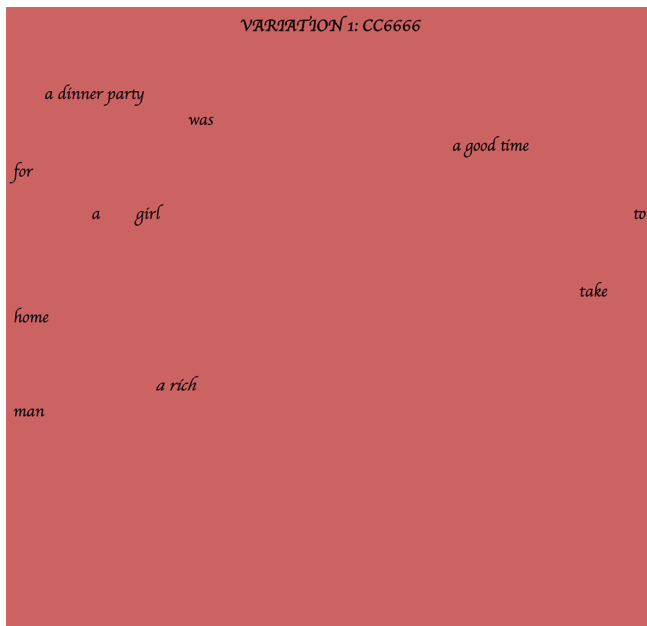


Figure 3.11 Mendi + Keith Obadike, *The Pink of Stealth* (2003), screenshot of Hypertext Variation 1: CC6666



Figure 3.12 Mendi + Keith Obadike, *The Pink of Stealth* (2003), screenshot of game demo

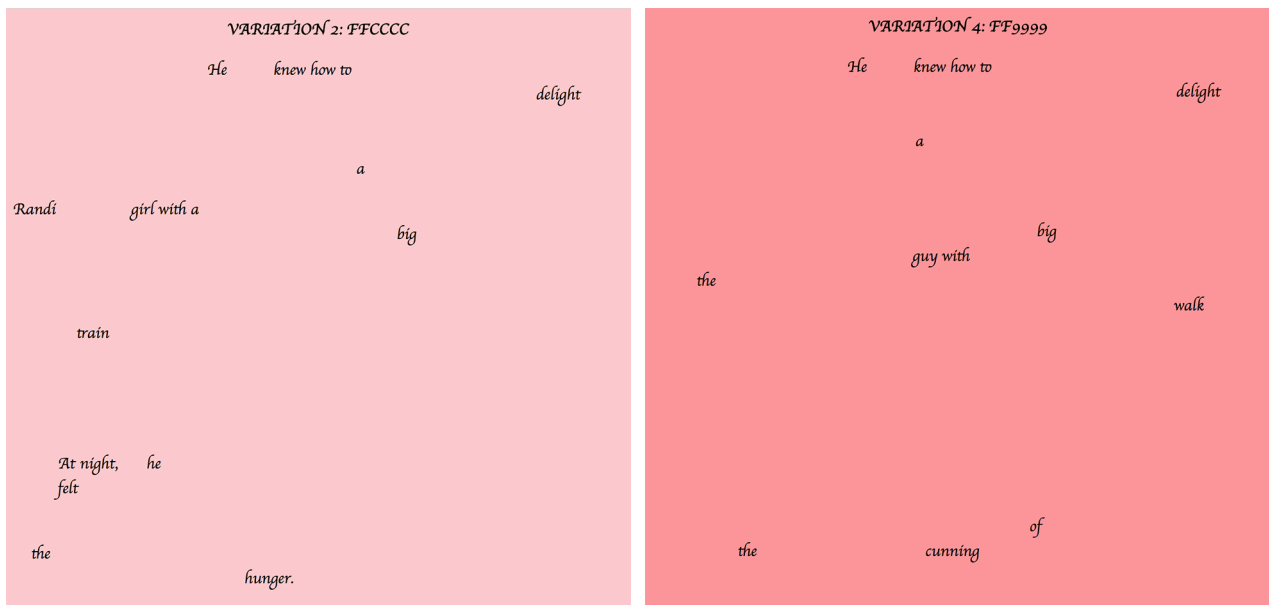


Figure 3.13 Mendi + Keith Obadike, *The Pink of Stealth* (2003), screenshots of Hypertext Variation 2: FFCCCC and Hypertext Variation 4: FF9999

Chapter Four



Figure 4.1 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at the Brooklyn Academy of Music, 2001

Photograph of grid by David Alison, showing the “breezy” section.



Figure 4.2 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at the Whitney Museum, 2002 – 2003

Photograph of grid by David Alison.

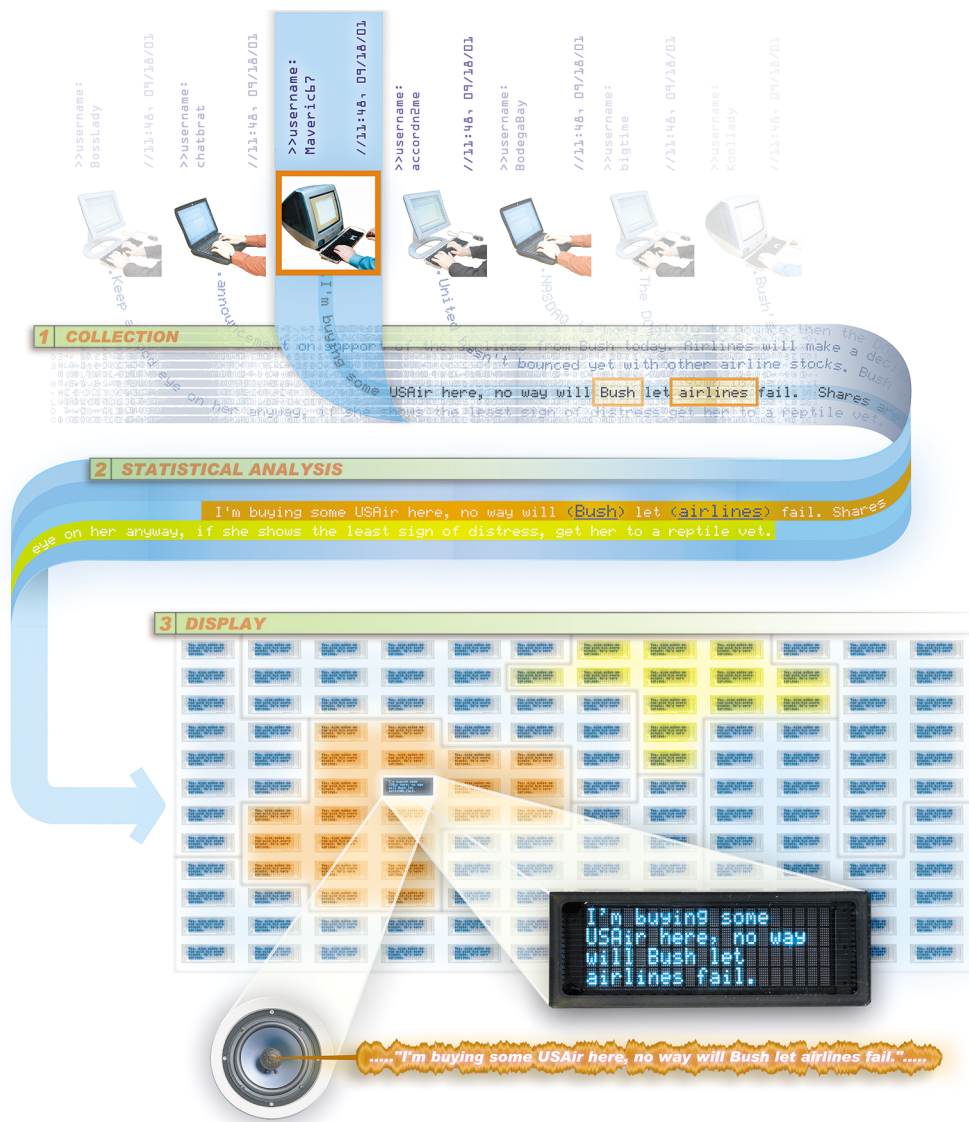


Figure 4.3 Ben Rubin and Mark Hansen, *Listening Post* (2001), diagram
 On the Boards Theater *Listening Post* Archive, "Listening Post Images" disc (2002).

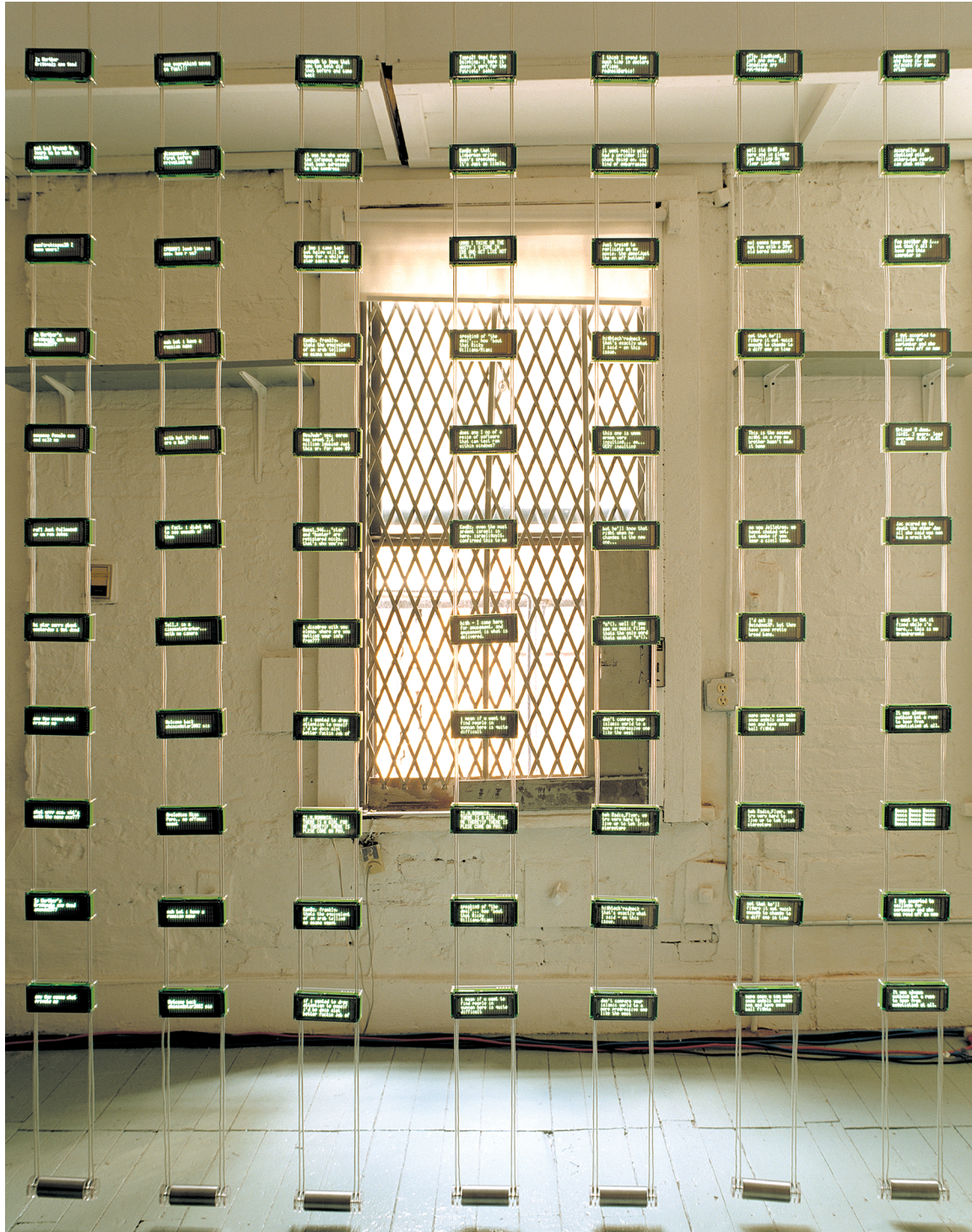


Figure 4.4 Ben Rubin and Mark Hansen, *Listening Post* (2001), preparatory installation in studio
Courtesy of the artists.



Figure 4.5 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at the Brooklyn Academy of Music, 2001

Photograph of grid and room courtesy of the artists.

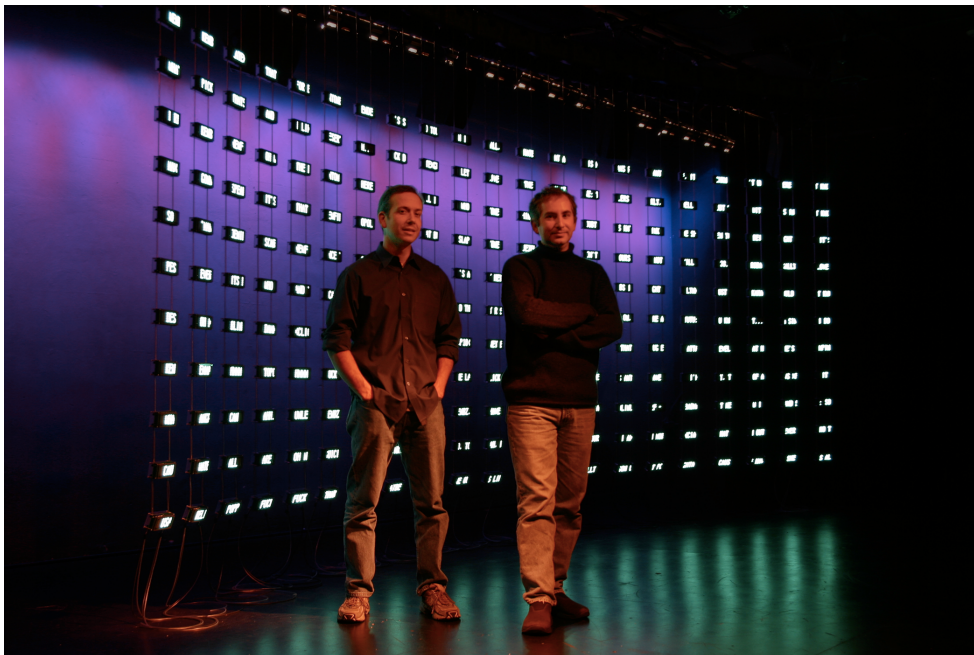


Figure 4.6 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at On the Boards Theater, 2002

Photograph of artists in front of the installation.



Figure 4.7 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at the Whitney Museum, 2002 – 2003

Photograph of grid and room by David Alison.



Figure 4.8 Ben Rubin and Mark Hansen, *Listening Post* (2001), installed at the Brooklyn Academy of Music, 2001

Courtesy of the artists.

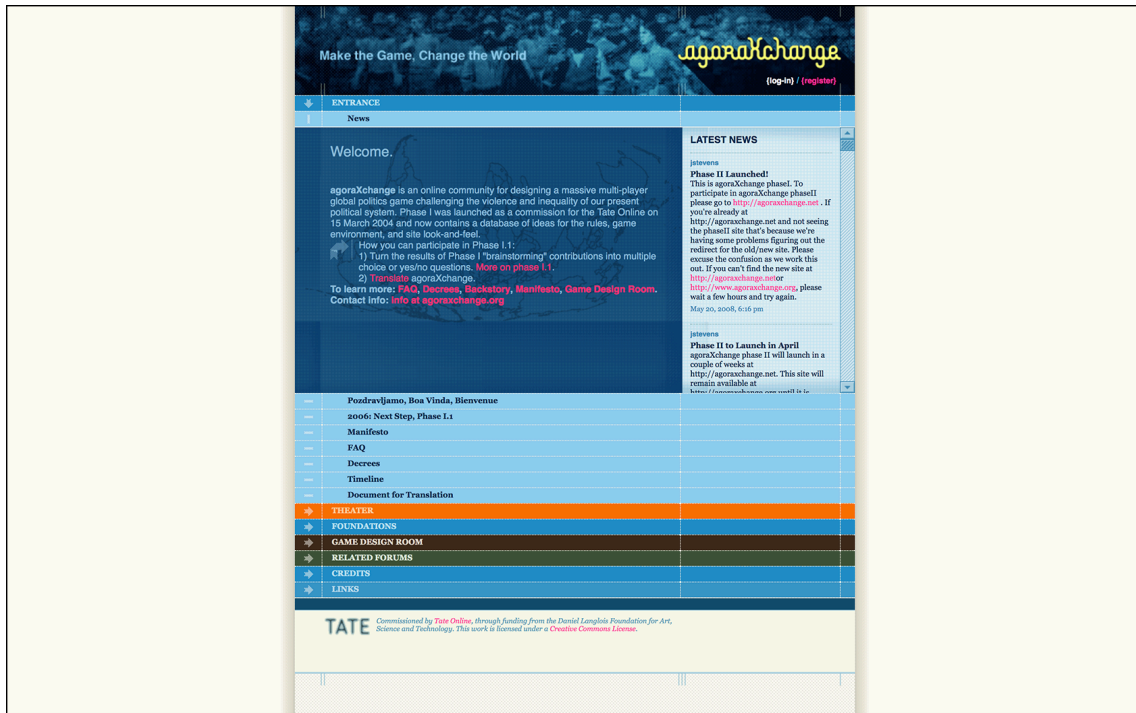


Figure 4.9 Natalie Bookchin and Jacqueline Stevens, *agoraXchange* phase I (2003), screenshot of website home page

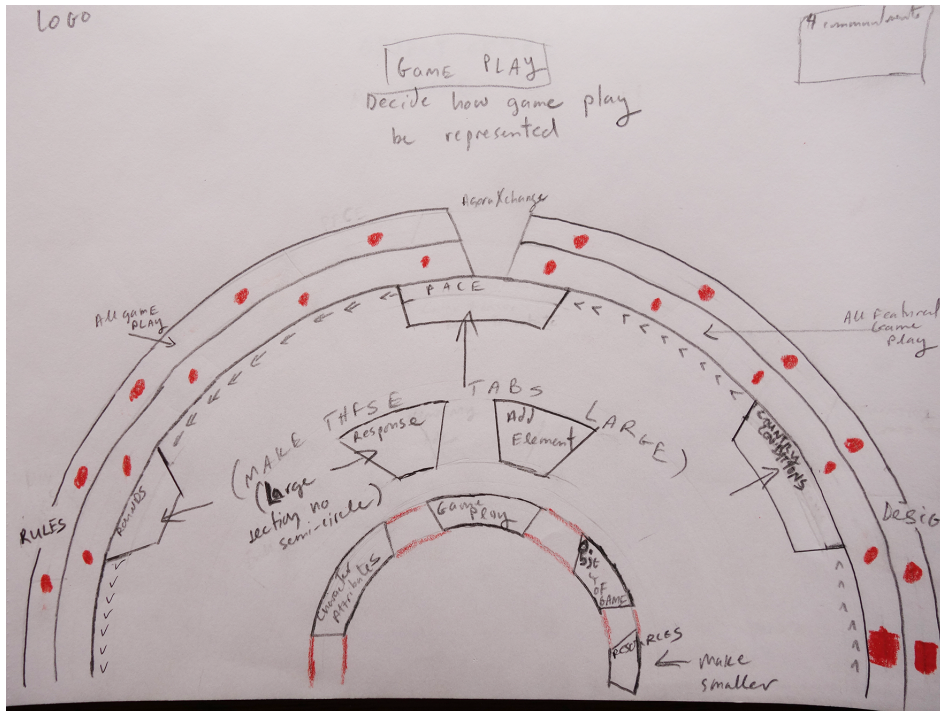


Figure 4.10 Jacqueline Stevens, *agoraXchange* phase I (2003), design sketch
Independently-produced preliminary website design sketch based on the spatial layout of amphitheatres in ancient agoras. Courtesy of the artist.

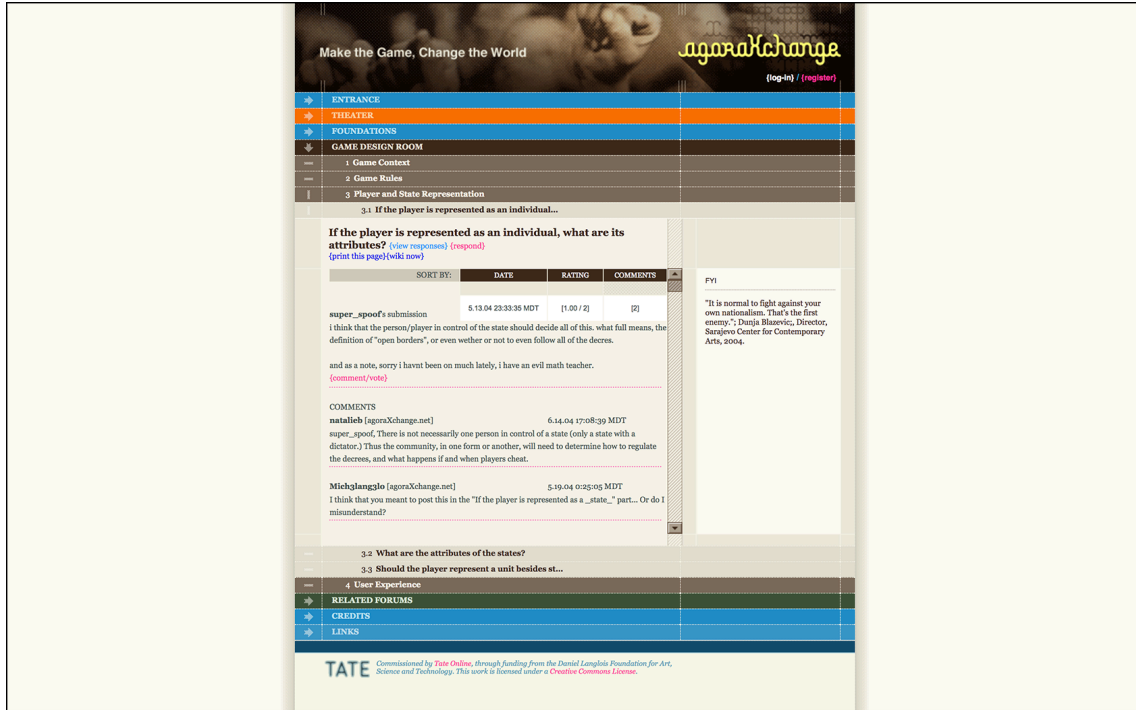


Figure 4.11 Natalie Bookchin and Jacqueline Stevens, *agoraXchange* phase I (2003), screenshot of “Player and State Representation,” game design room forums

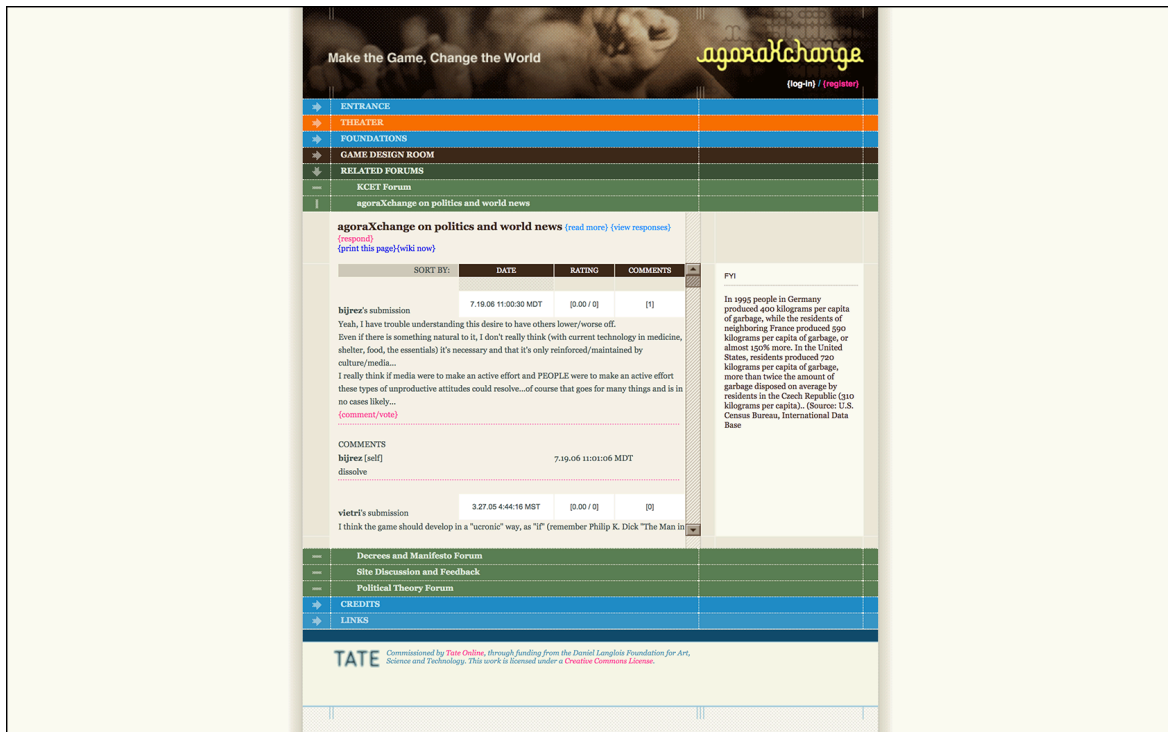


Figure 4.12 Natalie Bookchin and Jacqueline Stevens, *agoraXchange* phase I (2003), screenshot of “agoraXchange on politics and world news,” related forums

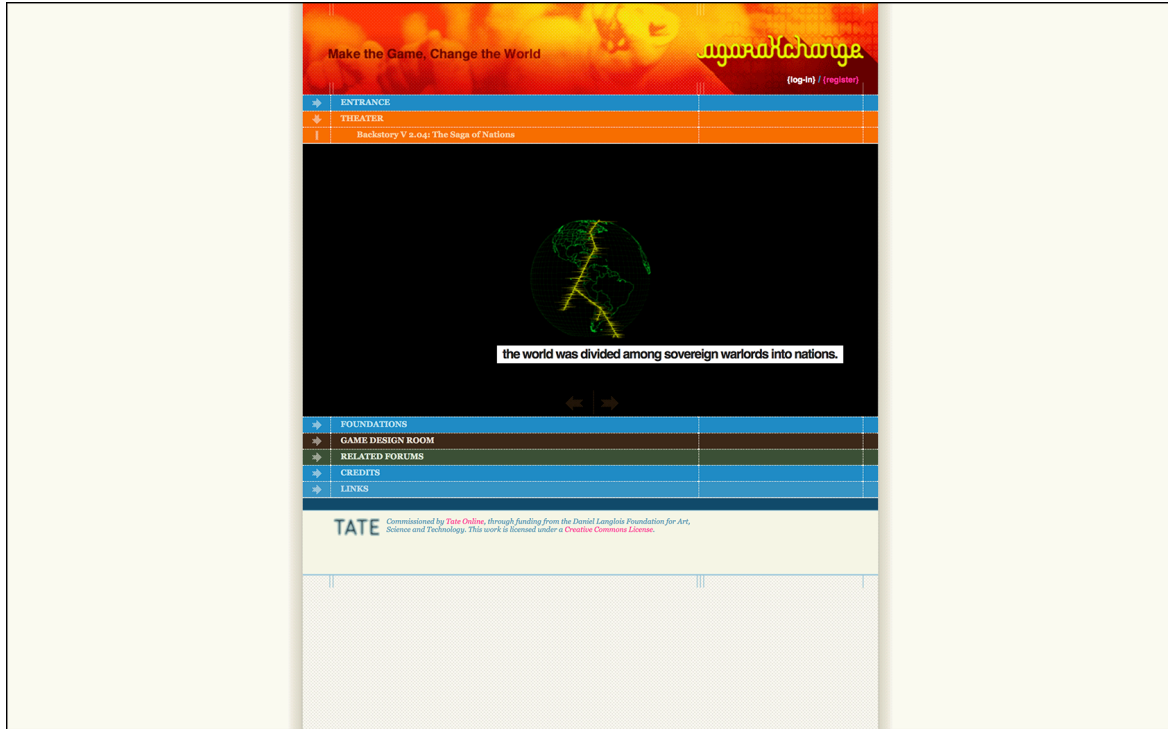


Figure 4.13 Natalie Bookchin and Jacqueline Stevens, *agoraXchange* phase I (2003), screenshot of “Theater: Saga of Nations” visual essay, sample slide



Figure 4.14 Jacqueline Stevens, *agoraXchange* phase II (2008), screenshot of home page

Chapter Five

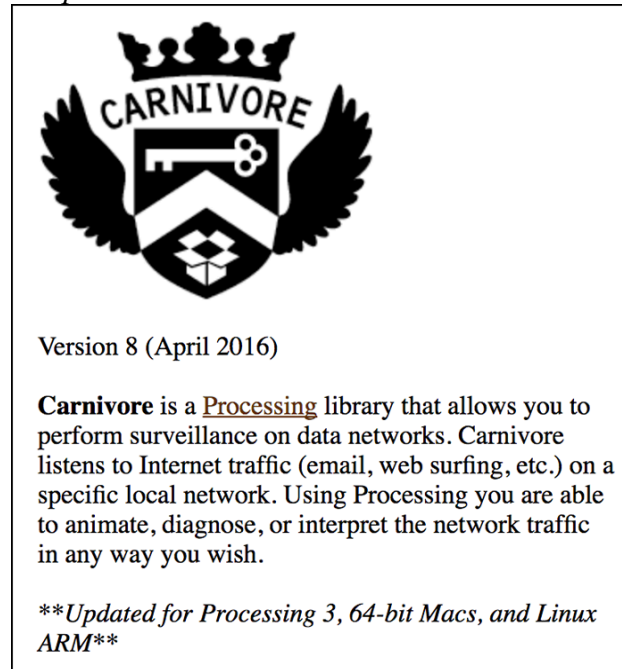


Figure 5.1 RSG, *Carnivore* (2001), logo

Screenshot from project website showing most current version information (2016).



Figure 5.2 RSG, *Carnivore* (2001), sample code

Screenshot of code provided on project website for a simple, text-based Carnivore client with current version (2016) that gathers basic traffic information from a local network.

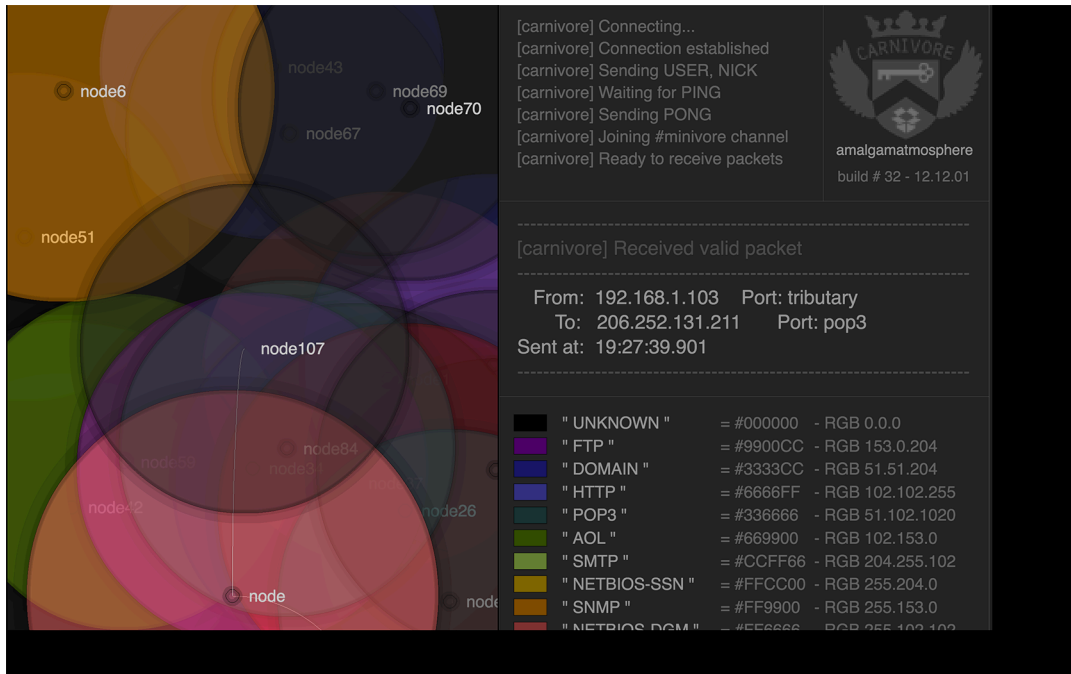


Figure 5.3 Joshua Davis, Branden Hall, and Shapeshifter, *amalgamatmosphere* (2001), screenshot

Client produced with RSG's *Carnivore*. Sample recording of no longer active client provided on the *amalgamatmosphere* website.

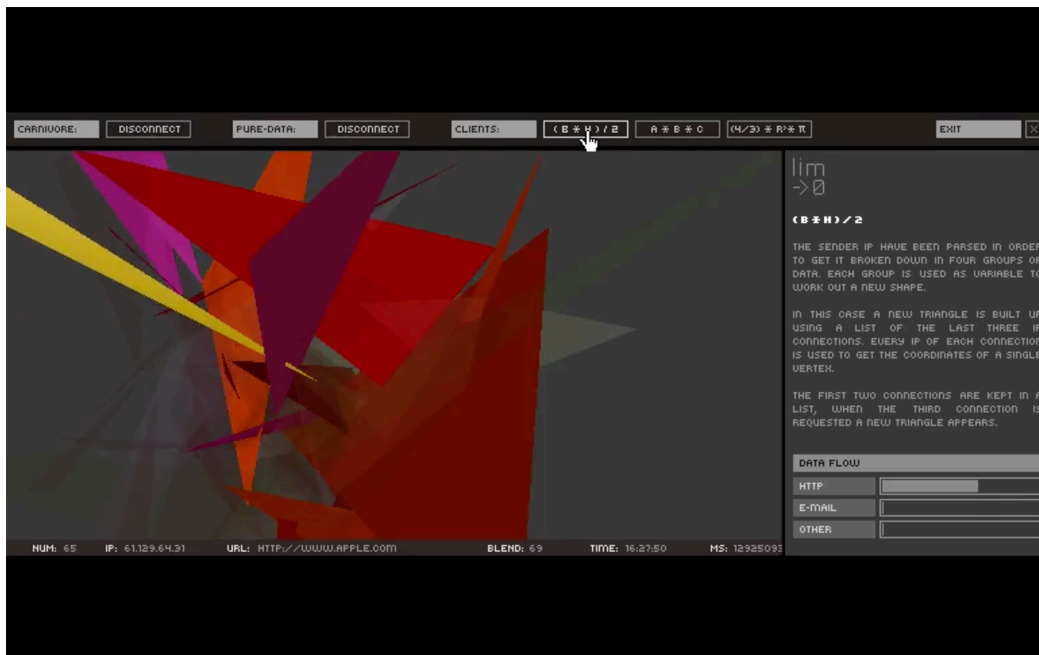


Figure 5.4 Limiteazero, *Active Metaphor* (2002), screenshot

Client produced with RSG's *Carnivore*. Sample recording of no longer active client provided on *Active Metaphor* website.

Video Documentation of PoliceState

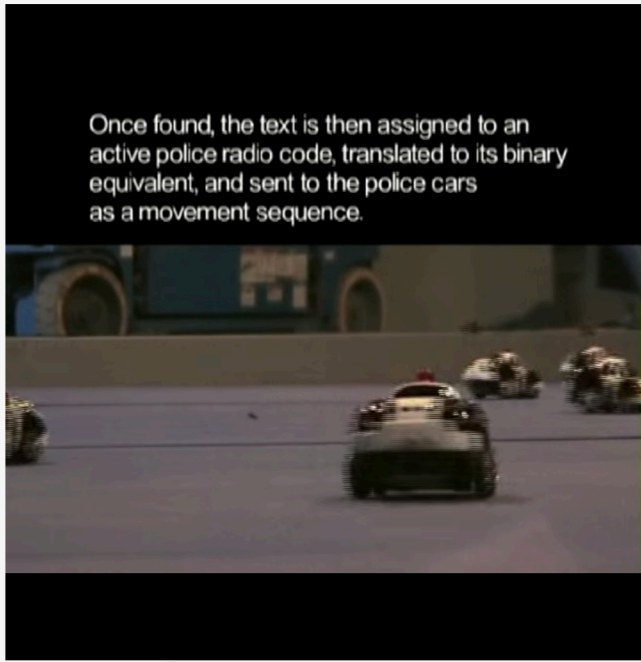


Figure 5.5 Jonah Brucker-Cohen, *Police State* (2003), screenshot

Installation whose automated engine is a client produced with RSG's *Carnivore*. Video documentation of installation provided on *Police State* website.

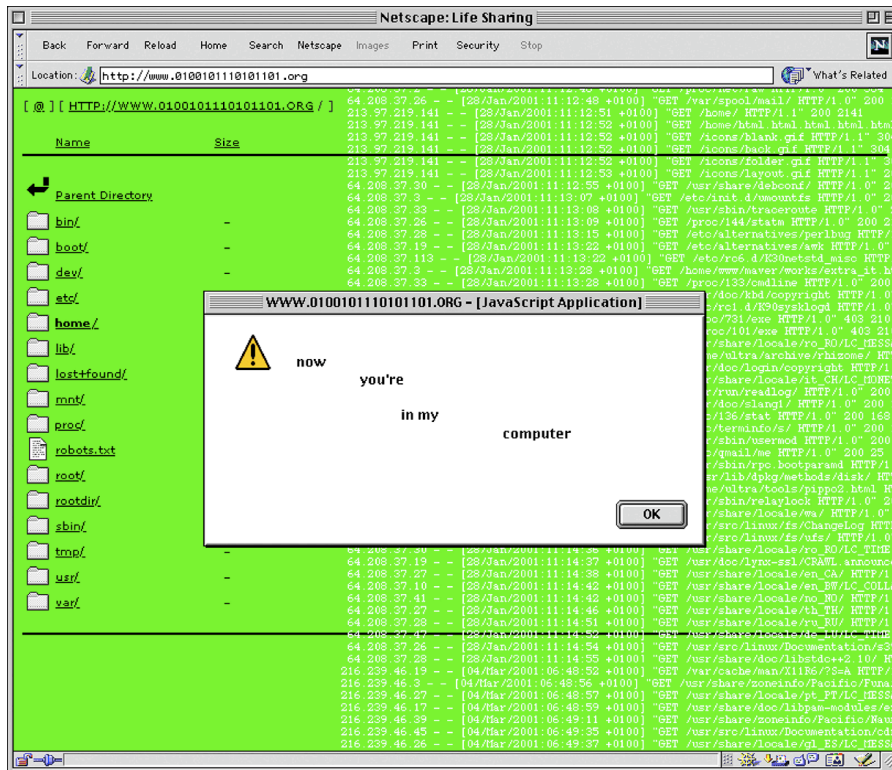


Figure 5.6 Eva and Franco Mattes (0100101110101101.org), *Life Sharing* (2000 – 2003), screenshot of visitor landing screen as viewed through website

Courtesy of the artists.



Figure 5.7 Eva and Franco Mattes (0100101110101101.org), photograph of *Life Sharing* (2001 – 2003) server

Courtesy of the artists.

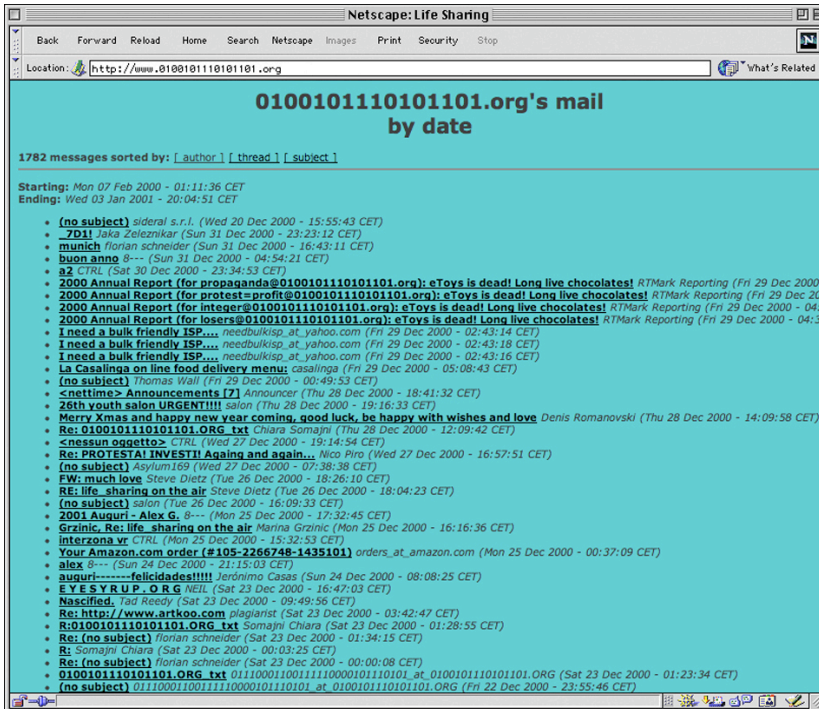


Figure 5.8 Eva and Franco Mattes (0100101110101101.org), *Life Sharing* (2000 – 2003), screenshot of artist emails as viewed through website

Courtesy of the artists.

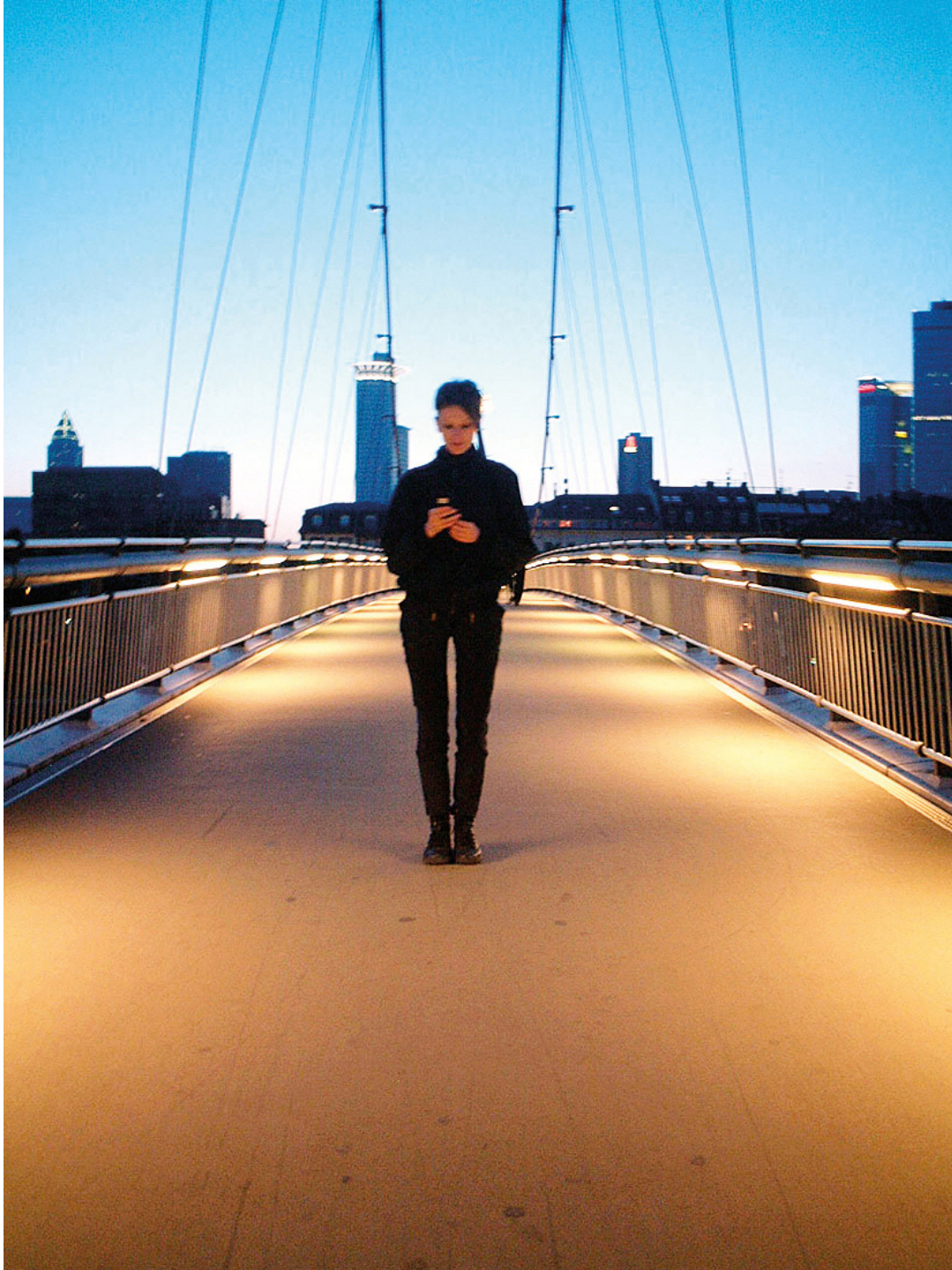


Figure 5.9 Photograph of Eva Mattes wearing GPS transmitter for Eva and Franco Mattes (0100101110101101.org)'s performance of *Vopos* at Manifesta 4 in Frankfurt, 2002

The artists subsequently absorbed the GPS tracking project into *Life Sharing* with maps that tracked their GPS locations. Animated gifs the artists produced from these maps are available in *Life Sharing*'s Rhizome Net Art Anthology entry at <https://anthology.rhizome.org/life-sharing>.

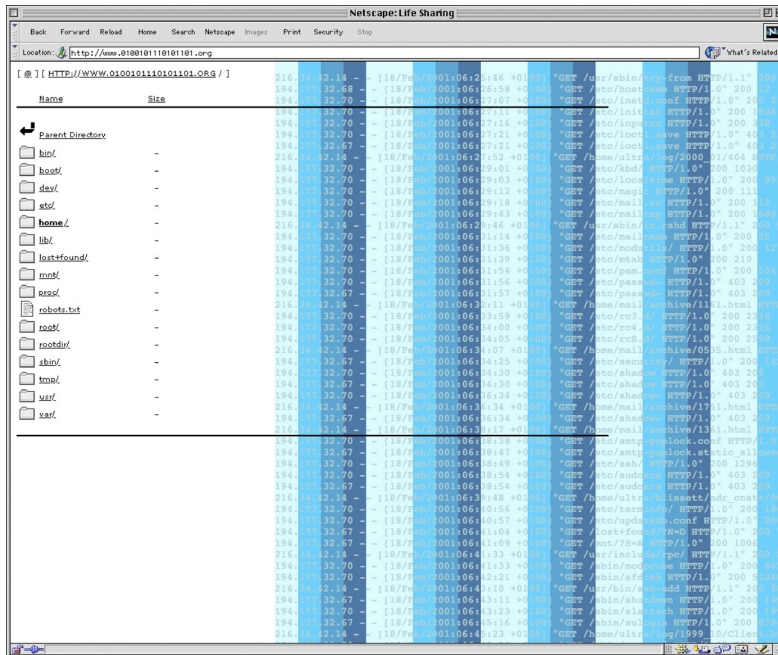


Figure 5.10 Eva and Franco Mattes (0100101110101101.org), *Life Sharing* (2000 – 2003), screenshot of computer’s file structure as viewed through website
 Courtesy of the artists.

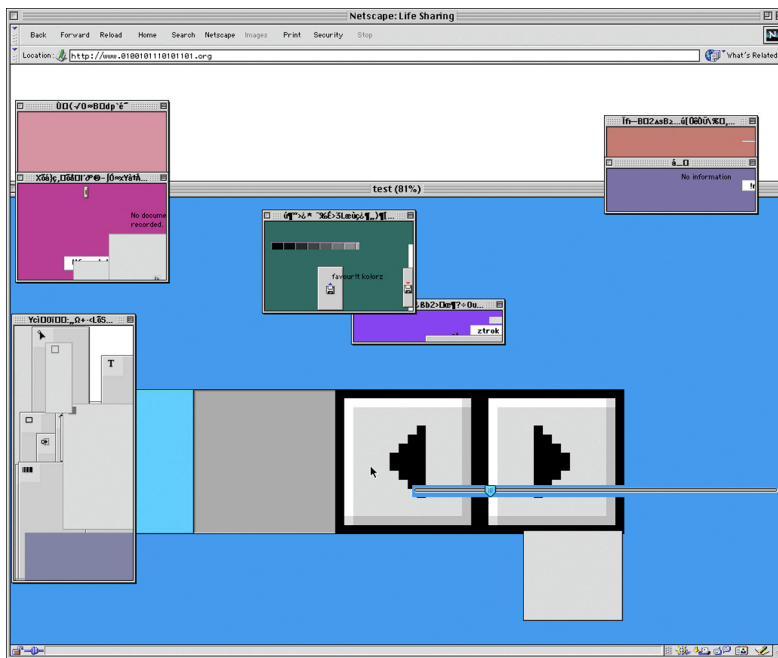


Figure 5.11 Eva and Franco Mattes (0100101110101101.org), *Life Sharing* (2000 – 2003), screenshot of in-process artworks as viewed through website
 Experiments with *Life Sharing* software glitches. Courtesy of the artists.

Chapter Six

Trade Topics:

- Services
- Intellectual Property
- Environment
- Development
- Regionalism
- Trade Policy Reviews
- Dispute Settlement
- Procurement
- Research & Analysis
- Electronic Commerce
- Review Procurement
- Property Research
- Commerce Reviews
- Research & Analysis

Resources:

- WTO Ministerials
- On-line Bookshop
- Documents on-line
- Legal Texts
- Media Newsroom
- International Trade
- Technical Cooperation
- Trade Policy Courses
- Links
- FAQs
- Download Files
- Vacancies
- Members

WORLD TRADE ORGANIZATION

- About the WTO
- Site Map
- Search
- Registration
- Français
- Español

What's New | **Speeches** | **Forums** | **Contact**

Click here to learn about one dramatic victory of free trade on the Net this year, as well as its likely repercussions--which could be to Internet commerce what the Millennium Round was to the WTO. Decide for yourself!

We will continue to maintain our [Ministerial information pages](#) here on this website in conjunction with the special Ministerial website. To learn more about [who](#) is in favor of global free trade, visit [this list of supporters](#), who helped us by opposing the Religious Persecution Act of 1998 for reasons of economic soundness, and also opposed sanctions against Indonesia during the East Timor fiasco last fall, correctly judging such a move to be premature in the face of mere massacres.

News from the WTO

"Globalisation is not an ideology, not a political theory, but economic evolution." - WTO DG Mike Moore ([Reuters](#))

Indeed, for about two hundred years the most advanced free trade advocates have been instructing that humanity must evolve towards less and less regulated competition, the only natural/virtuous state for the species. Obeying the dictates of profit-seeking unhampered by local rules and mores will, in this version of reality, lead either to heaven for everyone (1750-1900, roughly), or to prosperity and [cleanliness](#) for everyone (1900-present, roughly).

Those who advocate this version of things often have advanced degrees from expensive schools and are very influential and respectable within their fields, and are usually associated with the largest industrial interests; sometimes, like Mike Moore, they have pulled themselves up by the bootstraps from the working professions. They have thus proved their "evolutionary" worth, and should be trusted, but their theories continue to encounter unnatural, uncomprehending, brute resistance from the electorates who are just too stupid to know better. Hence their frustration.

The truth of Seattle is that we were too far apart on matters of substance.... The protesters didn't stop us. We were just too far apart." - WTO DG Mike Moore (ibid.) Click [here](#) for one account of the physical distance separating the delegates at the "Millennium Round" in Seattle.

Figure 6.1 ®™Mark, GATT.org (1999), screenshot

Home page from web archive version, November, 1999. The Internet Archive combines elements from different time periods to produce the most complete website archives. This may not be exactly how gatt.org appeared in November, 1999, but is a close approximation.

WORLD TRADE ORGANIZATION

- About the WTO
- Site Map
- Search
- Registration
- Français
- Español

WTO News | **Speeches** | **Forums**

**February/March 2000
WTO survey on public participation
Fill in the questionnaire**

Prospects for the Developing Countries in the Next Round

Address to the Development Committee of the European Parliament by Mike Moore. [>>>](#)

Appellate Body issues report on FSC dispute

The Appellate Body today, 24 February, issued its report on the US tax treatment for "Foreign Sales Corporations" (FSC). It recommends that the Dispute Settlement Body request the United States to bring the FSC measure that has been found, in this report and in the panel report as modified by the Appellate Body, to be inconsistent with its obligations under the WTO Agreements on Subsidies and on Agriculture, into conformity with its obligations under those Agreements. The report emphasizes that a WTO member may choose any kind of tax system it wishes -- so long as, in so choosing, that member applies that system in a way that is consistent with its WTO obligations.

[Download in Word](#) | [Download in .pdf](#)

Announcing WTO On-line Bookshop

Order and pay for WTO books and CD-ROMs on-line. Visit [WTO Publications](#)

Director-General's Home Page

For information on Mike Moore, the new WTO Director-General - biographical note, speeches, activities - [click here](#)

Top Downloads/Features

Webcasting
[Third WTO Ministerial Conference](#)

Interactive Guide
"Trading into the Future" - an [electronic guide to the WTO and its agreements](#)
An [interactive guide to the WTO and Developing Countries](#)

Download the [latest WTO documents](#) from our database
[WTO - An Introduction](#)
[WTO - A Training Package](#)

Moore calls for closer parliamentary involvement in WTO matters

Figure 6.2 World Trade Organization, WTO.org screenshot

Home page of WTO.org, web archive version from February, 2000. This is archive is the closest version in time to the gatt.org archive above available on the Internet Archive.

George W. BUSH FOR PRESIDENT

THE PARODY SITE
That got W in such a huff

Press Coverage
Of this Web Site

Hear Bush
Attack this Web Site

Reader Letters

Prisoner Letters

Amnesty 2000

Fund an Ad

Contact

★ ★ ★

Sign The Free Speech Petition

News sites on Bush: Bush Watch
Full coverage of the Bush campaign

- Texas Observer's BushFiles.com
- Skeleton Closet
- Bush Watch Cocaine Feature
- Austin Chronicle
- Texas Observer

Other Bush Parodies or Informative sites:

- Unauthorized Bush(Sr.) Bio
- Bush is the Antichrist (with a well-reasoned argument)
- The Bush Body Count
- GeorgeBush2000.com
- LittleGeorgeBush.com
- BushCampaignHQ.com
- Another "questionable" Bush

Other Bush Parodies or Informative sites:

- Unauthorized Bush(Sr.) Bio
- Bush is the Antichrist (with a well-reasoned argument)
- The Bush Body Count
- GeorgeBush2000.com
- LittleGeorgeBush.com
- BushCampaignHQ.com
- Another "questionable" Bush

Other Bush Parodies or Informative sites:

- Unauthorized Bush(Sr.) Bio
- Bush is the Antichrist (with a well-reasoned argument)
- The Bush Body Count
- GeorgeBush2000.com
- LittleGeorgeBush.com
- BushCampaignHQ.com
- Another "questionable" Bush

Figure 6.3 ®™Mark, GWBush.com (1999), screenshot

Home page of web archive version from March, 2000.

RUDY GIULIANI U.S. SENATE

GET TO KNOW RUDY

- PROVEN LEADERSHIP
- FOREIGN POLICY
- DEFENSE POLICY
- DOMESTIC POLICIES
- UPCOMING EVENTS
- DONATE
- HILLARYHO.COM
- VISITATION
- CONTACT

A Special Message From Rudy -- He Needs Your Help!

Welcome to the Rudy Giuliani for U.S. Senate Web Site!

If you'd like to offer support please [write to me](#). But at this moment, I'd like especially to ask all of you to show up today, Friday, October 1, from 5 p.m. to 7 p.m. in front of the Brooklyn Museum of Art, located at 200 Eastern Parkway (the Eastern Parkway station on the 2/3 subway trains). Please come and show your support of my intention to shut down that museum because of a show-opening tomorrow--that I've called "disgusting and horrible."

Here on this site, you can learn more about my work as Mayor of New York City and about the ideas, principles and values that guide my decision making. As New York and the nation walk hand in hand into the future, I hope that you will also take the opportunity to study the ways in which one can support the other's ideas and methods.

During my watch, New York solidified its position as one of the biggest cities in the world, and is today recognized by many people as a significant urbano-American center. Just a few years ago, all naysayers and all pundits had ascertained that New York was primarily an American city. Together we've proved them wrong, and made New York an even more vital hub of the corporate globalization that increasingly focusses the world's wealth in a few million white hands. The diversity that New York has fostered in this respect has brought New York recognition as the safest large city in America.

We can all say together that New York triumphs again and again and again in business, culture, finance, entertainment, fashion, the arts, the sports, the pure-leisure pursuits, as well, yes, as the toils and troubles and terrors that make life meaningful, even today, even in the midst of the global economy. Please join me as I commence a campaign to insert myself surgically into the U.S. Senate and continue working for, against, and sometimes in cahoots with the people, human and corporate, of New York State and the world.

Specifics of My Foreign Policy

Now in 1983, Haiti was ruled by what everyone thought was the cruelest, nastiest, meanest, and most repressive regime in the world. (Here's what *The New York Times*, the *Washington Post*, and the Pope himself had to say about that. You can read about "Baby Doc" Duvalier, its ruler, on the Lycos Kids™ ["top ten despots of the millenium" page](#).)

Yup, everyone thought Baby Doc was pretty darn bad... everyone *except me*, that is. What I found was that there was no problem in Haiti at all! The Haiti of 1983 was nice, and so was "Baby Doc." The nicest! (You can read me saying this in the *New York Times*, [here](#). The full story of my Haitian policy can be read about [here](#).)

Figure 6.4 ®™Mark, YesRudy.com (1999), screenshot

Home page of web archive version from October, 1999

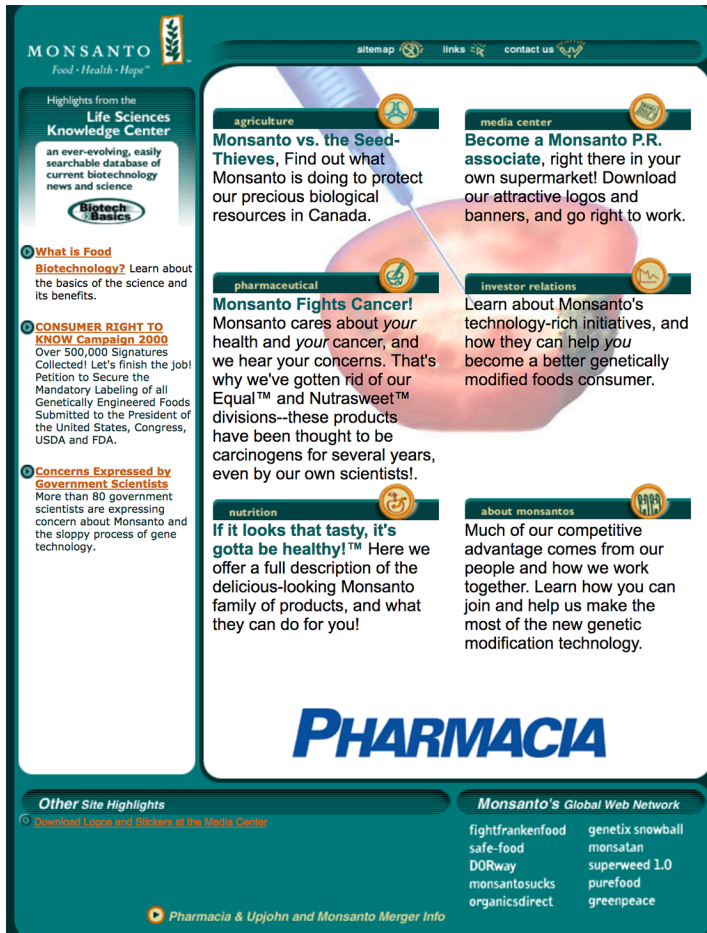


Figure 6.5 ©™Mark, Monsanto.com (1999), screenshot

Home page of web archive version from August, 2000.



[The Bill and Melinda Gates Foundation proudly confers special status to hacker group, "Hackers Unite"](#)

[View our message board](#)



[Business @ the Speed of Thought](#)

The long awaited sequel to Bill Gates' *Hackers Unite!* has arrived! Order today.

[The World Is Not Enough](#)

After the Cotton Crisis in the year 2002, Microsoft Corporation assimilates the majority of the world's wool industry and thus mutates into "Woolcomm," a transnational conglomerate with enough influence to sponsor the planet's neutral economic web and peace-keeping force, what is known as the "Network." However, pockets of resistance to Woolcomm assimilation continue to grow in autonomous wool producing regions such as the Basque Land of Northern Spain, and subsequently mandates that [Woolcomm agents](#) use the latest religious technology for the sake of smoother conversions...

[Hackers Unite!](#)

The Bill Gates Memoirs

[Microsoft's Cease-and-Desist Letter](#)

[MicrosoftEdu.com: Special Study 798, San Diego State University, College of Arts and Letters, Department of English and Comparative Literature--3 Units](#)

Witness the wave of the future as Microsoft makes its first academic decision for California State University.

[Microsoft vs Mrs. Kineman](#)

Figure 6.6 ©™Mark, Microsoftedu.com (1999), screen shot

Home page of web archive version from October, 1999.



Figure 6.7 ®™Mark, December, 1999 press release

Screenshot of website archive copy of press release in response to the WTO's reaction to GATT.org in 1999.

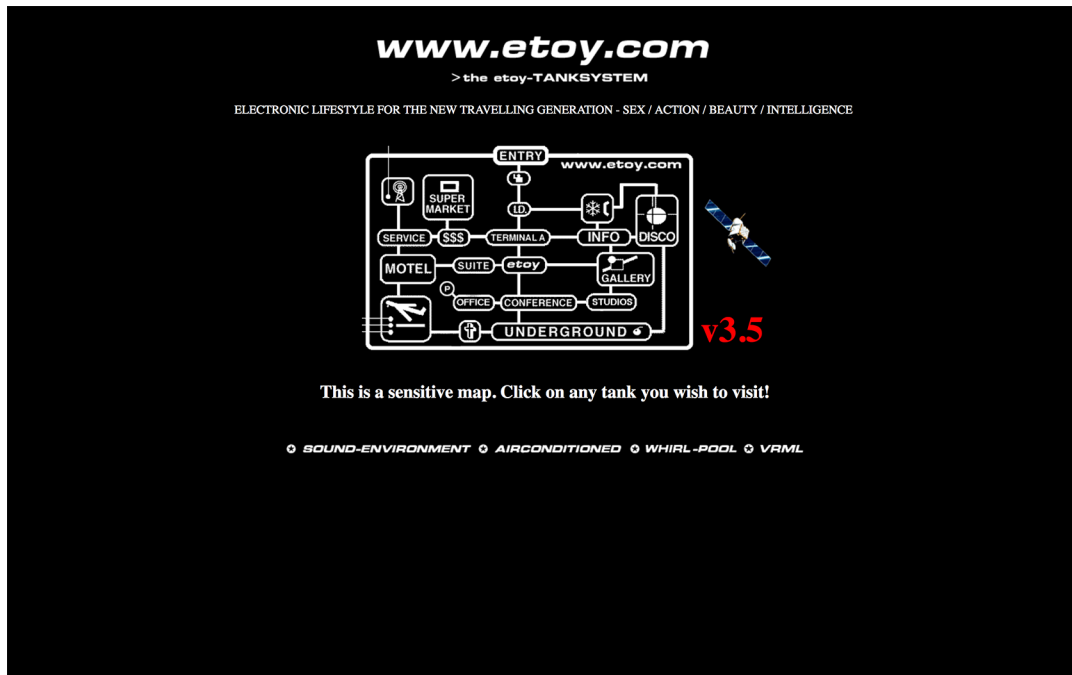


Figure 7.1 etoy, *etoy.TANKSYSTEM* (1996), screenshot Home page from November, 1996 web archive.



Figure 7.2 etoy, *etoy.SHARES* (1998), screenshot Home page from May, 1999 web archive.

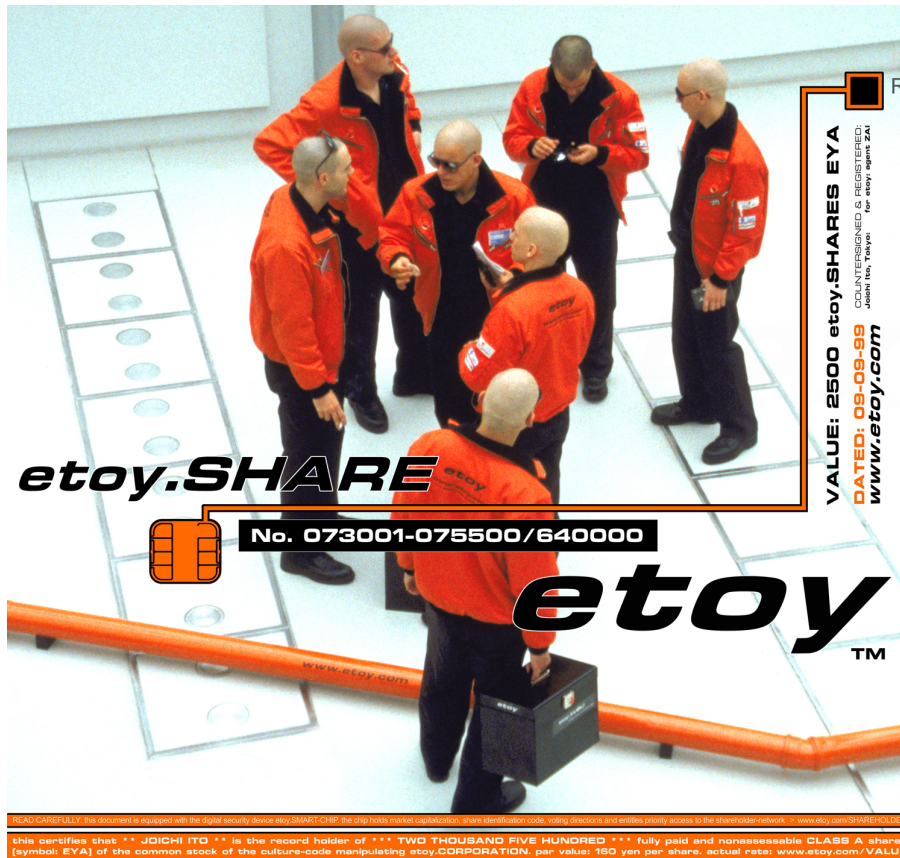


Figure 7.3 etoy, *etoy.SHARES* (1999), etoy artists version

One of the images produced to represent the “shares” issued to etoy investors, dated September 1999.

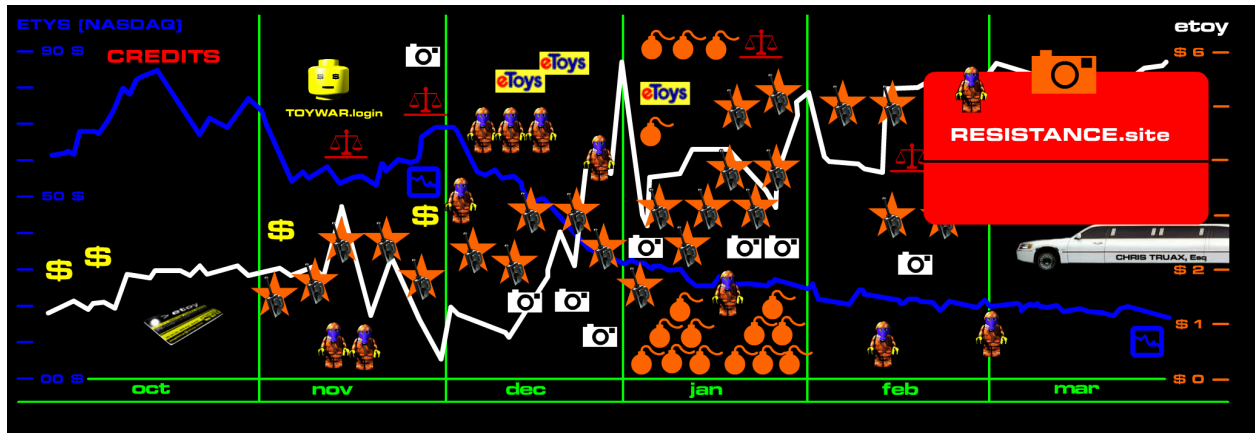


Figure 7.4 etoy, *Toywar* timeline, screenshot

Screenshot of timeline of *Toywar* events provided on etoy’s artist archive website, including graphics used for the Toywar Platform game.

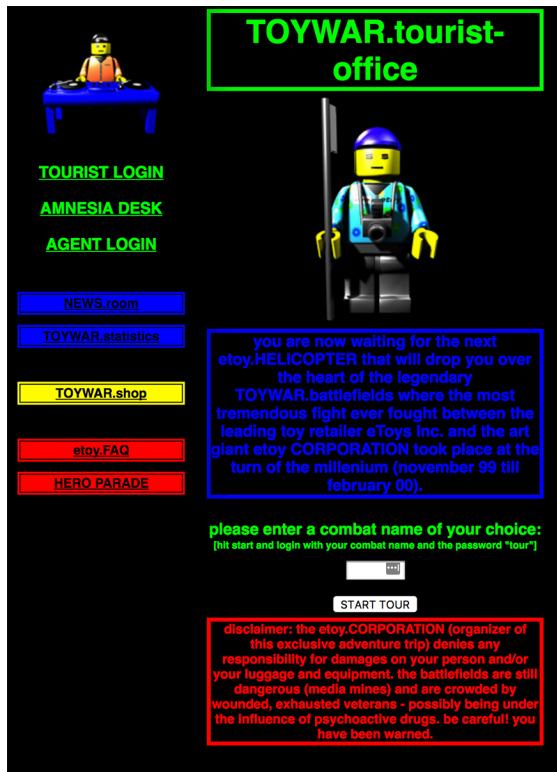


Figure 7.5 etoy, Toywar Platform login screens, screenshot

Two nested pop-ups shown after clicking on TOYWAR.login on *Toywar* timeline of events on etoy's artist archive website. Although it is no longer possible to log into the game, the login screens show more examples of the graphics and style of the Toywar Platform, which does not have an extant web archive.

Chapter Eight

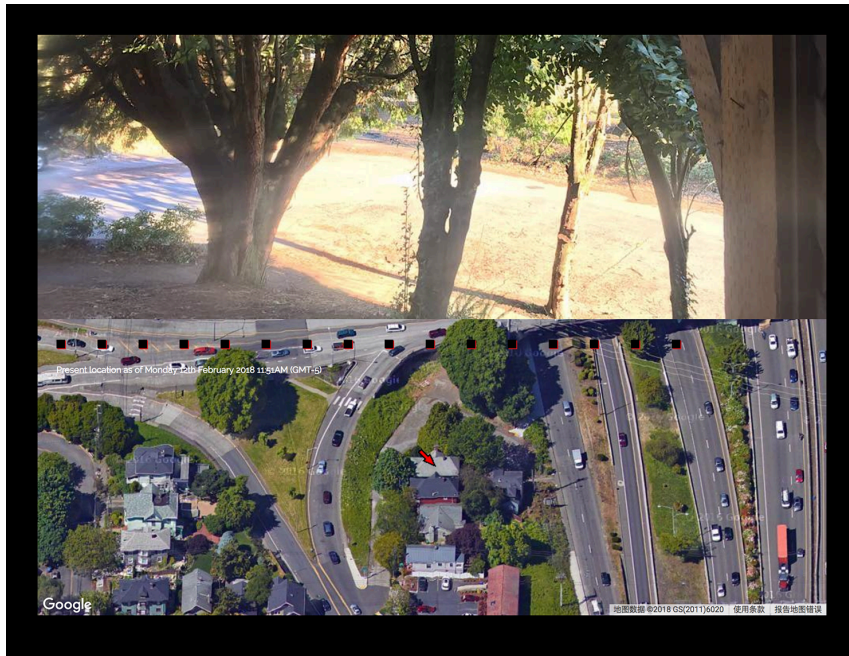


Figure 8.1 Hasan Elahi, *Tracking Transience* (2002), screenshot Project website from February 12, 2018, initial view, which shows the artist's location at the moment the visitor is viewing the site.

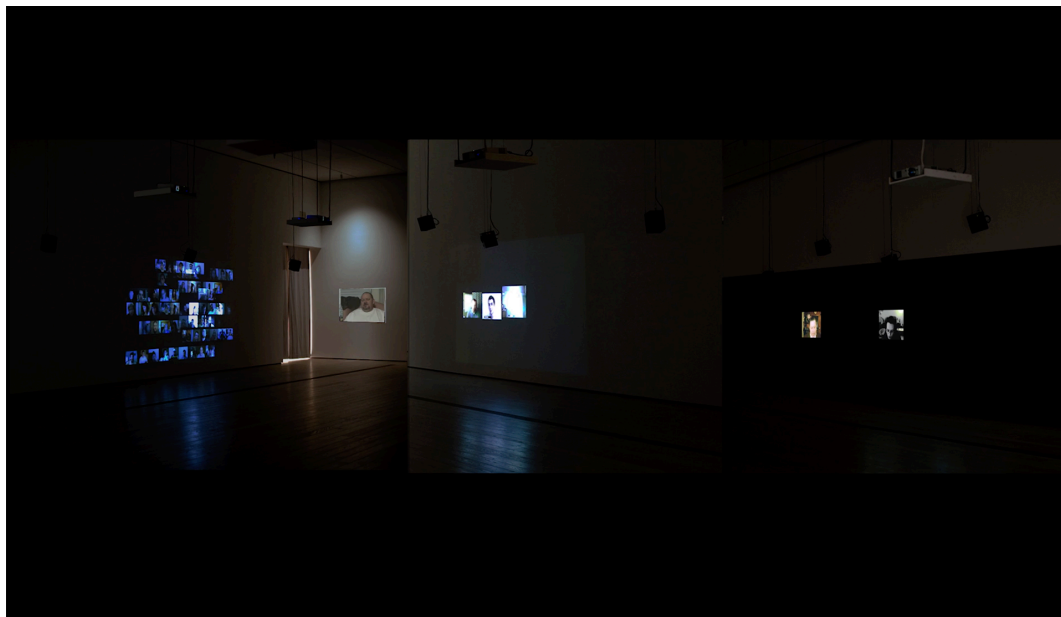


Figure 8.2 Natalie Bookchin, *Testament* (2009), installed at *The Sum of Myself*, Los Angeles County Museum of Art, 2009

Screenshot of still from installation video provided on artist website.

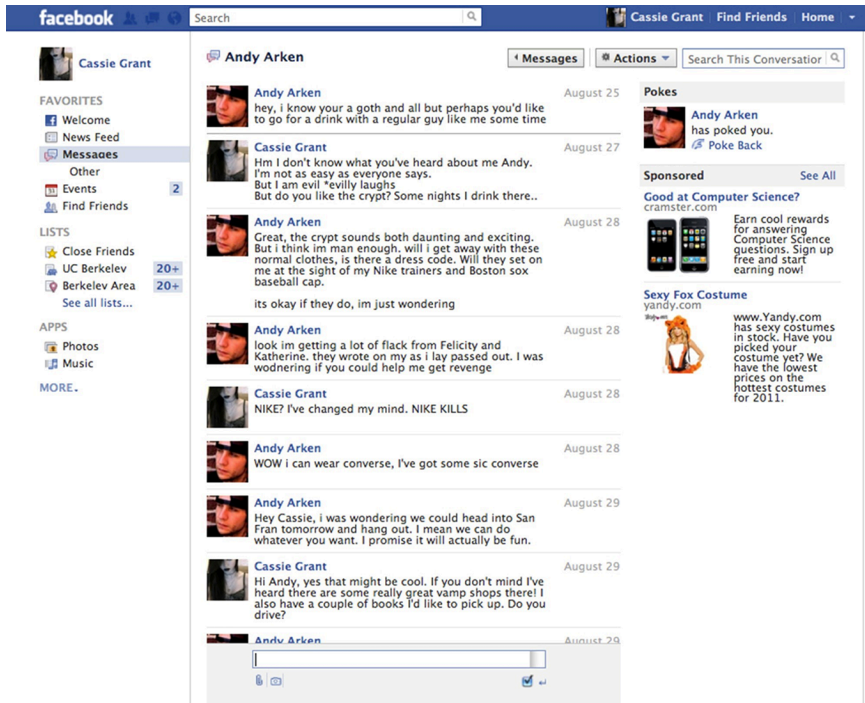


Figure 8.3 Ed Fornieles and collaborators, *Dorm Daze* (2011), screenshot Work in progress on Facebook, provided for *Dazed Digital* magazine by Fornieles and Carlos/Ishikawa Gallery.



Figure 8.4 Ryan Trecartin and collaborators, *riverthe.net* (2010), screenshot Video clip from the randomly rotating selection on the project home page.

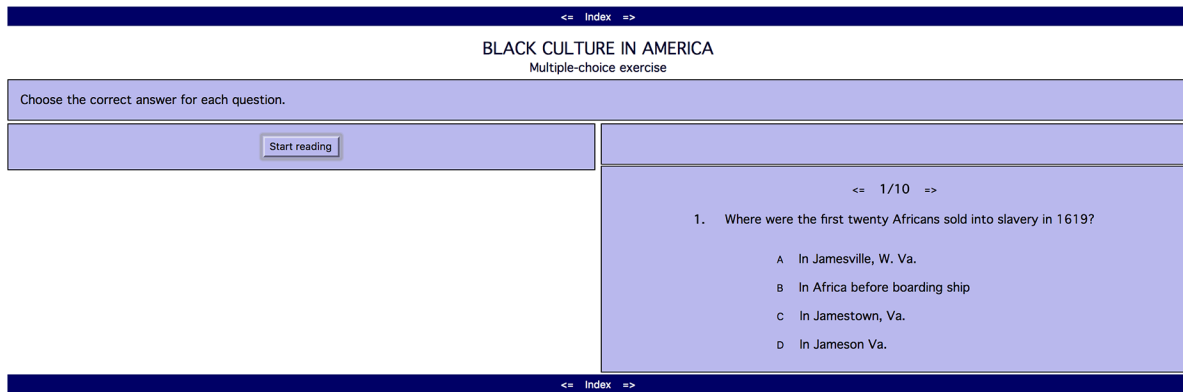


Figure 8.5 Martine Syms, *Black Culture in America* (2013), screenshot of website home page *Black Culture in America* is a replica Syms produced of an undated Geocities website by user yamataro670.



Figure 8.6 Sondra Perry, *It's in the Game* (2017), screenshot of video demo Video of online version of the work produced for Rhizome's *New Black Portraits* online exhibition, 2017.



Figure 8.7 Petra Cortright, *cats spirt spsit spit* (2008), screenshot of video still
Video released on the artist's YouTube channel.

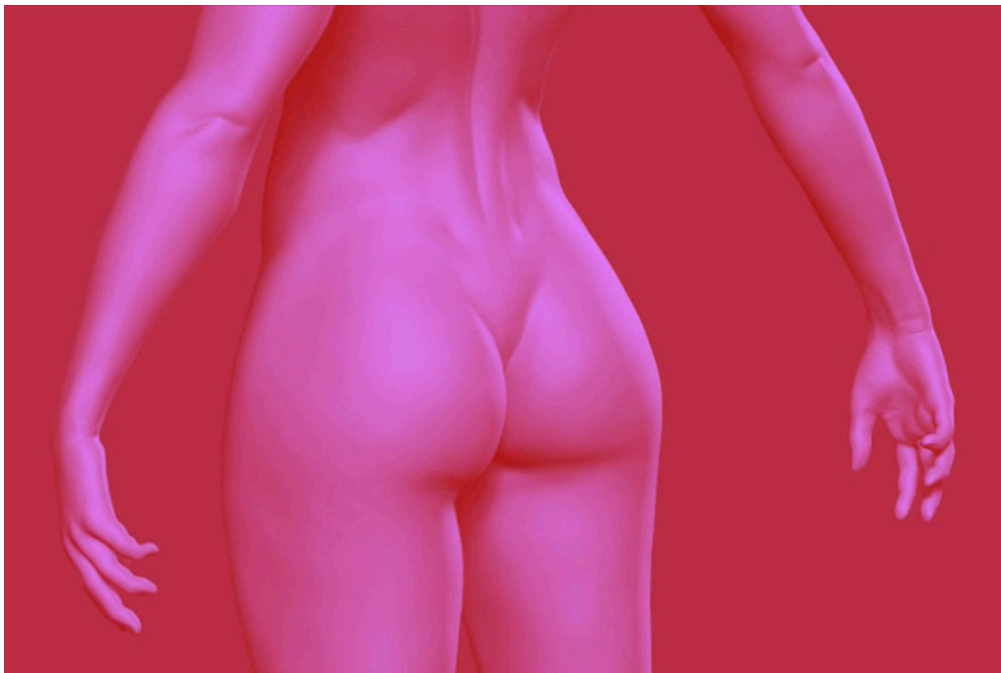


Figure 8.8 Silvia Bianchi, *Culo* (2017), screenshot of video still
Still from video installation in *Mozart's Ghost* at Göteborgs Konsthall, 2017-18, provided on
museum website.



Figure 8.9 The Yes Men, “*Anger Marketing*” at Roskilde (2016), sample sign



Figure 8.10 Dark Inquiry, *Bail Bloc* (2017), screenshot of project home page

SELECT BIBLIOGRAPHY

Art History, Criticism, and Theory

- Atkins, Robert. "State of the (On-Line) Art." *Art in America*, April 1999.
- . "The Art World & I Go On Line." *Art in America*, December 1995.
- Baumgärtel, Tilman. *Net.art: Materialien zur Netzkunst*. Nürnberg: Verlag für Moderne Kunst, 1999.
- , ed. *Net.Art.2.0: New Materials Towards Net Art*. Nürnberg: Verlag Für Moderne Kunst Nurnberg, 2005.
- Bazzichelli, Tatiana. *Networking: The Net as Artwork*. Aarhus: Aarhus Universität, 2009.
- Becker, Konrad, Felix Stalder, and Martin Wassermair. *Public Netbase: Non Stop Future New Practices in Art and Media*. Edited by Branka Curcic and Zoran Pantelic. First edition. Frankfurt am Main, Germany : World-Information Institute: Revolver, 2008. http://nonstop-future.org/index_html.
- Bey, Hakim. "The Temporary Autonomous Zone, Ontological Anarchy, Poetic Terrorism." Hermetic Library. Accessed December 28, 2017. https://hermetic.com/bey/taz_cont.
- Blais, Joline, and Jon Ippolito. *At the Edge of Art*. London: Thames & Hudson, 2006.
- Bosma, Josephine. *Nettitudes: Let's Talk Net Art*. Rotterdam; Amsterdam; New York: Nai Publishers ; Institute of Network Cultures ; D.A.P./Distributed Art Publishers [distributor in] North, South, and Central America, 2011.
- Bosma, Josephine, Pauline van Mourik Broeckman, Ted Byfield, Matthew Fuller, Geert Lovink, Diana McCarty, Pit Schultz, Felix Stalder, McKenzie Wark, and Faith Wilding, eds. *ReadMe! Filtered by Nettime: ASCII Culture and the Revenge of Knowledge*. Brooklyn, NY: Autonomedia, 1999.
- Bosma, Josephine, and Stefan Heidenreich. "Missing Links." *Frieze d/E*, May 2014. <http://frieze-magazin.de/archiv/features/missing-links/?lang=en>.
- Boyle, Deirdre. "From Portapak to Camcorder: A Brief History of Guerrilla Television." *Journal of Film and Video* 44, no. 1/2 (1992): 67–79.
- Brighenti, Andrea Mubi. "Artveillance: At the Crossroads of Art and Surveillance." *Surveillance & Society* 7, no. 2 (2010): 175–86.
- Chandler, Annmarie, and Norie Neumark, eds. *At a Distance: Precursors to Art and Activism on the Internet*. Cambridge, Mass: The MIT Press, 2006.

- Corby, Tom, ed. *Network Art: Practices and Positions*. London; New York: Routledge, Taylor & Francis Group, 2006.
- Cornell, Lauren, and Ed Halter, eds. *Mass Effect: Art and the Internet in the Twenty-First Century*. 1st edition. Cambridge, Massachusetts: The MIT Press, 2015.
- Ćosić, Vuk. “[-6] A Net.Art Text.” *Free Janez Janša* (blog), April 29, 2015. <http://free.janezjansa.si/blog/2015/04/6-a-net-art-text/>.
- Cramer, Florian. *Words Made Flesh: Code, Culture, Imagination*. Rotterdam: Piet Zwart Institute, 2005. http://cramer.pleintekst.nl/00-recent/words_made_flesh/html/words_made_flesh.html.
- Crary, Jonathan. “Critical Reflections.” *Artforum International* 32, no. 6 (February 1994): 58–59, 103.
- Critical Art Ensemble. “Electronic Civil Disobedience.” In *Electronic Civil Disobedience & Other Unpopular Ideas*, 6–32. Brooklyn, N.Y.: Autonomedia, 1996. <http://critical-art.net/?p=264>.
- Cubitt, Sean, and Paul Thomas, eds. *Relive: Media Art Histories*. The MIT Press, 2013.
- Daniels, Dieter. “The Art of Communication: From Mail Art to the E-Mail.” *Media Art Net*, September 1994. <http://www.medienkunstnetz.de/source-text/73/>.
- Daniels, Dieter, and Gunther Reisinger. *Net Pioneers 1.0: Contextualizing Early Net-Based Art*. Berlin; New York, NY: Sternberg Press, 2009.
- Dietz, Steve, and Josephine Bosma. “Public Sphere_s.” *Media Art Net | ZKM*, 2007. http://www.medienkunstnetz.de/themes/public_sphere_s/.
- Druckrey, Timothy, ed. *Electronic Culture: Technology and Visual Representation*. New York: Aperture, 1996.
- Eșanu, Octavian. “The Transition of the Soros Centers to Contemporary Art.” *Contemporary.Org* (blog), 2008. <http://www.contemporary.org/project/view/10>.
- Evans, Claire L. “‘We Are the Future Cunt’: CyberFeminism in the 90s.” *Vice Motherboard*, November 20, 2014. <http://motherboard.vice.com/read/we-are-the-future-cunt-cyberfeminism-in-the-90s>.
- Fernandez, Maria, Faith Wilding, and Michelle M. Wright, eds. *Domain Errors! Cyberfeminist Practices*. Brooklyn, N.Y.: Autonomedia, 2003.
- Flanagan, Mary, and Austin Booth, eds. *Reload: Rethinking Women + Cyberculture*. 1st edition. Cambridge, Mass: The MIT Press, 2002.

- , eds. *Re:Skin*. Cambridge, Mass.: MIT Press, 2006. <http://site.ebrary.com/id/10173622>.
- Frost, Charlotte. "Digital Critics: The Early History of Online Art Criticism." *Leonardo*, October 31, 2016. https://doi.org/10.1162/LEON_a_01379.
- Garcia, David, and Geert Lovink. "The ABC of Tactical Media." <nettime>, May 1997. <http://www.nettime.org/Lists-Archives/nettime-l-9705/msg00096.html>.
- Gohlke, Gerrit, Olga Goriunova, Natalie Bookchin, Timothy Druckrey, Verena Kuni, Yvonne Volkart, (Germany) Künstlerhaus Bethanien (Berlin, and Media Arts Lab. *Esc*. Berlin, Germany: Künstlerhaus Bethanien, 2002. <http://www.bethanien.de/en/publications/esc/>.
- Goriunova, Olga. *Art Platforms and Cultural Production on the Internet*. New York: Routledge, 2012.
- Grau, Oliver. *MediaArtHistories*. Cambridge, Mass.: MIT Press, 2007.
- Greene, Rachel. *Internet Art*. New York, N.Y.: Thames & Hudson, 2004.
- Halter, Ed, and Erika Balsom. *Electronic Superhighway: From Experiments in Art and Technology to Art after the Internet*. Edited by Omar Kholeif, Emily Butler, and Seamus McCormack. London: Whitechapel Gallery, 2016.
- Hayles, N. Katherine, Lev Manovich, Yuri Tsivian, Patricia R. Zimmermann, Grahame Weinbren, Caroline Bassett, Steven F. Anderson, et al. *Transmedia Frictions: The Digital, the Arts, and the Humanities*. Edited by Marsha Kinder and Tara McPherson. Berkeley: University of California Press, 2014.
- Hope, Cat, and John Charles Ryan. *Digital Arts: An Introduction to New Media*. Annotated edition. New York: Bloomsbury Academic, 2014.
- Joselit, David. *After Art*. Princeton: Princeton University Press, 2012.
- . "Tale of the Tape." *Artforum International* 40, no. 9 (May 2002): 152–55, 196.
- Konrad, Helga, ed. *On Line: Kunst Im Netz Katalog. ZERO - The Art of Being Everywhere*. Vienna: REMAprint, 1993.
- Kopfstein, Janus. "'The Thing' Redialed: How a BBS Changed the Art World and Came Back from the Dead." *The Verge*, March 15, 2013. <https://www.theverge.com/2013/3/15/4104494/the-thing-reloaded-bringing-bbs-networks-back-from-the-dead>.
- Kovats, Stephen, ed. *Media Revolution: Electronic Media in the Transformation Process of Eastern and Central Europe (German Title: Ost-West Internet)*. Frankfurt/M., Germany, and New York, NY: Bauhaus 6, Campus Verlag, 1999.

- Kwon, Miwon. *One Place After Another: Site-Specific Art and Locational Identity*. Cambridge, Mass.: MIT Press, 2002.
- Lacy, Suzanne, ed. *Mapping the Terrain: New Genre Public Art*. Seattle, Wash: Bay Press, 1995.
- Latour, Bruno, and Peter Weibel, eds. *Making Things Public: Atmospheres of Democracy*. Cambridge, Mass. : Karlsruhe, Germany: The MIT Press, 2005.
- Levin, Thomas Y, Ursula Frohne, and Peter Weibel. *Ctrl [Space]: Rhetorics of Surveillance from Bentham to Big Brother*. Karlsruhe, Germany; Cambridge, Mass.: ZKM Center for Art and Media ; MIT Press, 2002.
- Levine, Cary, and Philip Glahn. "Interrogating Invention: Electronic Café and the Politics of Technology." *Panorama: Journal of the Association of Historians of American Art* 2, no. 1 (Summer 2016): np.
- Lovejoy, Margot. *Digital Currents: Art in the Electronic Age*. New York: Routledge, 2004.
- Lunenfeld, Peter. *Snap to Grid: A User's Guide to Digital Arts, Media, and Cultures*. Cambridge, Mass.: MIT, 2000.
- Manovich, Lev. *The Language of New Media*. Cambridge, Mass.: MIT Press, 2001.
- McGahan, Christopher. *Racing Cyberculture: Minoritarian Art and Cultural Politics on the Internet*. Routledge Studies in New Media and Cyberculture. New York: Routledge, 2008.
- Miranda, Carolina A. "The New World of Net Art." *ARTnews*, June 12, 2013.
<http://www.artnews.com/2013/06/12/the-new-world-of-net-art/>.
- Mirapaul, Matthew. "Archive, 1851-Present: Articles by Author." *The New York Times*. Accessed February 13, 2018.
http://query.nytimes.com/search/sitesearch/#*/since1851/allresults/1/bymirapaul/.
- Morse, Margaret. "Video Installation Art: The Body, the Image, and the Space-in-Between." In *Illuminating Video: An Essential Guide to Video Art*, edited by Sally Jo Fifer and Doug Hall, 153–67. New York, N.Y.: Aperture in association with the Bay Area Video Coalition, 1990.
- Nochlin, Linda. "Why Have There Been No Great Women Artists?" In *The Feminism and Visual Culture Reader*, edited by Amelia Jones, 229–33. In Sight. London ; New York: Routledge, 2003.
- OBN. "Cyberfeminism Reading Room." old boys network. Accessed February 13, 2018.
http://obn.org/reading_room/fs_read.html.
- Paul, Christiane. *Digital Art*. 3rd ed. World of Art. New York: Thames & Hudson, 2015.

- . “Digital Art/Public Art: Governance and Agency in the Networked Commons.” *First Monday*, no. special issue 7 (September 2006).
http://firstmonday.org/issues/issue11_9/paul/index.html.
- . *The Upgrade Path: Networked Art 1.0 - 2.0 - PART 1 of 4*. Sabanci University, 2011.
https://www.youtube.com/watch?v=UJ_Iw7tdUyw.
- Reas, Casey, and Ben Fry. *Processing: A Programming Handbook for Visual Designers and Artists*. Second edition. Cambridge, Massachusetts: The MIT Press, 2014.
- Rinehart, Richard, and Jon Ippolito. *Re-Collection: Art, New Media, and Social Memory*. Cambridge, Massachusetts: The MIT Press, 2014.
- Sollfrank, Cornelia. “Performing the Paradoxes of Intellectual Property: A Practice-Led Investigation into the Conflicting Relationship between Copyright and Art.” Ph.D., The University of Dundee Duncan of Jordanstone College of Art and Design, 2011.
- . “Revisiting the Future: Cyberfeminism in the Twenty-First Century.” In *Across & Beyond: A Transmediale Reader on Post-Digital Practices, Concepts, and Institutions*, edited by Ryan Bishop, Kristoffer Gansing, Jussi Parikka, and Elvia Wilk, 228–45. Berlin: Sternberg Press & Transmediale e.V., 2016.
- Stallabrass, Julian. *Internet Art: The Online Clash of Culture and Commerce*. London: Tate, 2003.
- Stocker, Gerfried, and Christine Schöpf, eds. *InfoWar*. Wien, New York: Springer, 1998.
- Syms, Martine. “Black Vernacular: Reading New Media,” 2013. <http://martinesyms.com/black-vernacular-reading-new-media/>.
- Tribe, Mark, and Reena Jana. *New Media Art*. Köln; Los Angeles: Taschen, 2006.
- Veigl, Thomas. *Imagery in the 21st Century*. Edited by Oliver Grau. Cambridge, Mass: The MIT Press, 2011.
- Ward, Frazer. “The Haunted Museum: Institutional Critique and Publicity.” *October* 73 (July 1, 1995): 71–89.
- Weibel, Peter, and Timothy Druckrey, eds. *Net condition: Art and Global Media*. Graz, Austria : Karlsruhe, Germany : Cambridge, Mass: The MIT Press, 2001.
- Wilson, Stephen. *Information Arts: Intersections of Art, Science, and Technology*. First edition. Cambridge, Mass.: The MIT Press, 2002.
- ZKM. “Homepage.” Media Art Net, February 13, 2018.
<http://www.medienkunstnetz.de/mediaartnet/>.

Political Science, Sociology, and Critical Theory

- Ball, Kirstie, Kevin Haggerty, and David Lyon, eds. *Routledge Handbook of Surveillance Studies*. Reprint edition. London: Routledge, 2014.
- Bohman, James. "Expanding Dialogue: The Internet, the Public Sphere and Prospects for Transnational Democracy." *The Sociological Review* 52 (June 1, 2004): 131–55.
- Boyle, James. *The Public Domain: Enclosing the Commons of the Mind*. First edition. New Haven: Yale University Press, 2008.
- Dean, Jodi. "Why the Net Is Not a Public Sphere." *Constellations* 10, no. 1 (2003): 95–112.
- Deleuze, Gilles. "Postscript on the Societies of Control." *October* 59 (January 1, 1992): 3–7.
- Foucault, Michel. *Discipline & Punish: The Birth of the Prison*. Translated by Alan Sheridan. 2nd edition. Vintage, 1995.
- Fraser, Nancy. "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy." In *The Phantom Public Sphere*, edited by Bruce Robbins, 1–32. Minneapolis: University of Minnesota Press, 1993.
- Galloway, Alexander R. *Protocol: How Control Exists after Decentralization*. Cambridge, Mass.: MIT Press, 2004.
- Habermas, Jürgen. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society*. Cambridge, Mass.: MIT Press, 1989.
- Haggerty, Kevin D., and Richard V. Ericson. "The Surveillant Assemblage." *The British Journal of Sociology* 51, no. 4 (December 1, 2000): 605–22.
- Hall, Stuart. "Encoding/Decoding." In *Culture, Media, Language: Working Papers in Cultural Studies, 1972-79*, edited by Stuart Hall, Dorothy Hobson, Andrew Lowe, and Paul Willis, 128–38. London: Hutchinson, 1980.
- Jameson, Fredric. "On Negt and Kluge." In *The Phantom Public Sphere*, edited by Bruce Robbins, 42–74. Minneapolis: University of Minnesota Press, 1993.
- Lefebvre, Henri. *The Production of Space*. Oxford, OX, UK; Cambridge, Mass., USA: Blackwell, 1991.
- Lyon, David, and Elia Zureik, eds. *Computers, Surveillance, and Privacy*. Minnesota Archive Editions edition. Minneapolis: University of Minnesota Press, 1996.
- Mouffe, Chantal. "For an Agonistic Model of Democracy." In *The Democratic Paradox*, 80–107. London; New York: Verso, 2000.

Negt, Oskar, and Alexander Kluge. *Public Sphere and Experience: Analysis of the Bourgeois and Proletarian Public Sphere*. Translated by Peter Labanyi, Jamie Owen Daniel, and Assenka Oksiloff. London ; New York: Verso, 2016.

Poster, Mark. *The Mode of Information: Poststructuralism and Social Context*. 1st edition. Chicago: University of Chicago Press, 1990.

———. “The Net as a Public Sphere?” *WIRED*, November 1, 1995.
<https://www.wired.com/1995/11/poster-if/>.

Saco, Diana. *Cybering Democracy: Public Space and the Internet*. First edition. Minneapolis: University of Minnesota Press, 2002.

Warner, Michael. *Publics and Counterpublics*. New York : Cambridge, Mass: Zone Books ; Distributed by MIT Press, 2002.

———. “The Mass Public and the Mass Subject.” In *The Phantom Public Sphere*, edited by Bruce Robbins, 234–56. Minneapolis: University of Minnesota Press, 1993.

History and Philosophy of Technology and the Internet

Abbate, Janet. *Inventing the Internet*. Cambridge, Mass: MIT Press, 1999.

Barbrook, Richard, and Andy Cameron. “The Californian Ideology.” *Science as Culture* 6, no. 26 (1996): 44–72.

Barlow, John Perry. “A Declaration of the Independence of Cyberspace.” Electronic Frontier Foundation, February 8, 1996. <https://www.eff.org/cyberspace-independence>.

———. “Selling Wine Without Bottles: The Economy of Mind on the Global Net.” Electronic Frontier Foundation, 1992.
https://w2.eff.org/Misc/Publications/John_Perry_Barlow/HTML/idea_economy_article.html

———. Trouble Ahead, Trouble Behind, Interview with John Perry Barlow for Tech News - CNET.com (Wayback Machine Archive). Interview by Rachel Konrad, February 22, 2002.
<https://web.archive.org/web/20020405163357/http://news.com.com/2008-1082-843349.html>.

Berners-Lee, Tim, and Mark Fischetti. *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor*. San Francisco: Harper San Francisco, 1999.

Bolt, Beranek, and Newman, Inc. (BBN), United States, and Defense Advanced Research Projects Agency. *A History of the ARPANET: The First Decade*. Arlington, VA: Bolt Beranek and Newman, 1981. <http://www.dtic.mil/dtic/tr/fulltext/u2/a115440.pdf>.

- Borsook, Paulina. *Cyberselfish: A Critical Romp Through the Terribly Libertarian Culture of High Tech*. 1st edition. New York: Public Affairs, 2000.
- Borsook, Paulina, Jerry Colonna, Doug Henwood, Mark Dery, and Joey Anuff. "The New Economy (Special Section)." *Artbyte*, October 2000.
- Brand, Stewart. "We Owe It All to the Hippies." *Time*, March 1, 1995.
<http://content.time.com/time/magazine/article/0,9171,982602,00.html>.
- Clark, Meredith D. "To Tweet Our Own Cause: A Mixed-Methods Study of the Online Phenomenon 'Black Twitter.'" Ph.D., The University of North Carolina at Chapel Hill, 2014.
- Dyson, Esther, George Gilder, George Keyworth, and Alvin Toffler. "'Cyberspace and the American Dream: A Magna Carta for the Knowledge Age,' Release 1.2, Originally Published in Future Insight." *The Progress & Freedom Foundation*, August 1994.
<http://www.pff.org/issues-pubs/futureinsights/fi1.2magnacarta.html>.
- Evans, Claire Lisa. *Broad Band: The Untold Story of the Women Who Made the Internet*. New York, NY: Portfolio/Penguin, 2018.
- Habermas, Jürgen. Internet and Public Sphere: What the Web Can't Do. Interview by Markus Schwering, July 24, 2014. <http://www.resetdoc.org/story/internet-and-public-sphere-what-the-web-cant-do/>.
- Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." In *Simians, Cyborgs, and Women: The Reinvention of Nature*, 149–81. New York: Routledge, 1991.
- Horn, Stacy. *Cyberville: Clicks, Culture, and the Creation of an Online Town*. New York: Grand Central Pub, 1998.
- Horrigan, John B., and OTX Research. "Trends in Internet Adoption and Use: Comparing Minority Groups." Pew Internet and American Life Project, May 11, 2004.
<http://www.pewinternet.org/2004/05/11/trends-in-internet-adoption-and-use-comparing-minority-groups/>.
- Horvath, John. "The Changing Face of the Mass Media in Eastern Europe." *Telepolis*, June 6, 1997. <http://www.heise.de/tp/artikel/1/1214/1.html>.
- International Telecommunication Union. "Individuals Using the Internet (% of Population)." The World Bank. Accessed December 12, 2017.
https://data.worldbank.org/indicator/IT.NET.USER.ZS?end=1996&name_desc=false&start=1993&view=chart&year=1996.
- Katz, Jon. "The Age of Paine." *WIRED*, May 1, 1995. <https://www.wired.com/1995/05/paine/>.

- Kelly, Kevin. "The Roaring Zeros." *WIRED*, September 1, 1999.
<https://www.wired.com/1999/09/zeros/>.
- Klein, Naomi. *No Logo: Taking Aim at the Brand Bullies*. Great Britain: Flamingo, 2000.
- Kolko, Beth, Lisa Nakamura, and Gilbert Rodman, eds. *Race in Cyberspace*. New York: Routledge, 2000.
- Lessig, Lawrence. *Code: And Other Laws of Cyberspace, Version 2.0*. 2nd Revised ed. edition. New York: Basic Books, 2006.
- Lovink, Geert. "An Early History of 90s Cyberculture." <nettime>, December 27, 1999.
<http://www.nettime.org/Lists-Archives/nettime-l-9912/msg00202.html>.
- . *Dark Fiber: Tracking Critical Internet Culture*. Cambridge, Mass.: MIT Press, 2002.
- . *Networks Without a Cause: A Critique of Social Media*. 1st edition. Cambridge, UK ; Malden, Mass: Polity, 2012.
- Ludlow, Peter, ed. *High Noon on the Electronic Frontier: Conceptual Issues in Cyberspace*. Cambridge, MA: MIT Press, 1996.
- Nakamura, Lisa, Peter Chow-White, and Alondra Nelson, eds. *Race After the Internet*. New York: Routledge, 2011.
- National Science Foundation. "A Brief History of NSF and the Internet." NSF - National Science Foundation, August 13, 2003. https://www.nsf.gov/news/news_summ.jsp?cntn_id=103050.
- Negroponte, Nicholas. "WIRED 4.05 - Caught Browsing Again," May 1, 1996.
<https://web.media.mit.edu/~nicholas/Wired/WIRED4-05.html>.
- O'Reilly, Tim. "What Is Web 2.0." *O'Reilly* (blog), September 30, 2005.
<http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html>.
- Plant, Sadie. *Zeros + Ones: Digital Women and the New Technoculture*. Fourth Estate, 1998.
- Raqs Media Collective, and Geert Lovink (for Waag Society), eds. *The Public Domain*. Electronic. Sarai Reader 01, 2001. <http://sarai.net/sarai-reader-01-public-domain/>.
- Rheingold, Howard. *The Virtual Community: Homesteading on the Electronic Frontier*. Revised edition. Cambridge, Mass: The MIT Press, 2000.
- Samuel, Alexandra Whitney. "Hacktivism and the Future of Political Participation." Ph.D., Harvard University, 2004.

Turner, Fred. *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism*. 1st edition. Chicago: University Of Chicago Press, 2006.

Archival Resources: Individual Artworks and Institutional Net Art Collections

®™ark. “®™ark Digital Archive,” n.d. Digital files Jacques backup 001218 RTMark. Igor Vamos Personal Archive.

———. “®™ark Print Archive,” n.d. Igor Vamos Personal Archive.

———. “Past Projects: Gatt.Org.” RTMark Rhizome Archive, 2000.
<http://archive.rhizome.org/artbase/1693/gatt.html>.

———. “RTMark: Your Real Corporation Clearinghouse.” RTMark Rhizome Archive, 2000.
<http://archive.rhizome.org/artbase/1693/>.

———. “The Etoy Fund.” RTMark Rhizome Archive, 2000.
<http://archive.rhizome.org/artbase/1693/etoymain.html>.

Amsterdam Museum. “Re:DDS De Reconstructie van De Digitale Stad, Case Studie Voor Webarcheologie.” Hart Amsterdammuseum. Accessed December 21, 2017.
<http://hart.amsterdam/nl/page/521/re-dds>.

Ars Electronica Linz. “Welcome to the Wired World (Mythos Information).” Archive – Ars Electronica Festival, 1995.
http://90.146.8.18/en/archives/festival_archive/festival_overview.asp?iPresentationYearFrom=1995.

Bookchin, Natalie, and Jacqueline Stevens. “AgoraXchange Phase I Artist Archive,” 2008.
<http://www.agoraxchange.org/>.

Brooklyn Academy of Music. “Event Series: Next Wave Festival 2001 (Next Wave Down Under).” Leon Levy BAM Digital Archive, 2001.
<http://levyarchive.bam.org/Detail/occurrences/2725>.

Bunting, Heath. “Project X Form.” Accessed November 24, 2017. <http://www.irational.org/x/>.

———. “Project X Survey Results.” Accessed February 18, 2016. <http://www.irational.org/cgi-bin/x/x.cgi?where=&why=&who=>.

———. “The 7-11 Archives.” Ljudmila.org, 2006. <http://www.ljudmila.org/pipermail/7-11/>.

Bunting, Heath, and Rachel Baker. “Irrational.Org.” Accessed December 30, 2017.
<http://www.irational.org/>.

- Daniel Langlois Foundation. "The Daniel Langlois Foundation Collection." Accessed February 25, 2016. <http://www.fondation-langlois.org/html/e/page.php?NumPage=147>.
- Dia Art Foundation. "Artist Web Projects." Accessed January 18, 2018. <https://www.diaart.org/program/exhibitions-projects/type/web-project>.
- etoy. "TOYWAR.COM (Etoy.Com History Pages)." etoy.HISTORY. Accessed November 7, 2017. <http://toywar.etoy.com/>.
- Guggenheim. "Internet Art." Guggenheim. Accessed January 1, 2018. https://www.guggenheim.org/artwork/artwork_type/internet-art.
- International Institute of Social History. "Next 5 Minutes (Amsterdam) Archive," n.d. International Institute of Social History. <https://search.socialhistory.org/Record/ARCH02408>.
- Kluitenberg, Eric. "Tactical Media Files: The 'Living Archive' for Tactical Media's Present, Past and Future." Tactical Media Files. Accessed February 13, 2018. <http://www.tacticalmediafiles.net/>.
- Mattes, Eva and Franco. "Works." Accessed February 13, 2018. <http://0100101110101101.org/works/>.
- Mobile Image. "Electronic Café International Archives," n.d. Sherrie Rabinowitz & Kit Galloway Archives.
- Obadike, Mendi + Keith. "EBay Item 1176601036(Ends Aug-18-01 16:08:53 PDT) - Keith Obadike's Blackness (Wayback Machine Archive)," December 21, 2001. <http://web.archive.org/web/20011221173617/http://obadike.tripod.com/ebay.html>.
- . "The Interaction of Coloreds," 2002. <http://www.blacknetart.com/IOC.html>.
- . "The Pink of Stealth." Black Net Art, 2003. <http://www.blacknetart.com/pink/PINK-1.html>.
- . "Work." Mendi + Keith Obadike. Accessed February 13, 2018. <http://obadike.squarespace.com/>.
- On the Boards. "Listening Post Archive: Press Packets, Video, Image Disc," 2002. Listening Post Archive (uncatalogued). On the Boards Theater, Seattle, Washington.
- Rabinowitz, Sherrie, and Kit Galloway. "Electronic Café Network Archives," n.d. Sherrie Rabinowitz & Kit Galloway Archives.
- . "Historic Overview: The Telecollaborative Art of Kit Galloway & Sherrie Rabinowitz." Electronic Café International. Accessed December 29, 2017. <http://ecafe.com/museum/history/ksoverview2.html>.

- Rhizome. “®™ark / The Yes Men’s Gatt.Org.” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/gatt-org>.
- . “Cornelia Sollfrank’s Female Extension.” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/female-extension>.
- . “Electronic Disturbance Theater’s FloodNet.” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/floodnet>.
- . “Eva and Franco Mattes’s Life Sharing (2000 - 2003).” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/life-sharing>.
- . “Mendi + Keith Obadikes’s Black Net.Art Actions.” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/black-net-art-actions>.
- . “VNS Matrix’s A Cyberfeminist Manifesto for the 21st Century.” Net Art Anthology, October 27, 2016. <https://anthology.rhizome.org/a-cyber-feminist-manifesto-for-the-21st-century>.
- . Net Art Anthology, October 27, 2016. <http://anthology.rhizome.org/>.
- RSG. “Carnivore,” 2016. <http://r-s-g.org/carnivore/>.
- . “Carnivore Info Digital Files.” Edited by Shane Brennan, 2017. Alexander Galloway personal archive.
- Rubin, Ben, and Mark Hansen. “Listening Post: Golden Nica 2004 Interactive Art.” Ars Electronica Archive - Prix, 2004. <http://archive.aec.at/prix/showmode/88/>.
- San Francisco Museum of Modern Art. “Media Arts Collection.” SFMOMA. Accessed February 13, 2018. <https://www.sfmoma.org/artists-artworks/media-arts/>.
- Sollfrank, Cornelia. “Female Extension.” artwarez, 2010. <http://artwarez.org/femext/>.
- Staehele, Wolfgang. “Archives.” THE THING BBS. Accessed February 13, 2018. <http://old.thing.net/html/archives.html>.
- Szpakowski, Mark. “Community Memory.” The WELL, November 4, 2006. <http://www.well.com/~szpak/cm/>.
- Tate Online. “Intermedia Art: AgoraXchange,” 2003. <http://www2.tate.org.uk/intermediaart/entry15278.shtm>.
- . “Intermedia Art Archive: Net Art by Date.” Accessed December 28, 2017. http://www2.tate.org.uk/intermediaart/archive/net_art_date.shtm.

V2_ Institute for Unstable Media. "Digital Archive." V2_ Institute for Unstable Media. Accessed February 13, 2018. <http://v2.nl/archive/archive>.

Walker Art Center. "Gallery 9 (Online Artwork, Scholarship, Project, and Collection Archives)," 2003. <http://gallery9.walkerart.org/>.

Whitney Museum. "Artport." Whitney Museum of American Art. Accessed January 1, 2018. <http://whitney.org/Exhibitions/Artport>.

———. "Douglas Davis: Artist File," n.d. Gansevoort Library, Artist Files. Whitney Museum of American Art.

———. "Douglas Davis The World's First Collaborative Sentence: Object File," n.d. Gansevoort Library. Whitney Museum of American Art.

———. "Listening Post Archive: Brochure and DVD," 2002. Chelsea Library Special Collections. Whitney Museum of American Art.

Whitney Museum of American Art. "Douglas Davis, The World's First Collaborative Sentence (1994)." Artport. Accessed November 16, 2017. <http://whitney.org/Exhibitions/Artport/DouglasDavis>.