

Janet Cardiff and George Bures Miller: Spatial Environments and Experiments in Sound

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Abstract

This thesis is the first scholarly monograph that comprehensively examines the work of contemporary Canadian artists Janet Cardiff and George Bures Miller. It provides a detailed account of their sound and media installations, audio walks, and video walks between the late 1980s and 2014. This thesis asks: how may Janet Cardiff and George Bures Miller's artworks be investigated and understood as sound installations? The significant focus of my research is Cardiff and Miller's emphasis on recorded sound, media, and experimentation that has defined their works since the late 1980s. I emphasise that sound design (the mixing, layering, and editing of sound) was pivotal to Cardiff and Miller creating their self-described "spatial environments." These methods and technologies enabled Cardiff and Miller to confront and redefine existing trajectories of sound, video, and installation art within contemporary art. This in-depth study of Cardiff and Miller's artwork contributes to the discursive category of sound and video installation. The wider contribution of this thesis to the field is to develop and explain how sound is exhibited and encountered as contemporary art.

Declaration

This is to certify that

- (1) the thesis comprises only their original work towards the except where indicated in the preface;
- (2) due acknowledgement has been made in the text to all other material used;
and
- (3) the thesis is less than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Aneta Trajkoski

November 2018

Preface

The primary research for this thesis was conducted between 2014-2017. Research included three periods of field research with Cardiff and Miller in person. I had access to their files and artists notebooks from 1988 to 2014 kept in Cardiff and Miller's Grindrod studio archive in Canada, and archives and correspondence from various art centres, museums, and interviews between 2014-2017.

In February and April 2014, I assisted Cardiff and Miller with the production and launch of their video walk commission for the 19th Biennale of Sydney, *The City of Forking Paths* (2014). Over this time, I was based at the Biennale of Sydney head office in Woolloomooloo, Sydney, where I assisted Cardiff and Miller and the production coordinator with preparations for the production of the video walk. During this time, I conducted formal and informal interviews with the artists. In May 2014, I also assisted Cardiff and Miller with preparations around the launch of *The City of Forking Paths*, including the setup of the iPod collection booth at Customs House in Circular Key, formatting equipment, and attending artist briefings.

I received grants and scholarships for which I am grateful. In 2014, I was awarded the Norman MacGeorge Traveling Scholarship, Eugenie La Gerche Scholarship, and funding from the School of Culture and Communication, University of Melbourne. This funding supported my travel to Canada, New York, and Denmark. In July 2014, I spent four weeks in Canada, New York, and Denmark conducting research. I researched archives and interviews at various institutions including The Banff Centre of the Arts in Banff, Art Gallery of Ontario in Toronto, Vancouver Art Gallery in Vancouver, Luhring Augustine in New York, Museum of Modern Art Archives in New York, and Louisiana Museum in Denmark. In 2017, I received a Eugenie La Gerche Scholarship and funding from the School of Culture and Communication, University of Melbourne that enabled me to travel and present a paper on my research at the *Sounding Out the Space* Conference in

Dublin, Ireland. An Australian Postgraduate Award supported me in undertaking the PhD.

In 2014 I also visited Cardiff and Miller at their home studio in Grindrod, British Columbia, Canada. There, I accessed the archives, artists notebooks, and observed Cardiff and Miller's creative process while they were making *The Marionette Maker* (2014).¹ The time I had at Cardiff and Miller's studio in Grindrod and observing the making of *City of Forking Paths* in Sydney bestowed invaluable insights into their working methods and was crucial to developing an understanding of their artistic process. I also found my time walking the trails in and around the Banff Centre to be instrumental in shaping my understanding of the audio walks and video walks.

Furthermore, I conducted interviews with various individuals who have worked with Cardiff and Miller over the years, and I also researched the Whitechapel Gallery archives in London, 2017. Additionally, I have also experienced many of Cardiff and Miller's installations, audio walks, and video walks at art institutions and galleries in Australia, Europe, Canada, England, and the United States of America.

¹ Exhibited November 19, 2014 - March 16, 2015. Palacio de Cristal, Reina Sofia Madrid, Spain.

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This thesis has benefited from the invaluable assistance of several institutions and individuals. I am grateful to all family, colleagues, and friends who have contributed their time, feedback, and support. I am indebted to the supervision, guidance, and support that I have received from my University supervisor Prof. Charles Green and secondary supervisor Dr. Anthony White. I am particularly indebted to their rigorous editing and feedback.

I am grateful for the support and assistance of a number of people who offered time and access to material for my research. I am particularly grateful to Dr. Rebecca Coates for her mentorship, encouragement, and introduction to Janet Cardiff and George Bures Miller. I am also indebted to the 2014 Biennale of Sydney team, who invited me to assist with the production of Cardiff and Miller's commission, *City of Forking Paths* (2014) for the Biennale of Sydney. Thanks to Annika Kristensen, Marah Braye, Juliana Engberg, Gina Hall, Frances Robinson, and the Biennale of Sydney team for this insightful opportunity.

My warmest thanks and gratitude to the artists Janet Cardiff and George Bures Miller for their openness, time, and generosity. I was the first PhD Candidate to be able to observe Cardiff and Miller work on their projects, to assist them with research and sourcing materials, visit their home studio, interview them on many occasions, and gain access to their archives in Grindrod. I am also grateful to their studio manager Zev Tiefenbach who welcomed me into his home and office during my time in Grindrod. Thanks to Debbie Johnsen at Art Gallery of Ontario Toronto whom I interviewed. She also organised access to AGO's archives and invited me on a wonderful tour of the art galleries in Toronto. Thanks to Bruce Grenville at Vancouver Art Gallery and the security professionals whom I interviewed for kindly allowing me repeat access to Cardiff and Miller's exhibition, *Lost in the Memory Palace* (2014), during my stay. I would also like to thank Jane Parkinson and Gavin at the Paul D. Fleck Library and Archives at The Banff Centre of the Arts Banff, Chris Harris and Lauren Wittels at Luhring

Augustine New York, Museum of Modern Art New York Archives, Public Art Fund New York, Art Angel London, and Whitechapel Gallery London. I also express gratitude to Jochen Volz, the Portikus Frankfurt and the Inhotim Brazil teams.

Finally, I would like to thank my family, friends, officemates, and fellow PhD candidates, and in particular Steven Asquith who has provided continuous support and editorial assistance throughout the years undertaking this (what at times seemed never ending) project.

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Introduction

This thesis is the first scholarly monograph that comprehensively examines the work of contemporary Canadian artists Janet Cardiff and George Bures Miller. It provides a detailed account of their sound and new media installations, audio walks, and video walks from the 1980s to 2014. While Cardiff and Miller's work is comparative with many theorised tendencies (cinematic, embodiment, affect, memory, uncanny, disjunction) not one of these entirely accounts for Cardiff and Miller's approach to creating their installations and walks.

This thesis asks: how may Janet Cardiff and George Bures Miller's artworks be investigated and understood as sound installations? The significant focus of my research is Cardiff and Miller's emphasis on experimentation and layering recorded sound and media, which I argue, has defined their art since the late 1980s. I demonstrate that sound design (mixing, layering, and editing of sound) was pivotal to Cardiff and Miller creating their self-described "spatial environments." These techniques and technologies enabled them to confront and redefine existing trajectories of sound and installation art within contemporary art. This thesis finds that Cardiff and Miller looked for ways to spatialise sound in an effort to create their *spatial environments*. In doing so, the complex layering of sound and other media performed as spatial overlays on the audience's physical encounter of the work. The research and analysis of Cardiff and Miller's work contributes to the discursive category of sound and video installation. The wider contribution of this thesis to the field is to develop and redefine how sound is exhibited and encountered as contemporary art.

This introduction is divided into five parts. The first section outlines a brief history of Cardiff and Miller, and I identify four pivotal stages within the evolution of their works. I also outline the technology they adopt in their practice and introduce the practical implications of the technologies that were intrinsic to their "spatial environments." The second section establishes the context for the thesis in the form of a brief literature review on Cardiff and Miller's work,

contemporary installation art, and the history of walking in art. Detailed literature reviews are reserved for the subsequent chapters. The third section outlines the insights that emerged from the literature review and presents these ideas as opportunities or new narratives for this thesis to investigate. The fourth section outlines the methodological genealogy of this approach. And lastly, the introduction presents a chapter outline.

As one artist, Cardiff and Miller produce audio walks, video walks, and installations using sound, video, objects, light, personal playback devices, media, and kinetics. Their distinctive and innovative artworks have afforded them curatorial acclaim. Positioned within the discourse of art history, their success is reflected in their inclusion in Documenta; prominent biennials such as The Venice Biennale, Istanbul Biennial, Biennale of Sydney, Echigo-Tsumari Art Triennale, and Skulptur Projekte Münster; exhibitions at Hamburger Bahnhof, Haus der Kunst in Munich, Museum of Modern Art (MoMA), Protikus Frankfurt, Tate Modern, and San Francisco Museum of Art; commissions by Benesse Art Site Naoshima, The Menil Collection, Thyssen-Bornemisza Art Contemporary; and significant public and private collections such as The Centro de Arte Contemporânea Inhotim, Sammlung Goetz, amongst others. Subsequently, Cardiff and Miller's thirty-year career has garnered attention from curators such as Carolyn Christov-Bakargiev, Kasper König, and Kitty Scott and writers across many disciplines. Despite establishing a strong portfolio of prominent exhibitions, commissions, and biennials since the 1990s—and an extensive library of exhibition catalogues—their curatorial success has not translated into a comprehensive scholarly analysis. I address this opportunity and the absence of detailed critical engagement with their artwork as *sound installations*.

Cardiff and Miller's work can be categorised into four distinct lineages: speaker installation works; audio walks and video walks; stand-alone "theatrical works"; and smaller object-based works. All of these were established between the late 1980s and 2014. The collaborative works of the mid-1990s, such as *The Dark Pool* (1995), were elaborate enclosed walk-in installations constructed from audio,

lights, video, found objects, sensors, and electronics. The audio, lights, and objects within the installation were activated by motion sensors concealed around the darkened gallery. The diorama installations incorporated both video and sound. *The Paradise Institute* (2001) was a custom-built diorama where 17 people were invited to enter, sit on plush red seats, watch a miniaturised projection screen, and listen to the spatialised audio recorded in binaural audio through headphones. Their standalone speaker pieces, *Berlin Files* (2003) and *The Murder of Crows* (2008), were installations constructed from strategically placed speakers that played highly directional ambisonic sound. The walks, however, presented a different spatial environment that was highly site-specific. Cardiff's first audio walk *Forest Walk* (1991) was a fifteen-minute walk produced for a small forested area behind the Walter Phillips Gallery, Banff Centre for the Arts, Canada. Using a cassette Walkman and headphones, the walker followed vocal direction along a prescribed route. The protagonist, *Janet* (narrated by Cardiff), told the walker where to walk, what to look at, and what to think. The sound was recorded using binaural audio, so again, the walker experienced sound in three-dimensions. In the mid-1990s, the walks evolved to include a video component firstly as a modified telescope, then a handheld camcorder, and later as a video iPod Touch and headphones.

In this monographic study, my focus is not exhaustive as many works from Cardiff and Miller's career spanning over three decades are omitted, and they continue to make new works. Rather, I identify four pivotal stages within the evolution of their art. The first stage was the experimental phase of the late 1980s and early 1990s, where Cardiff and Miller began experimenting with sound, installation, and electronics. In the mid-1990s, they began making room-sized installations incorporating sensors, tape loops, and bricolage object arrangements. In the 2000s they integrated ambisonic sound in large-scale speaker installations. Lastly, the audio walks and video walks adopted audio, video, binaural sound, and playback devices—a Walkman, handheld camcorder, and iPod Touch. In identifying these phases, I emphasise that the evolution of

their practice was centred on the idea of their artworks being *spatial environments*.

Cardiff and Miller began making art in the late 1970s and collaborating soon after meeting at art school in Alberta, Canada in 1981. While both Cardiff and Miller embarked upon conventional art school training—Cardiff as a photographer and printmaker, and Miller as a painter and sculptor—they transitioned to using sound, video, new media, and electronics in the early 1980s. They began collaborating on video and experimental projects in 1983 and co-authored their first collaborative commercial installation *The Dark Pool* in 1995. Cardiff was born in rural Brussels in Southwestern Ontario, Canada, and Miller in Vegreville in Alberta, Canada.¹ As a solo artist in the 1980s and early 1990s, Miller made installations that combined lo-tech electronics, light, video, kinetics, and sound. Meanwhile, Cardiff made prints and photographs before transitioning to sound installations and audio walks in 1991.

To compose *Forest Walk*, Cardiff used three recording devices (a handheld voice recorder, Tascam, and binaural audio head) to layer multiple sound recordings onto the one tape. The content was compiled from verbal documentation, walking directions, audio playback, narrated dream sequences and other stories, musical scores, sound effects, sounds sampled from old movies, field recordings, and the sounding pace of her footsteps. Editing multiple layers of sounds together enabled her to create spatial sound effects.² Accordingly, the walker was tasked with attempting to negotiate the path and recorded audio played through the headphones. Since then, Cardiff and Miller have co-authored more than thirty audio and video walks. The walks developed a signature style for the duo. Although technology and media had always been prominent in their art, Cardiff

¹ Cardiff and Miller live and work in the small picturesque farming village of Grindrod, British Columbia, and spend a few months a year in Berlin, Germany.

² For a history of how visual artists have used sound recording techniques, see Kevin Concannon, "Cut and Paste: Collage and the Art of Sound," in *Sound by Artists*, ed. Dan Lander, Micah Lexier, Art Metropole and Walter Phillips Gallery (Toronto, Banff: Art Metropole; Walter Phillips Gallery, 1990), 161-82.

and Miller insisted that technology was not their focus and that they relied on technology as a means to materialise their ideas. This assertion, however, should not underestimate how fundamental technology was in their art. In fact, this thesis traces the trajectory of how their works develop in line with technological innovations in playback and recording over three decades.

Cardiff and Miller explained that the way they implemented technology in their art enabled them to “push the limits of what technology can do.”³ They translated both the conventions and the contemporaneous innovations of film, performance, theatre, radio, and literature to sound through binaural and ambisonic sound. In principle, binaural recording and playback technology forms a distinctive three-dimensional sound sphere that can only be fully realised with headphones. A similar, yet more consuming, three-dimensional sound effect can be created in an open sound field using ambisonic multichannel audio technology. In emulating the sonic-shaping function of the human head, ears, and body, the listener perceives a three-dimensional soundspace from their own proprioception—that is, their spatial orientation in a room.

As impressive as the technology sounds, these audio techniques are not revolutionary or new, and are in fact, considered relatively “old world” technologies. The use of binaural recording dates back to the 1880s and ambisonics to the 1970s.⁴ Moreover, even before their adoption of these spatialisation technologies, they began, as Cardiff phrased it, “thinking about things spatiality.”⁵ Manipulating spatial representation in their works, they began layering audio tape, reworking two-channel speakers, contrasting light and shadow, and playing with spatial volume.

³ Cardiff in John Wray, “Janet Cardiff, George Bures Miller and the Power of Sound,” *The New York Times Magazine*, July 26, 2012.

⁴ Cardiff, “The First Page,” in Mirjam Schaub and Janet Cardiff, *Janet Cardiff: The Walk Book* (Vienna: Thyssen-Bornemisza Art Contemporary, New York: Public Art Fund, 2005), 4.

⁵ Cardiff, interview by author, Sydney, February, 2014.

Literature Review

So how have Janet Cardiff and George Bures Miller's artworks been investigated and understood? The literature review below is segmented into several tendencies in which Cardiff and Miller's art is discussed. This section briefly describes the broad landscape of discourse upon which this thesis builds, but I defer a detailed engagement with specific texts to the relevant chapter.

Art criticism

Despite the prominence of sound in Cardiff and Miller's artworks, the works are often difficult to define both categorically and materially. Curator Carolyn Christov-Bakargiev wrote that it was "difficult to locate Cardiff's art specifically within established art-historical narratives and lineages."⁶ The challenge to define their work is evident in the way the artworks sample and appropriate literature, theatre, cinema, radio, performance and science fiction.⁷ Cardiff too said that their works were "hybrids" and "do not necessarily come out of visual art background."⁸ Despite this, the cinematic references—and those relating to subjectivity, phenomenology, embodiment, temporality, and memory—tend to consume discussions on their work.

Since 2000, this focus is evident in the discourse generated by Christov-Bakargiev (who has worked extensively with Cardiff and Miller). She has been instrumental in positioning Cardiff and Miller within international contemporary art and their subsequent international success.⁹ When discussing Cardiff's work, Christov-

⁶ Carolyn Christov-Bakargiev, "An Intimate Distance Riddled with Gaps: The Art of Janet Cardiff," in *Janet Cardiff: A Survey of Works Including Collaborations with George Bures Miller*, ed. Anthony Huberman (Long Island City, NY, New York: P.S. 1 Contemporary Art Centre; Distributed Arts Publishers, 2002), 26.

⁷ Cardiff in Carolee Thea, "Inexplicable Symbiosis: A Conversation with Janet Cardiff," *Sculpture Magazine*, Jan/Feb (2003), 57.

⁸ Cardiff, "Inexplicable Symbiosis," 57.

⁹ Christov-Bakargiev curated Cardiff and Miller into several biennales including the Sydney Biennale (2008), Documenta 13 (2012), and Istanbul Biennial (2015). She organised the first major survey of Cardiff's work in 2001 at PSI MoMA, New York. Her substantial publication, *Janet Cardiff: A Survey of Works Including Collaborations with George Bures Miller*, produced to

Bakargiev emphasised the cinematic and literary tropes, citing that the associations that Cardiff's works had to film, and literature were more "pertinent" than the history of sound, radio, or performance. Specifically, "film genres, cinematic montage, and specific experimental films," were key materials and that Cardiff used the cinematic as a sculptural material in her work.¹⁰

Moreover, although Christov-Bakargiev acknowledged that sound was the primary focus in the works and that the "experience of the sculptural and physical qualities of sound" was important, these associations were not addressed in any detail.¹¹ The spatial sound was a means to position the listener in a cinematic and fictive narrative. Christov-Bakargiev also explained that the works merged "film and reality, memory and perception, artificial and natural, virtual and bodily, self and other."¹² Undeniably, Christov-Bakargiev's framing and support was instrumental to their success, and many other writers have continued the discourse.

Literature on cinema and art

Through a cinematic lens, Cardiff and Miller's artworks were considered to represent montages of sounds, images, narratives, and anti-narratives within the temporal experience of the work. The "films" or "soundtracks" contained in the artworks were either treated as text or analysed in terms of the audience's interaction with the narratives or subjective experience of the work. Moreover, the effect of the video and audio on the audience had been described as an "augmentation" or intervention of the audience's perceived reality through the adoption of terms such as physical cinema, *trompe l'oeille*, or augmented space as I will now describe.

accompany the exhibition, was comprehensive documentation of Cardiff's career spanning from the late 1980s to 2002.

¹⁰ Christov-Bakargiev, "An Intimate Distance Riddled with Gaps," 14.

¹¹ Christov-Bakargiev, "An Intimate Distance Riddled with Gaps," 15.

¹² Christov-Bakargiev, "An Intimate Distance Riddled with Gaps," 33.

Physical Cinema

Again, using a cinematic lens, Cardiff and Miller's walks have been referred to as "physical cinema." Mirjam Schaub defined the walks as "physical cinema" as an overwhelming "physical immersion in an apparently boundless soundtrack . . . begins to dominate our shared experience."¹³ Cardiff too used the term to describe the video walk as "a soundtrack for the physical reality, almost like physical cinema."¹⁴ Cardiff emphasised how the walks evoked an experience "like" a film that moves through space.¹⁵ Other authors have also borrowed the term. For example, a headline for The Guardian's review of *City of Forking Paths* (2014) on June 9, 2014, read: "City of Forking Paths: the 'physical cinema' Sydney Biennale leaves behind."¹⁶ Elizabeth Biggs in her thesis *Everyone Play: Sound, Public Space, and the (Re)Making of Place* (2009) applied the term to her discussion of the audio walk *Her Long Black Hair* (2004). The "physical cinema" referred to the audio walks as an auditory intervention in the walker's encounter with the environment.¹⁷

Augmented Space

The works were also said to create a space that was *augmented* by the audio and visuals. Lev Manovich (2006) described Cardiff's works as creating an "augmented space" as a process of laying information (the recorded) over physical space.¹⁸ Cardiff too agreed with this term and described the augmented

¹³ Schaub, *Janet Cardiff: The Walk Book*, 14.

¹⁴ Janet Cardiff and George Bures Miller in Michael Juul Holm, "Janet Cardiff and George Bures Miller, Interviewed by Michael Juul Holm," in *Louisiana Contemporary: Janet Cardiff and George Bures Miller*, ed. Michael Juul Holm and Mette Marcus (Humblebaek: Louisiana Museum of Modern Art, 2006), 24.

¹⁵ Cardiff, *Janet Cardiff: The Walk Book*, 100.

¹⁶ Kathy Marks, "City of Forking Paths: the 'physical cinema' Sydney Biennale leaves behind," *The Guardian*, 9 June 2014, <https://www.theguardian.com/artanddesign/australia-culture-blog/2014/jun/09/city-of-forking-paths-the-physical-cinema-sydney-biennale-leaves-behind>

¹⁷ Elizabeth W. Biggs, *Everyone Play: Sound, Public Space, and the (Re)making of Place*, (PhD diss., Princeton University, 2009), 76-91.

¹⁸ Lev Manovich coined the term *augmented space* from the already established term 'augmented reality' (AR). Lev Manovich, "The Poetics of Augmented Space," *Visual Communication*, 5, no. 2 (2006): 224-226.

space as the interaction between artwork and the walker's experience.¹⁹ Karen O'Rourke (2013) adopted the term "augmented walking" in her discussion of Cardiff's audio walks and how she used narrative to "give resonance to the audience's experience." The space being walked shaped the listener's experience.²⁰

Trompe l'oeille

The overlay of the recorded three-dimensional sound and video on the walker's physical space was also referred to as a *trompe l'oeille* effect (Christov-Bakargiev 2002; Herzogenrath 2011; Traub 2007).²¹ *Trompe l'oreille* is loosely defined as sound that "fools the ear" and the person into thinking the events are happening around them as an audio illusion. Christov-Bakargiev described the binaural audio as a device for fictional storytelling where the "*trompe l'oreille* fiction" of occurrences played out within the audience's space. In other words, the three-dimensional sounds, appear "real," and their apparent realness was what situated the audience within the "story." The walker thus became an "active participant and 'maker' of the piece... It is about the intrusion of plot into life," Christov-Bakargiev explained. Her description emphasised a blurring that occurred between the recorded and real sounds.²²

Other authors used the term *trompe l'oreille* to interpret the three-dimensional quality of binaural sound as an illusionary effect. Cecilia T. Wichmann explained that *trompe l'oreille* allowed the walker to "sense" past, present, and fictional

¹⁹ Janet Cardiff in Peter Traub, "Interview: Cardiff + Miller," *Networked Music Review*, September 20, 2007, accessed November 14, 2013, http://transition.turbulence.org/networked_music_review/2007/09/20/interview-janet-cardiff-and-george-bures-miller

²⁰ Karen O'Rourke, "A Form of Perception or a Form of Art?" *Walking and Mapping: Artists as Cartographers* (Leonardo. Cambridge: MIT Press, 2013), 42-43.

²¹ Christov-Bakargiev, "An Intimate Distance Riddled with Gaps," 22; Wulf Herzogenrath, "Introduction," in *Janet Cardiff, George Bures Miller: Käthe-Kollwitz-Preis*, 2011, ed. Arnold Dreyblatt (Akademie der Künste (Berlin), Birgit Hein Juroren, Wulf Herzogenrath, (Berlin: Akademie der Künste, 2011); Traub, "Interview: Cardiff + Miller."

²² Christov-Bakargiev, "An Intimate Distance Riddled with Gaps," 22.

“presences,” as an intimate and self-reflective connection with the work.²³ Tina Rigby Hanssen, on the other hand, took a more analytical approach suggesting that the soundscape was hyper-realistic and physically felt by the walker. “At times, the binaural recording is almost too good,” she noted, “a trompe l’oreille that fabricates a close resemblance to reality. . . . The moment the listeners realise that they are confronted with an illusion, they begin to question their experience of the apparent reality.”²⁴ Once aware of the illusion, they began to question their experience of hearing the recorded sound.

Disruption and the uncanny

Analyses of Cardiff and Miller’s work also often cite a confusion, disruption, and dissonance between two opposing forces—reality and fiction, past and present, narrative and anti-narrative, the interior space of the audience and exterior space of the installation or space being walked. It would be predictable for this thesis to traverse the same terrain and discuss the installations and walks as a conflicting experience of disjointed narratives following Sergei Eisenstein’s adage of the “montage.”²⁵ It could also focus on the loss of self-consciousness, or the intimate and affective encounters engendered by, in particular, Cardiff’s voice and how her vocal directions intersected and juxtaposed the recorded track and the real soundscape.

Seth Kim-Cohen (2009) noted that Cardiff’s audio walk *The Missing Voice (Case Study B)* (1999) produced a disjointed narrative where the layering of the “recording-within-the-recording” of Janet’s voice, walking directions, and other narratives complicated temporality.²⁶ In doing so the walker found it difficult to

²³ Cecilia T. Wichmann, *Sound and Documentary in Cardiff and Miller’s ‘Pandemonium’*, (PhD diss., University of Maryland, 2015), 52-53.

²⁴ Tina Rigby Hanssen, “The Whispering Voice: Materiality, Aural Qualities and the Reconstruction of Memories in the Works of Janet Cardiff and George Bures Miller,” *Music, Sound, and the Moving Image* 4, no. 1, Spring (2010): 42.

²⁵ Sergei Eisenstein, “The Cinematographic Principle and the Ideogram,” in *Film Form: Essays in Film Theory*, trans. Jay Leyda, (New York: Harcourt Brace Jovanovich, 1949), 38.

²⁶ Seth Kim-Cohen, “A Dot on a Line,” *In the Blink of an Ear: Towards a Non-Cochlear Sonic Art* (New York: Continuum, 2009), 222-226.

distinguish the recorded from real sounds.²⁷ Similarly, Brandon LaBelle (2015) explained that *The Missing Voice (Case Study B)* destabilised the listener's sense of place. The process of listening to *Janet's* voice—instructing which way to turn, what to look at and listen out for—disconcerted one's sense of awareness. As the “real” sounds and sights converged with the recorded, the listener could not reconcile what they saw and heard. Thus, the listener's sense of place and the information they encountered became discordant.²⁸ Also, Matthew Mullane (2010) explained that the contrast of real and recorded sounds disrupted the limits of reality and fiction.²⁹ Rebecca Duclos interpreted the audio walks as a sense of disembodiment, spatial dislocation, temporal disjunction, and narrative dissonance. She framed this as a new kind of urban reconnaissance—a “re-packaging” of the *dérive* and *détournement*.³⁰

Pol Capdevila argued that the confusion between interior and exterior spaces resulted in a highly disjunctive and conflicting experience.³¹ He described a double-bind in what he called *aporetic temporality*. Since the walker could not resolve the experience of the “anti-narrative” (the fact that there was no logical narrative to follow), the walker remained in limbo and became frustrated.³² Charles Stankieveh explained that this apparent confusion between interior and exterior was usually seen to be *unheimlich* (or uncanny).³³ Alternatively, Stankieveh claimed that because most people who encounter the walk are doing

²⁷ Kim-Cohen, “A Dot on a Line,” 229.

²⁸ Brandon LaBelle, “Soundmarks: Environments and Aural Geography,” *Background Noise: Perspectives on Sound Art*, 2nd ed. (Bloomsbury, 2015), 223-225.

²⁹ Matthew Mullane, “The Aesthetic Ear: Sound Art, Jacques Ranciere and the Politics of Listening,” *Journal of Aesthetics and Culture*, 2 (2010), 1-9.

³⁰ Rebecca Duclos, “Reconnaissance/Méconnaissance,” in Aura Satz, and Jon Wood, *Articulate Objects: Voice, Sculpture and Performance*, (Oxford; New York: Peter Lang, 2009), 241.

³¹ Pol Capdevila, “Aporetic experiences of time in anti-narrative art,” *Journal of Aesthetics and Culture*, vol. 7 (2015), accessed March 2, 2016, <http://www.aestheticsandculture.net/index.php/jac/article/view/28310>

³² See also Mikhail Bakhtin's idea the dialogical experience, in, *The Dialogic Imagination: Four Essays* (Austin: University of Texas Press, 1981).

³³ Rosalind Krauss argued that the uncanny was the collapse in the distinction between imagination and reality. Rosalind Krauss, “Corpus Delicti,” *October*, 33 (1985): 31-72.

so for the first time, the disorientation between interior and exterior was not uncanny or *unheimlich* in the Freudian sense, as the uncanny could only occur if familiarity existed.³⁴ The spatial reality of doing the walk was a “supplement” and not a loss or substitution of reality that the uncanny suggests.³⁵

Embodied experience

Cardiff and Miller’s work had also been understood as embodied experiences. In *Janet Cardiff: The Walk Book* (2005), Schaub claimed that Cardiff’s walks evoked a heterogenous “affective experience of space”—a De Certeauian “urban practice” of sensing and inhabiting space as it shapes itself around the walker.³⁶ As a highly affective experience, the walker was caught between two overlapping environments—a performative and affective—that increased the walker’s awareness of their surrounding space.³⁷ Claire Bishop (2005) emphasised the cinematic qualities of the works and their capacity to “engulf the spectator” aurally in an embodied experience. She explained that *The Paradise Institute* (2001) foregrounded Barthes’s “hypnotized by a distance” of not a fragmented experience but a “whole cinema situation,” where the viewer became part of the space and not just their perception of it.³⁸

Survey of literature on Walking

The history of walking in art emerges from a number of key texts including Henry David Thoreau’s *Walking* (1862), Walter Benjamin’s writing on Charles Baudelaire

³⁴ Charles Stankievec, “From Stethoscopes to Headphones: An Acoustic Spatialisation of Subjectivity,” *Leonardo Music Journal*, 17 (2007): 59. See Freud’s concept of *unheimlich* in Sigmund Freud, *Uncanny* (1919). Stankievec proposed Lacan’s topologically structured lens of *l’extimite* from which to analyse headphone listening.

³⁵ Stankievec, “From Stethoscopes to Headphones,” 58-59. Stankievec provides a useful description of the different perspectives and “types” of voices used by Cardiff and Miller in the walk works. While he does not refer to the video walk specifically, Stankievec’s analysis is one of the few that details the audio component of Cardiff and Miller’s work.

³⁶ See Michel de Certeau and Steven Rendall, *The Practice of Everyday Life* (Berkeley: University of California Press, 1984).

³⁷ Andreas Hudelist and Elena Pilipets Hudelist, “Walking Art. The Movement In-Between,” *Anglistica AION* 18.1 (2014): II.

³⁸ Claire Bishop, *Installation Art: A Critical History* (London: Tate, 2005), 101.

and *The Arcades Project* (1927-1940), Murray Schafer's conception of *The Soundscape* and the *soundwalk*, Max Neuhaus's walking tours in the 1960-1970s, the Situationist *derives*, and in the work of Francis Alÿs, Richard Long, Hamish Fulton, Andrea Fraser, Hildergard Westerkamp and Christina Kubisch amongst others.³⁹

Writing on the Walkman and personal playback devices emerged in the 1980s. In his essay *The Walkman Effect* (1984), Shuhei Hosokawa stated that the Walkman intervened the urban landscape through the action of walking.⁴⁰ Walking was also echoed in Michael Bull's notion of the iPod walker and in Henri Lefebvre's *rhythmanalysis* as the unfolding dynamic of spatial experience.⁴¹ Lefebvre gave priority to lived experience over the abstractions employed by analytical models of experience, whereas Bull proposed a rhythmic measure of urban life in his notion of audio-visual iPod culture. Bull asserted that the walker formed an aestheticised urban experience through the meditation of the iPod. Listening to music and sounds on headphones, the iPod isolated the walker from the sonic world of the urban streets.⁴² Although they both presented a user-mediated environment of lived experience, what differed was that Lefebvre's user-mediated experience was measured by the walker's body, and Bull's experience was mediated via the external measure of the iPod headphones.⁴³

³⁹ Henry David Thoreau, *Walking* (1862); Walter Benjamin, *Charles Baudelaire: A Lyric Poet in the Era of High Capitalism*, (London: NLB, 1973); Walter Benjamin, *The Arcades Project*, (Cambridge: Belknap Press, 1999); Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*, (Rochester: Destiny Books, 1993); Max Neuhaus, "Listen," in Dan Lander, Micah Lexier, Art Metropole, and Walter Phillips Gallery, *Sound by Artists*, (Toronto, Banff: Art Metropole; Walter Phillips Gallery, 1990).

⁴⁰ Shuhei Hosokawa, "The Walkman Effect (1984)," in *The Sound Studies Reader*, edited by Jonathan Sterne. (New York: Routledge, 2012), 112. Also see Iain Chambers, *The Aural Walk* (1994).

⁴¹ Michael Bull, "The Audio Visual iPod," in *The Sound Studies Reader*, ed. Jonathan Sterne, (New York: Routledge, 2012), 197-208; Bull, *Sound Moves: iPod Culture and Urban Experience*, (London; New York: Routledge, 2007); Bull, *Sounding Out the City: Personal Stereos and The Management of Everyday Life* (Oxford; New York, Berg, 2000); Henri Lefebvre, Gerald Moore, and Stuart Elden, *Rhythmanalysis: Space, Time and Everyday Life* (London: Continuum International Publishing Group, 2004).

⁴² Bull, "The Audio-Visual iPod," 206.

⁴³ Lefebvre, *Rhythmanalysis*, 67.

In analysing the role of the media device in Cardiff and Miller's *Alter Bahnhof Video Walk* (2012), Laura MF Bertens argued that the walker's encounter was a confused experience as they followed the image and directions on the video iPod. The video thus became a form of hyperreal mediation where the screen produced an uncanny experience.⁴⁴ Karen O'Rourke (2012), Anamarija Batista and Carina Lesky (2015) on the other hand interpret the walks as psychogeography.⁴⁵

The rise of Installation Art

The recent history of installation art has oscillated, largely, between conceptualism and materialism.⁴⁶ Kim-Cohen argued that a strain of "ambient conceptualism" emerged in the late 1960s and continued into contemporary art (through works like James Turrell's light installations), which rejected objects as forms of materiality and embraced "less concrete aspects" of perceptual and bodily experiences.⁴⁷

Bishop has argued that as installation art emerged, it marked a shift toward the aesthetisation and the experience of art. In doing so, installation art increasingly involved light, video, sound, physical space, and the presence of the audience. As a phenomenologically driven art, artists were concerned with how the materials they used affected human bodies and consciousness.⁴⁸ In line with these developments, performance art became increasingly part of Contemporary Art shown in museums since the 2000's.⁴⁹ Bishop also proposed "relational

⁴⁴ Laura MF Bertens, "Playing and Dying Between the Real and the Hyperreal," *Third Text*, vol. 30, issue 1-2 (2016): 97.

⁴⁵ O'Rourke, "A Form of Perception or a Form of Art?" 42-43; Anamarija Batista and Carina Lesky, "Sidewalk Stories: Janet Cardiff's Audio-Visual Excursions," *Word & Image* 31, no. 4 (2015): 515-23.

⁴⁶ See Peter Osborne's framing of "aesthetic" and "conceptual" art as polemical oppositions. Peter Osborne, *Anywhere or Not at All: Philosophy of Contemporary Art* (London; New York: Verso, 2013).

⁴⁷ Seth Kim-Cohen, "Against Ambience," in *Against Ambience and Other Essays* (Bloomsbury, 2016), 15-16.

⁴⁸ Bishop, *Installation Art: A Critical History* (Tate: London, 2005), 3-5.

⁴⁹ Bishop, "Black Box, White Cube, Grey Zone: Dance Exhibitions and Audience Attention," *The Drama Review*, vol. 62, no. 2 (Summer 2018): 22-42.

antagonism” against Nicolas Bourriaud’s notion of “relational aesthetics,” which he coined to describe a particular brand of participatory art that emerged in the 1990s.⁵⁰ Curators such as Bart De Baere and Harm Lux noted that since the late 1980s exhibitions were becoming experience spaces,” and “exhibition environments.”⁵¹ Writer Sjoukje Van Der Meulen noted that exhibitions in the mid-1990s were turning into “ambiences,” and “lively meeting places.”⁵² These ideas emerged following the Situationists unrealised 1959 “labyrinth” project in Amsterdam’s Stedelijk Museum and exhibitions like *Les Immatériaux* (1985) at Centre Georges Pompidou in Paris by Jean-François Lyotard.⁵³ As the margins between art and entrainment became more contested, so did criticisms about art’s theatricality. Adrian Searle criticised Cardiff and Miller’s installation *Killing Machine* (2007) stating the installation was “keen to shock.” Searle echoed Michael Fried’s warning toward art being “theatrical” when he wrote, “Cardiff and Miller do too much, and direct the spectator too much.”⁵⁴

Notes on the Literature

While there are many exhibition catalogue length essays and even shorter reviews on the artist’s work, no major critical scholarly monograph yet exists. As such, an extensive number of exhibition catalogues have been produced on their work with essays written by Daniel Birnbaum, Kitty Scott, Jörg Heiser, Alexander Alberro, and Ralf Beil. The exhibitions have been reviewed by Katy Siegel, Brian

⁵⁰ Bishop, “Antagonism and Relational Aesthetics,” *October* (2004): 51-79. Also see Nicolas Bourriaud, *Relational Aesthetics* (Dijon: Les Presses du réel, 2002).

⁵¹ Harm Lux, “A Night at the Show (1995), Zürich, Switzerland,” *Harm Lux Curator* (blog), 31 December, 2013, <http://harmluxcurator.blogspot.com/2013/12/a-night-at-show-1995-zurich-switzerland.html>

⁵² Sjoukje Van Der Meulen, “A Night at the Show,” *Frieze Magazine*, January-February, 26, (1996).

⁵³ Jean-François Lyotard and Bernard Blistene, “Les Immatériaux: A Conversation, Jean-François Lyotard and Bernard Blistene,” in Eva Grubinger, and Jörg Heiser, *Sculpture Unlimited. 2, Materiality in Times of Immateriality* (Berlin: Sternberg Press, 2015), 84.

⁵⁴ Adrian Searle, “Fire Up The Killing Machine,” *The Guardian*, October 23, 2008, <https://www.theguardian.com/artanddesign/2008/oct/23/art> ; See Michael Fried, “Art and Objecthood (1967),” in *Art and Objecthood: Essays and Reviews* (Chicago: University of Chicago Press, 1998), 149-172.

Droitcour, Blake Gopnik, Karen Rosenberg, John Wray, Russell Storer, and Caroline Jones. Most catalogues follow a similar format including interviews, images from artist books, themed essays, CD's, book chapter excerpts from authors like Roald Dahl and Jorge Luis Borges. The Vancouver Art Gallery also published *Lost in the Memory Palace: Janet Cardiff and George Bures Miller* as a digital publication and downloadable *app* in conjunction with the exhibition organised by the Vancouver Art Gallery and the Art Gallery of Ontario in 2013-14. The books and exhibition catalogues contain documentation, preparatory sketches, photographic and audiovisual documentation, and walk route maps.

Opportunities Identified

Significant gaps show up in the discourse on Cardiff and Miller's art. First, we must admit the limitations of curatorial essays, reviews, journal articles, and commissioned catalogues—which are not completely scholarly research. Secondly, there is little scholarly research of the early beginnings of their practice of the 1980s and 1990s, and no significant study of Miller's contribution—notably, the influence of technology, electronics, electroacoustics, tape music, new media, radio, and installation art. To redress this, I have identified an opportunity to comprehensively research the breath of their practice, from the 1980s to 2014, and develop new explanations of Cardiff and Miller's trajectory and the wider scope of contemporary sound installation.⁵⁵ It positions their art not only within Canadian sound, new media, and installation art—a position not previously established within scholarly discourse—but also within international contemporary installation art, particularly as it emerged in the early 1990s and developed into the 2000s and 2010s.

⁵⁵ The limited scope of this thesis is that it is impossible to cover all of their works, for example, I do not closely analyse their "smaller works," such as *Pianorama* (2005), *Sad Waltz and the Dancer Who Couldn't Dance* (2015), *Cabin Fever* (2004), or *Feedback* (2004); or installations like *Killing Machine* (2007), *Opera for a Small Room* (2005), or more recent works like *The Infinity Machine* (2015).

It is important to state here that Cardiff and Miller considered the filmic, narrative, and (occasional) theatrics of their works important: “the filmic or narrative is very important, and our work is also sometimes very theatrical.” However, it was their use of binaural audio (and other sound spatialisation technologies) and sound’s physical qualities that were most significant. “I think the way we use binaural audio, the way it accentuates the senses, is much more about philosophical questions as in how you can only know reality through your senses.”⁵⁶ Rather than merely being concerned with the cinematic or narratives in their works, Cardiff and Miller used their art to question modes of perception and reality.

Similarly, in 2001, Cardiff downplayed the narrative and emphasised the physicality of the sound: “One of the main things about my work is the physical aspect of the sound. A lot of people think it’s the narrative quality but it’s much more about how our bodies are affected by sound. That’s really the driving force.”⁵⁷ Although sound’s physicality was considered to be the impetus, as I explained previously, their works are usually understood in terms of the narrative content or sensory effects. The spatialisation methods are rarely acknowledged. Consequently, this oversight presents an opportunity to grasp how these spatial conditions contribute to the discourse of not only Cardiff and Miller’s art but of contemporary installation art more broadly.

Although the methods Cardiff and Miller use are appropriated from the audio arts, I am not proposing that their art is seen through the alternate lens of musicology; Cardiff and Miller are artists working explicitly within the art world. However, as artists using sound as their principal material, it is important to address how they draw on compositional methods, spatial sound, electroacoustics, acoustic ecology, and radio. Their focus on sound merged with

⁵⁶ Cardiff, “Janet Cardiff and George Bures Miller, Interviewed by Michael Juul Holm,” 24.

⁵⁷ Janet Cardiff in Robert Enright and Meeka Walsh, “Pleasure Principals: The Art of Janet Cardiff and George Bures Miller,” *Border Crossings*, May, no. 78 (2001), <http://bordercrossingsmag.com/article/pleasure-principals-the-art-of-janet-cardiff-and-george-bures-miller>

developments in new media, installation, kinetics, Cardiff's background in printmaking and photography, and Miller's background as a painter and sculptor.

The answers that I propose are straightforward: the meeting of Cardiff and Miller at the University of Alberta in 1981 triggered a new paradigm for their solo and later collaborative production. My research uncovered several new narratives running through Cardiff and Miller's art: their focus on spatial sound and media, the trajectory of personal player and recording technologies, and how these developments were reflected in their work. It also locates Miller's shadows, kinetics, lo-tech media, and video that have not previously been associated with the new media arts scene that emerged in Canada and Toronto in the early 1970s and remained influential. Likewise, Cardiff's early installations have not been associated with the emergence of installation art, particularly as it flourished in Western Europe in the mid-1990s.

Specifically, what this thesis unpacks is how Cardiff and Miller created *spatial environments* by manipulating the spatial potential of sound and human hearing. Binaural technology, for example, was fundamental to their practice because it recorded and played back sound in three-dimensions over headphones. A similar effect was possible by producing an open sound field using multi-channel speakers. What was particular to these technologies, above traditional stereo recording techniques, was their capacity to emulate the sonic-shaping function of not only the human head and ears but also of the body as the listener perceived a three-dimensional soundspace within their bodily space. Accordingly, it was Cardiff and Miller's skill in manipulating the listener's perceived spatial orientation of a room or outdoor space that was at the core of their innovation.

Methodological direction

So, in aligning these new narratives, we must locate the methodological genealogy of this approach. The first is challenging the default understanding of installation art as cinematic or as an affective encounter. It is not necessarily retracting the attention from the viewer or listener, but rather refocusing on the

artwork itself and how it converges at the site. For example, in *All of a Sudden Things That Matter in Contemporary Art* (2008), Jörg Heiser called for a shift away from understanding video installations as affective and phenomenological encounters of embodiment, enlightenment, and illusion. He proposed an emphasis on the *tension* between the “affective ‘contamination’” of the fictional and the “laying bare of mechanisms” of reality.⁵⁸

The second direction challenges the tendency to default to digital media terms—such as “augmented,” “mixed,” or “virtual” reality, or terms like “physical cinema,” or “trompe l’oeille”—to describe spatialisation methods used in art. These understandings tend to assume that the artworks create new subjective experiences resulting in a dissolution or transformation. Johnathan Sterne argued against the idea of *augmentation* with his notion of *space within space*. He argued that “the overlay of physical and mediatic space in digital media [such as those developed by theories of ‘augmented’ and ‘mixed’ reality] *has already happened* in the sonic domain.”⁵⁹ That is, the overcoding of physical space with information (in the form of sonic overlays intended to spatialise sound) had already been an audio composition effect—as artificial reverb—used to represent and construct space simultaneously.⁶⁰ He contended that we were already conditioned to hear sounds as if they are in multiple places simultaneously.⁶¹ To hear things at once and from many perspectives is a banal and everyday experience.⁶² So rather than

⁵⁸ Jörg Heiser, “Fairytale and factualities, Illusion verses anti-illusion, Film/Video Exhibition Architectures,” in *All of a Sudden: Things that Matter in Contemporary Art* (Berlin: Sternberg Press, 2008), 158.

⁵⁹ Jonathan Sterne, “Space within Space: Artificial Reverb and the Detachable Echo,” *Grey Room*, Summer (2015): 120.

⁶⁰ Sterne, “Space within Space,” 120. He argued that this overcoding was “a basis for the coherence of a modern hearing subject, not its dissolution or supersession.”

⁶¹ Sterne, “Space within Space,” 112. His ideas of *artificial reverb* and *space within space* noted a difference between reverb as a naturally occurring acoustic phenomenon of architecture, and the concept of echo within audio arts. As soon as technology could “produce a detachable echo, engineers, artists, and musicians treated it as aesthetic raw material.” Reverb as an *effect* in audio composition simultaneously represented and constructed space as a configuration that Sterne referred to as *space within space*—a term adopted from sound engineering.

⁶² Université Paris 8, “Jonathan Sterne, (McGill University, Canada) Space within Space: Artificial Reverb and the Plasticity of Echoes,” *vimeo*, October 26, 2016, <https://vimeo.com/189950957>

tricking the ears (as an aural illusion), or a negation of experience (emerging out of an understanding of the uncanny as a dialectical experience), artificial reverb was used as a *tool* to construct aural space rather than aural illusion.⁶³

This thesis makes a case for how Cardiff and Miller confront the traditions of the orchestration of space and perception in painting, sculpture, sound, and installation art. Each chapter draws on understandings and methods of how artists have challenged linear perspective—like the curious perspective, spatialisation in music (looping, phasing and reverb, echo, contrapuntal sound, tape music, and ambience)—and established conventions of viewing and listening to art, music, theatre, and film. Consequently, this thesis shows how Cardiff and Miller contested established conceptions of installation and perspective through creatively applying conventional methods of composition, sound design, and production, to their art making.

Chapter Outline

Chapter One and Chapter Two detail the experimental phase of the late 1980s and early 1990s. As solo artists, Cardiff and Miller began experimenting with sound, video, the exhibition space, and electronics. Chapter One examines Cardiff's works *Forest Walk* (1991) and *Whispering Room* (1991) by investigating her early experiments with tape recording, tape loops, audio technology, binaural sound, loudspeakers, and the Sony cassette Walkman. It draws on Cardiff's early adoption of looping where she could create a spatialisation effect by layering multiple sources of sound. Chapter Two examines Miller's solo installation works during the same period—*Exquisite Corpse* series (1989), *Simple Experiments in Aerodynamics* series and *Conversation / Interrogation* (1992)—and reveals how

⁶³ Similarly, Branden W. Joseph argued that the effect of Angela Bulloch's work *Z Point* (2001) was not one of defamiliarisation or estrangement or of a familiar "text," but rather the opposite. Branden W. Joseph, "Future Anterior: History and Speculation in the Work of Angela Bulloch," *Grey Room* (2008): 117. Also see Branden W. Joseph, "Angela Bulloch: Ambivalent Objects," in *Theanyspacewhatever*, ed. Nancy Spector and Solomon R. Guggenheim Museum (New York, London: Guggenheim Museum; D.A.P./Distributed Art Publishers distributor; Thames & Hudson distributor, 2008).

important these years were to the development of Cardiff and Miller's collaborative practice.

Chapter Three discusses their collaborative works from the mid-1990s, namely *The Dark Pool* (1995) and Cardiff's solo work *Too Touch* (1994). They began incorporating motion sensors, lights, tape loops, Tascam tape recorders, speakers, found objects, and bricolage object arrangements to produce sound installations that the visitor negotiated physically.

Chapter Four details the mid-2000s where Cardiff and Miller developed large-scale speaker "spatial environments" using ambisonic surround sound technology. By arranging multiple speakers within an exhibition space, they could shift sound into "different types of spaces." It discusses these developments in *Berlin Files* (2003) and *The Murder of Crows* (2008) where the physical quality of the sound that became the "driving force" in the works.

Chapter Five investigates the development of the video walks, from the early works like *Chiaroscuro* (1997) for audio walk and prepared telescope, to the video walks *Telephone Call* (2001) and *Alter Bahnhof Video Walk* (2012) that incorporated camcorders or iPod Touch video. It describes how the method of layering sound expanded by replaying a pre-recorded video scene in the same location in which it was shot.

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Figure 1: Drawing by George Bures Miller of "Shirley" binaural head, Cardiff Miller studio archive, Grindrod, Canada, photograph by the author, 2014.

Chapter 1:

Phasing effects: Audio Walk and Sound Installation, 1989-93

1.1 Introduction

In 1991, Janet Cardiff produced two installations, *Forest Walk* (1991) and *Whispering Room* (1991), that marked her transition from prints, etchings, photographs, and silkscreens—all conventional artistic media of the period—to sound installations that exhibited a highly spatial understanding of sound. The same year, she attended a six-week artist residency at the Banff Centre for the Arts in the Canadian Rockies. Cardiff's adoption of sound and her residency in Banff was not coincidental. As she recalled to me in 2014, "Banff was an important time for me. I made my first walk work there."¹ This chapter is the first detailed study of this period, one that turns out to be a key moment, as contemporary art moved into its now-familiar post-medium condition.²

The impact of the Banff Centre for the Arts on Cardiff's production ran deeper than might have been anticipated.³ It was not only the 1991 summer artist residency that influenced her path toward sound-based artworks, but a cycle of conferences, exhibitions, and programs focused on electroacoustics, acoustic

¹ Janet Cardiff, interview by author, Grindrod, Canada, July 24, 2014.

² The "post-medium condition" was Rosalind Krauss's critical target in *A Voyage on the North Sea: Art in the Age of the Post-Medium Condition* (2000), in which she argued that the "international spread of the mixed-media installation has become ubiquitous." Krauss maintained that the proliferation of video and other "new" media in the 1960s and 1970s—in the works of Broodthaers, Fluxus and Situationists—saw an end in "media-specificity" and the rise of a post-medium condition. Rosalind Krauss, *A Voyage on the North Sea: Art in the Age of the Post-Medium Condition* (London: Thames & Hudson, 2000), 20-30; Also, Peter Osborne introduced his notion of the "transmedia condition" of post-conceptual art, where he outlined a crossing and moving between mediums. Peter Osborne, "Art Beyond Aesthetics," *Anywhere or Not at All: Philosophy of Contemporary Art* (London; New York: Verso, 2013), 46.

³ The research for this chapter was predominantly carried out in July 2014 at the Paul D. Fleck Library and Archives at the Banff Centre for the Arts, The Art Gallery of Ontario, and draws on Cardiff's notebooks that she kept while making *Forest Walk* (1991) and *Whispering Room* (1991) stored in Cardiff and Miller's studio archive in Grindrod.

ecology, and new media. This chapter explains how the convergence of electroacoustics and acoustic ecology at the Banff Centre for the Arts in the late 1980s and early 1990s, was formative in Cardiff's early experimentation with tape recordings and sound spatialisation. Her investigation would then be presented not within the rapidly solidifying boundaries of new media art, but fully within the far larger mainstream of contemporary art. For better or worse, the distinction is significant. Therefore, this chapter emphasises the specificity of her technology—multitrack analogue tape recording, binaural sound, headphones, Sony cassette Walkman, voice recorder, electronics, two-channel loudspeakers, and amplifiers. Commonplace in music composition and new media of the time, those now-antique technologies allowed her to manipulate analogue tape to form layers, space, depth, and “play with time and space,” or so she defined it.⁴ Rather than relying on architectural acoustics to spatialise sound, Cardiff used multitrack tape recordings and tape loops to create a spatialisation *effect*.

Now, as explained in the Introduction, these effects were identified by Jonathan Sterne as “supplements” to existing physical and acoustic spaces; they simultaneously represent and construct space.⁵ So, the spaces created by Cardiff's sound environments did not compete with existing physical spaces but supplemented and overlaid the walker's or audience's encounter—this was a configuration that Sterne would refer to as a *space within space*.⁶ Cardiff's transition into making audio walks and installations was not marked by a serendipitous encounter with the illusionism of sound. It was a formative translation of already established methods of sound spatialisation. Consequently,

⁴ Janet Cardiff, artist notebook: 1991, Grindrod studio archive, Canada, accessed July 24, 2014.

⁵ Jonathan Sterne, “Space within Space: Artificial Reverb and the Detachable Echo” in *Grey Room*, Summer, (2015): 113. As noted in the Introduction, Sterne too identified methods of spatialisation were tools used by musicians and composers to create spatial acoustic effects—even before the modern means of doing so via digital technologies. Sterne defined *artificial reverb* as an effect that is *added* to sound. It was an effect that applied to sound, as a “series of echoes so dense they meld together into a shared ambiance for listeners.” This was a unique by-product of modernity: “[Emily] Thompson's modernity is the moment when reverberation is defined as a supplement; it is also the moment when sonic space gains a new level of plasticity through the control and measurement of physical space.”

⁶ Sterne, “Space within Space,” 120.

Cardiff's experiments with analogue sound in the early 1990s revealed sound's spatial and physical potential—a prospect that (as this thesis will explain) became integral to Cardiff and Miller's practice over the following three decades.

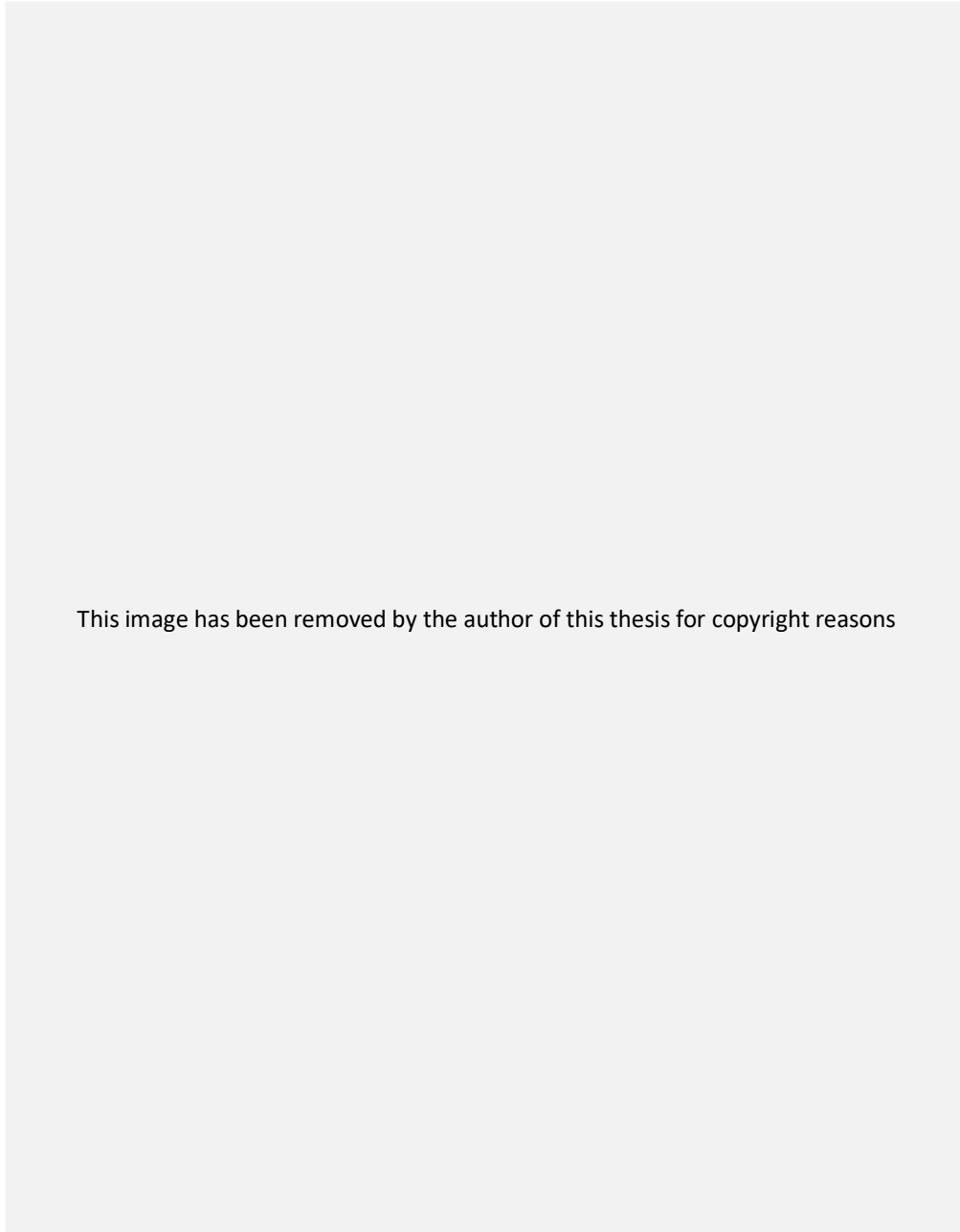


Figure 2: Janet Cardiff c.1990, Cardiff Miller studio archive, Grindrod, Canada, photograph by the author, 2014.

1.1.1 The 1980s: “I need a lot of layers to work for me.”

In the 1980s, Cardiff was working with two-dimensional media—specifically silkscreens, lithographs, etchings, pinhole camera collages, and photo-mechanically reproduced pictures from magazines and television. Even then she began experimenting with adding voice to her printmaking installations. In the late 1980s, Cardiff transitioned to multimedia installations before exclusively working with sound in 1991. Several methods that she used in her early silkscreen and etching works became integral to her later work with sound—namely spatial layering and contrast, mediating images through technology.

These interests are relayed in a two-part video on *YouTube* from May 1988, that showed Cardiff giving an overview of her exhibition *An Obscure Sense of Possible Sublimity* (1988) at stART Gallery in Kitchener, Ontario, Canada.⁷ In the video, Cardiff stood in front of her large silkscreens created from black ink on white paper and arranged as connected panels. Critic Jennie Punter described Cardiff’s silkscreens as “elaborate white chalk drawings on blackboard.”⁸ Cardiff emphasised the image making process and explained that the images were drawn quickly on the screen. The drawing’s sketch-like appearance reflected Cardiff’s avid interest in comic books.⁹ In addition to comic books, her source materials included television, magazines, books, and radio. Growing up in a remote farming town of 900 people in Brussels, Ontario, Cardiff often commented that she identified with the outside world through the media she consumed.¹⁰ Her

⁷ Janet Cardiff, in “Janet Cardiff 1987 Part 1,” (1987), *YouTube*, posted by Kevin Hogg [Rebel Machine], February 22, 2009, accessed July 14, 2013, <http://www.youtube.com/watch?v=9mrpiVp8KYs>; *An Obscure Sense of Possible Sublimity* was a multimedia installation of video, silkscreen, metal table, stamp pads, cards, and audio, made in collaboration with Miller who co-authored a 3-minute video.

⁸ Jennie Punter, “Signs of Trouble—or Salvation?” *The Whig-Standard*, Kingston, Ontario, April 23, 1988.

⁹ Janet Cardiff, interview by author, Sydney, February 2014.

¹⁰ Cardiff, “Interview with Carolyn Christov-Bakargiev,” in Christov-Bakargiev, *Janet Cardiff: A Survey of Works*, (2002), 18. As a girl Cardiff read fiction and comic books. Upon visiting Toronto as a young girl, she was shocked that people did not look like how the media depicted reality to be. Cardiff’s print and photographic works dealt with these themes. Her decision to move into

approach to artmaking also reflected this mediated state where rather than recreating or representing “reality” she created scenarios mediated through technology and media. In *An Obscure Sense of Possible Sublimity*, for example, one of the prints illustrated a TV floating in the water and on its screen, she had drawn an image of two lovers kissing. In another silkscreen image, a man eats potato chips with the phrase “crunch, crunch” emerging from his mouth, visually representing the sound of crunching potato chips.¹¹ Cardiff said that the images depicted in the silkscreens were not intended to question a mediated state but instead present an irresolute scenario: “not really questioning,” Cardiff explained, “but the whole show and images combined, present just a feeling. A sense of chaos.”¹² As Cardiff said this, she seemed frustrated that she was unable to articulate what the “feeling” was. Cardiff concluded by saying, “just craziness, or not really knowing what you are seeing.” Collectively, rather than illustrating a comprehensive narrative or reality, the sounds and images conveyed a “feeling,” or a “mood.” Over the course of each chapter, this thesis demonstrates how this idea of using her art to create a “feeling,” or “mood” was fundamental in Cardiff’s artworks, through the construction of what she referred to as “spatial environments.” *An Obscure Sense of Possible Sublimity* was an early example of Cardiff’s effort to present a “sense of something,” where the meaning behind the images, narratives, or scenarios were ambiguous.

Accompanying the walls of prints was a sound piece that Cardiff co-authored with Miller. On a cassette tape, they recorded and edited a collage of what Cardiff described as “tree falling sounds, a plane flying overhead sound, a woman walking by, and a man eating some potato chips.”¹³ Ultimately, more so than implicit in their content or meaning, the sounds performed as aesthetic and

printmaking at university was because she felt that the department was less restrictive than the painting or sculpture department and allowed her to experiment and be creative.

¹¹ Punter, “Signs of Trouble—or Salvation?”

¹² Cardiff, “Janet Cardiff 1987 Part 1.”

¹³ Cardiff, “Janet Cardiff 1987 Part 1,” (1987). These sounds are typical of the sounds used in her audio walk and installation works.

atmospheric *effects*. Cardiff explained she liked to use sounds that triggered memories and associations.¹⁴ Cardiff later explained that while she thought the soundtracks were not effective, she experimented with sound in an effort to resolve her frustration with the spatial limitations of the two-dimensional image.¹⁵

While Cardiff appreciated the immediacy of the drawing process, she felt restricted by the medium. “Whenever I created pictures outside of my head [like paintings, prints, and photography], I’ve never been satisfied because they are too limiting for the complexity of what I want to say,” Cardiff explained. “I need a lot of layers to work for me.”¹⁶ Interestingly, this idea of working with layers emerged from Cardiff’s training as a printmaker while she was completing her Bachelor of Fine Arts at Queens University, Kingston, Ontario from 1978 to 1980. As a student, she was a studio assistant for Toronto artist and printmaker J.C. (Carl) Heywood who was her instructor. The layering process was foregrounded in a project she worked on with Heywood. In his *Untitled Etching* (1981-87), a photoengraving *à la poupée*, he recalled that Cardiff drew and screen-printed cross-hatching on cloth and paper. Heywood later rolled, modelled, and folded the material so that the hatches would “move in space.”¹⁷ He used the printed, crosshatch-cloth texture to portray books in *Untitled Etching* and a vase and his neck in a 1983 portrait. The crosshatch technique (traditionally employed by engravers to create shadows) was used to form a relief.¹⁸ Space was constructed not through illusion, but through its physical manifestation as a material texture and contrast. The regard for texture and space was equally evident in Cardiff’s own art. “Conceptually, I was doing the same things in the eighties that I am now.

¹⁴ Cardiff in “Janet Cardiff 1987 Part 2,” (1987), *YouTube*, posted by Kevin Hogg [Rebel Machine], February 22, 2009, accessed July 14, 2013, <https://www.youtube.com/watch?v=3DvbT6Kuqbw>

¹⁵ Cardiff, interview by author, Sydney, February 2014.

¹⁶ Cardiff, artist notebook, 1991, Grindrod studio archive, accessed July 24, 2014.

¹⁷ Burnaby Art Gallery, “J.C. Heywood, A Life in Layers,” *Burnaby Art Gallery website*, Canada, 2008, accessed January 4, 2016, <https://www.burnaby.ca/heywood/exhibit/japan-colle/untitled-etching.aspx>

¹⁸ Burnaby Art Gallery, “J.C. Heywood.”

Mixing, layering ideas, making narrative juxtapositions. Only I was doing it visually,” explained Cardiff in 2002. In her transition to audio, she noted that there was “something about audio that goes right into you directly.”¹⁹ Sound proffered Cardiff greater immediacy and transparency than the two-dimensional image.

In what became a career-defining breakthrough, Cardiff used a multitrack tape deck to record, edit, and layer sounds. As I explain below, this was a direct attempt to create a spatialisation effect. Cardiff found that sound’s inherent malleability allowed her to explore space, texture, and time more effectively and with greater complexity than with two-dimensional imagery.²⁰ By arranging and layering sound using analogue multitrack recording and tape loops, Cardiff created and emphasised contrast and texture, which I will now discuss.

1.1.2 Tape loops and dioramas (standing inside a painting)

One of Cardiff’s initial attempts at integrating recorded loops was in the installation *Another Fiction* (1987) presented at the Glendon Art Gallery, York University, Toronto. In collaboration with Miller, Cardiff made a small multimedia sculpture, *The Waterfall* (1987), (fig. 3) as part of the installation. Constructed from plywood, *The Waterfall* was a 1960s television set within which a forest scene, assembled from branches, wood, coloured lights, and small loudspeakers broadcast an audio tape recording. The catalogue essay, written critic Liz Wylie, described the small-scale etchings and silkscreens—including *Mountain Woman #37* (1986) and *River-Girl-TV* (1986)—and related the works to themes of fiction and nature but she makes no mention of *The Waterfall*.²¹ Reviewer Jerry McGrath described the sound of the work as an “off-speed, looped fragment of ‘O Canada’ as well as a brief romantic exchange between two

¹⁹ Cardiff, “Interview with Carolyn Christov-Bakargiev,” 27.

²⁰ Cardiff, artist notebook, 1991, Grindrod studio archive, accessed July 24, 2014.

²¹ Liz Wylie, in Wylie and Janet Cardiff, *Another Fiction: Recent Work by Janet Cardiff* (Toronto: Glendon Gallery, 1987).

matinee-styled voices.”²² In addition to *An Obscure Sense of Possible Sublimity*, *The Waterfall* was one of Cardiff’s first attempts to integrate audio loops into her work. It was also an early example of the diorama constructions—such as *Playhouses* (1997), *The Muriel Lake Incident* (1999), and *The Paradise Institute* (2001)—that Cardiff and Miller made in the 1990s and 2000s.²³

Although *The Waterfall* and *An Obscure Sense of Possible Sublimity* incorporated sound, the works did not specifically spatialise sound. The spatialisation of sound was something that Cardiff began to investigate in the 1990s. However, these works from the late 1980s did signify Cardiff’s shift away from the two-dimensional image to the spatialisation of forms and materials. Interestingly, this focus emerged around the time that Cardiff and Miller moved to Lethbridge. Some Lethbridge-based artists, including Michael Campbell, Janice Rahn and, now, Janet Cardiff, were experimenting with bringing art into the realm of the cinematic.²⁴ This focus, according to Rahn, began with the influence of Canadian artist Murray Favro. In the 1970s, he had begun making “projected paintings,” such as *Van Gogh’s Room* (1973-1974). Rahn recollected that while Favro was visiting a Van Gogh exhibition in Amsterdam, he questioned what it would be like to “stand inside one of these paintings?” This experience led him to “project slides and film onto a theatrical set” so he could create an “illusory, virtual space like a theatrical tableau.”²⁵ The idea of “standing inside a painting” would be assumed by Cardiff and Miller when they began discussing how they spatialised their artworks.²⁶ Although at that point, Cardiff was experimenting with sound, it

²² Jerry McGrath, “Janet Cardiff, Glendon Gallery,” in *Vanguard*, Vancouver, summer, (1987): 37.

²³ Janet Cardiff, artist notebook, 1997, Grindrod Studio, accessed July 15, 2014. Cardiff was aware of other artists working with this approach such as Thomas Demand’s constructed scenes made from paper. Cardiff’s notebook from 1997 contained a brief note: “Thomas Demand. Artist who does photo interior models.”

²⁴ Janice Rahn, “New Media Taught as Art Material: Tableau as Inquiry” in Cathy Jean Mullen, and Janice Rahn, *Viewfinding: Perspectives on New Media Curriculum in the Arts* (New York: Peter Lang, 2010), 226-227. These effects were like those used by Tony Oursler and David Hoffos. Also see Kay Burns, “High Tech Art,” *Alberta Views*, September / October (2002): 22-27.

²⁵ Rahn, “New Media Taught as Art Material,” 226-227.

²⁶ As detailed in Chapter Two, this idea of “standing inside a painting” was expressed when Miller explained that he wanted to “climb inside the painting,” in relation to a work that he made in

was not until 1991 that recorded sound became the clear protagonist as she applied conventional sound editing methods of looping and layering recorded tape in her artworks.²⁷

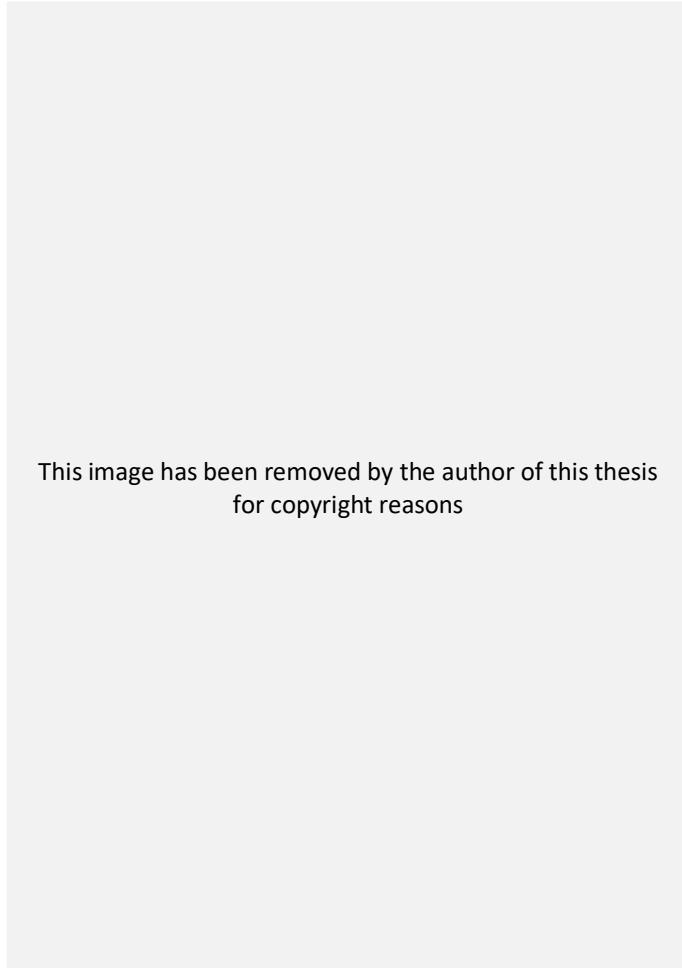


Figure 3: Cardiff and Miller, *The Waterfall*, 1987, installation view, mixed media sculpture with sound, reproduced from Christov-Bakargiev, *Janet Cardiff: A Survey of Works and collaborations with George Bures Miller*, PS1 MoMA, 2002, p. 167.

1986. In an interview with Cardiff in 2014, she explained Miller's early video and painting triptych installations and how he wanted to break-away from the two-dimensional image and "stand inside the painting." Cardiff also used the phrase in relation to her own works. She explained that In *Forty Part Motet* (2001) she wanted to "climb inside the choir." Cardiff, interview by author, Sydney, February, 2014.

²⁷ Cardiff's methods were unlike the abrupt or erratic transitions in sounds such as the jump-cut and sound montage used by film-makers such as Chris Marker in *La Jetee* (1961), or by Jean-Luc Godard, who's work Cardiff often cites as being influential.

1.2 The Banff Centre for the Arts (1986-93)

In a 2014 interview, Cardiff emphasised her time at the Banff Centre for the Arts in the early 1990s. “Banff was an important time for me,” Cardiff recalled, “I was always experimenting. I made my first walk work there.”²⁸ What is significant, and to my knowledge has not been examined in any detail, is the connection between the activities and programming at the Banff Centre for the Arts in the late 1980s and early 1990s, and Cardiff’s transition into spatial sound. Cardiff released her two breakthrough works—*Whispering Room* (1991) and *Forest Walk* (1991)—only after the comparable artworks *Sound Cruise* (1989) by Charles de Mestral and *Landscape/Landschaft* (1989) by Christina Kubisch were presented at Banff Centre. Indeed, Cardiff commenced *Whispering Room* in 1990, just months after Montreal artist Charles de Mestral presented *Sound Cruise* (1989).²⁹ *Sound Cruise* was a multiple speaker presentation in the silo-shaped staircase of the newly constructed Jeanne and Peter Lougheed Building at the Centre during a conference, *Convergence: CEC Electroacoustic Days at Banff* (1989).³⁰ Similarly, *Forest Walk* appeared two years after German sound artist Christina Kubisch presented her “electrical walk” installation *Landscape* and Hildegard Westerkamp and others presented their compositions and “soundwalks” at the same conference.³¹ I will now trace the similarities in these presentations while also noting the wider significance of acoustic ecology, sound walking, and electroacoustics in the late 1980s and early 1990s. While these practices characterised the East and West Coast Canadian sound artists and composers,

²⁸ Cardiff, interview by author, Grindrod, July 24, 2014.

²⁹ *Sound Cruise* (1989), installation at the Banff Center Media Arts Building, Alberta, November to December 1989. Works: *Sound Cruise One*, 30-min and *Sound Cruise Two*, 30-min.

³⁰ Banff Centre, “Convergence, Guide, Concert Program and Proceedings,” *Convergence: CEC Electroacoustic Days at Banff, Banff, 1989*, Convergence Files, Paul D. Fleck Library and Archives, Banff Centre, accessed July 13, 2014. *Convergence* was the second annual conference of the Canadian Electroacoustic Community, November 10-13, 1989.

³¹ Banff Centre, “Convergence, Guide.” Westerkamp performed *Moments of Laughter* (1988) for female voice and two-channel tape (19:00 min) and a radiophonic documentary called *Four Radio Reports on the 1989 CEC Electroacoustic Days* with Robert Normandeau and David Olds (27:32 min) at *Convergence*.

their meeting at Banff facilitated crossovers. This convergence—of soundwalking, acoustic ecology, and electroacoustics—can also be identified in Cardiff's *Forest Walk* and *Whispering Room*.

In the summer of 1991, Cardiff attended the Summer Photography Program—a six-week artist's residency at the Banff Centre in the picturesque Canadian Rockies.³² During the residency Cardiff made postcard-sized collaged photography works using a pin-hole camera (fig. 4). Although she had been experimenting with tape loops, voice recordings, and loudspeakers arrangements for a few years, it was at Banff that she specifically began experimenting with the Tascam multitrack tape recorder and binaural audio. This experimentation was facilitated by the access she had to the Banff Centre's Lougheed Building's media and sound facilities, which had opened in 1988. She also attended symposia, conferences, exhibited art, and happily socialised with other artists at the Centre. Her exposure to the new media and sound programs and the accessibility to recording equipment coincided with her experiments in spatial sound.

³² Banff Centre, Visual Arts: Art Studio 1991-1992 File, Paul D. Fleck Library and Archives, Banff Centre, accessed July 12, 2014.

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Figure 4: Janet Cardiff, *Banff, Alberta*, 1991, postcard, Cardiff Miller studio archive, Grindrod, Canada, photograph by the author, 2014.

The Banff Centre for the Arts had not only been important to Cardiff's development but had been decisive in the progress of new media and sound art in the late 1980s and early 1990s. Derrick de Kerckhove explained that its interdisciplinary and well-funded program gave Canada "an international profile that was, in the beginning, predictably not fully understood at home."³³ Under

³³ Derrick de Kerckhove, "A Volcanic Theory of Art," In *Press Enter: Between Seduction and Disbelief*, ed. Louise Dompierre and Power Plant (Toronto: Power Plant Art Gallery, 1995), 96.

the leadership of Artistic Director Michael Century, the Banff Centre, and the Walter Phillips Gallery shifted programming and curriculum from traditional media and performing arts to experimental media and electronic arts in the mid-1980s.³⁴ The new direction was spearheaded by a conference developed around technology and sound called *Viewpoints on Arts and Technology* (1986).³⁵ Other new media focused programs such as the Inter-Arts Program (1985), and The Media Arts Program (1988) encouraged inter-disciplinary collaboration among visiting artists.³⁶ The Centre also hosted significant radio and sound programs, including the presentation of R. Murray Schafer's experimental opera *Princess of the Stars* (1985) performed at Two-Jack Lake in Bow Valley, and the experimental radio broadcast project *Radia 89.9* (1989).³⁷ From, 1986, the Lougheed Building offered state-of-the-art media and studio facilities in digital media, film, television, photography, audio production, and post-production. The Banff Centre also hosted weekly *Art Walks* around the town of Banff. The guided walks stopped at Banff's cultural institutions, museums, and the Old Banff Cemetery.³⁸

³⁴ "History of Banff Centre for Arts and Creativity," *Banff Centre website*, accessed May 13, 2013, <https://www.banffcentre.ca/history-banff-centre-arts-and-creativity> ; Located in the tourist town of Banff in Canada's spectacular Rocky Mountains, Banff Centre for the Arts is situated along the glacial Bow River at the base of Tunnel Mountain, a one-and-a-half-hour drive east of Calgary. Banff Centre was founded in 1933 as a drama school and developed into a School of Fine Arts in 1935. In the 1970s, it was re-established as a centre for "experiment and innovation." Banff is located a four-and-a-half-hour drive north-west of Cardiff and Miller's current home in Grindrod, and a nine-hour drive from Vancouver. In 1991, Cardiff and Miller were living in Lethbridge, Alberta, three-and-a-half hours south-east of Banff.

³⁵ Tom Sherman, "Tech Art in 1986," *The Journal*, [Sue Prestige], YouTube video, Posted January 5, 2011, accessed June 12, 2017, https://www.youtube.com/watch?v=XHk_MWIIJOs *Viewpoints on Arts and Technology*, 1986, coincided with Vancouver's Expo 86, where Emil Radok presented the follow up installation *The Taming of the Daemons* to his seminal video installation *The Creation of the World* at Expo 67 in Montréal.

³⁶ The Banff Centre, "New Leadership in the Arts," *The Banff Centre: Centre Newsletter*, October 3-17, 1990, 1-2.

³⁷ The Banff Centre, "New Leadership in the Arts," 1-2.

³⁸ The Banff Centre, "More Than Just an Art Walk," *The Banff Centre: Centre Newsletter*, July 20-27, 1990. Cultural Historian Jon Whyte commented on Banff's changing landscape: "Over the past 30 years, Banff culture has tried to conceal the fact that Banff used to be more interesting when it was less of a shopping town." The July 1990 *Art Walk* visited the Banff Cemetery where Whyte liked to "look at 10 or so headstones... about which it is possible to tell a story." There is an interesting parallel here to Cardiff's notebook entries that explained how she recorded herself



Figure 5: Old Banff Cemetery, Banff, Alberta, Canada, photograph by author, 2014.

Banff's conferences sparked dialogues between Canadian and international sound and new media artists including Christina Kubisch, Hildegard Westerkamp, Maryanne Amacher, Murray Schafer, and Pauline Oliveros. Artists shared ideas and experimented with production technologies. Three conferences in particular—*Convergence: CEC Electroacoustic Days at Banff* (1989), *Virtual Seminar on the Bioapparatus* (1991), and *Tuning of the World: The First International Conference on Acoustic Ecology* (1993)—were important in Cardiff's move to sound installation.

The *Convergence* conference in November 1989 was particularly unique. It was a meeting of the acoustic ecology community from the West Coast and the Canadian Electroacoustic Community (CEC) from the East Coast. Both close-knit communities shared theories, approaches, styles, technologies, and artworks. The meeting was, according to Century, the first time the CEC had presented on the

reciting the names of the tombstones as she walked through the cemetery. Authors research, Grindrod studio, July 2014.

West Coast.³⁹ Generally, the CEC composers from Toronto and Montréal explored electroacoustics and technology-based sound practices, while the Vancouver based acoustic ecologists focused on listening, preserving, and documenting soundscapes. As part of *Convergence*, the then curator of the Walter Phillips Gallery, Diana Augaitis, invited German sound artist Christina Kubisch to exhibit her works in Canada for the first time. Kubisch presented two works, *Landscape* (1989) and *Songs for the Rockies* (1989), at the Walter Phillips Gallery in November 1989.⁴⁰

1.2.1 Electrical Walks and polyrhythmic patterns

At this point, we need to emphasise the importance of Kubisch and her impact on Cardiff and Miller, less by way of influence but more by way of the permission her example provided the two in their pathway forward. *Landscape* was an iteration of Kubisch's "electrical walk" installations that she had been making since the late 1970s. She installed white electrical cables and bonsai trees from the ceiling of the Walter Phillips gallery space.⁴¹ The gallery was lit by "black" fluorescent light, which illuminated the whites of the electrical cables.⁴² The dangling cables conducted electrical frequencies inaudible to the naked ear but audible through custom-made wireless headphones by which electromagnetic fields are detected and amplified. Audience members walked around the gallery wearing wireless headsets receiving electromagnetic inductions and sounds in stereo. The transmission of sound was possible by a built-in set of induction coils that respond to the electromagnetic waves in the space.⁴³ In correspondence with

³⁹ Michael Century, "Introduction," in Banff Centre, *Convergence*, Guide, Concert Program and Proceedings, *Convergence: CEC Electroacoustic Days at Banff*, (Banff, 1989), ix.

⁴⁰ Christina Kubisch, *Landscape*, Exhibition Files, Paul D. Fleck Library and Archives, Banff Centre, 1989, accessed July 12, 2014.

⁴¹ Diana Augaitis, *Walter Phillips Gallery Exhibition Notes*, Paul D. Fleck Library and Archives, Banff Centre, 1989, accessed July 12, 2014.

⁴² Mark Morris, "Convergence Conference a Convincing Experience. Kubisch Remains until Dec. 17," *Bow Valley This Week*, November 16, 1989, 3.

⁴³ Christina Kubisch, "Electric Walks: Electromagnetic Investigations in the City," Christina Kubisch website, accessed August 10, 2018, http://www.christinakubisch.de/en/works/electrical_walks

Augaitis, Kubisch explained that she worked with “opposing sounds” of field recordings and electronic sounds. Kubisch combined electromagnetic sounds and field recordings so that the sound fields would overlap as they intersected. She compared the aural experience of overlapping sounds to “walking in a jungle or along the seaside at different times of the day and on different paths.”⁴⁴ The listener became a “mixer” as they moved between sound fields.⁴⁵ The path and its proximity to the electromagnetic wires determined sounds and frequencies. *Landscape* emphasised the space between listener, headphones, and the wires as they all tangled in what Kubisch referred to as “polyphonic sound-zones.” A polyrhythmic pattern sounded as the walker became suspended in the threshold of two separate cable-fields.⁴⁶ Polyrhythmic states were emblematic of the post-modern consciousness of the time: “the self,” Jean-François Lyotard wrote, “was held in a texture of relations which are more complex and more mobile than ever before.”⁴⁷ Kubisch’s walker navigated his or her way through a texture of sonic relations, picking up and mixing sounds and frequencies. Similarly, the walker in Cardiff’s *Forest Walk* became entangled in intersecting zones between recorded sound and physical space.⁴⁸

Cardiff was as aware of Kubisch’s exhibition as she was of the practice of *soundwalking*.⁴⁹ In February 1990, two months following Kubisch’s presentation,

⁴⁴ Christina Kubisch, *Landscape*, Exhibition Files.

⁴⁵ Jon Bjorgum and The Banff Centre, “Information: Berlin Audio Artist Opens New Sound Installation in Banff: Landscape, Christina Kubisch,” news release, October 24, 1989. “Mixer” or “mixing” were also terms Cardiff used when she described how the audience interacted with *To Touch* (1993)—as discussed in Chapter Three.

⁴⁶ Christina Kubisch, “About My Installations,” in *Sound by Artists*, ed. Dan Lander, Micah Lexier, Art Metropole and Walter Phillips Gallery, (Toronto; Banff: Art Metropole; Walter Phillips Gallery, 1990), 71; and, Kubisch, *Landscape*.

⁴⁷ Jean-François Lyotard, “The Postmodern Condition,” (1984), 31.

⁴⁸ Kitty Scott referred to this intersection as a “split” that created a “virtual space anchored in reality.” Kitty Scott, “I Want You to Walk with Me,” in *Missing Voice (Case Study B)*, (London: Artangel Afterlives, 1999), 12.

⁴⁹ Cardiff, interview by author, February, 2014. Cardiff mentioned that she did a soundwalk at some stage and was aware of soundwalk practices. Andra McCartney also stated that it would have been “likely” that Cardiff would have been aware of soundwalking practices. Andra

Miller contributed to a group exhibition *Noise Under the Tongue* at Walter Phillips Gallery. Two years later in the summer of 1991, Cardiff created her first audio walk, *Forest Walk*, in the small forest area behind the Walter Phillips Gallery. Using a Sony cassette Walkman and headset—a consumer technology that since its introduction in the late 1970s had radically altered consumers’ listening experiences—Cardiff developed her take on the soundwalk. Rather than transmitting electromagnetic noise, as did Kubisch’s electric walks, Cardiff’s audio walk was composed of walking directions, narrative fragments, sound effects, field recordings, and other sound samples recorded in binaural audio. The process of playing the recording back in the same spaces in which the walking directions and environmental sounds were recorded, created a reverb (or phasing) effect, as I will explain shortly. Applying effects to audio tape—like the echo, reverb, layering, or speaker arrangements—were techniques used by composers to create spatial effects.

1.2.2 Soundwalking and Editing

Soundwalking has a long history dating back millennia. Fifty thousand years ago, Australian Aborigines used oral walking to link routes through the landscape and orient themselves spiritually and physically.⁵⁰ Dadaist excursions in the 1920s, Fluxus events, and Situationist *dérives* in the 1960s explored the “organised spontaneity” of the urban space.⁵¹ In the 1970s, New York-based artist Max

McCartney, “Soundwalking,” in Sumanth S. Gopinath and Jason Stanyek, *The Oxford Handbook of Mobile Music Studies*, vol. 2 (New York: Oxford University Press, 2014), 228-229.

⁵⁰ See Karen O’Rourke, “When Walking Becomes Mapping,” *Walking and Mapping: Artists as Cartographers* (2016), 118-122.

⁵¹ For a detailed history of walking in art see O’Rourke, *Walking and Mapping: Artists as Cartographers* (2016). The Dada excursions marked one of the first attempts of artists abandoning conventional exhibit space in favour of public spaces. These ideas were developed by land and public art experimentations during the 1960s and 1970s. See Ricciarda Belgiojoso, “Tuned Promenades,” in *Constructing Urban Space with Sounds and Music* (2009), 85-93. The Situationists *dérive* was a collective game that defined alternative ways of experiencing the city. The *dérive* was a “a technique of rapid passage through varied ambiances,” that involved the “playful-constructive behaviour and awareness of psychogeographical effects.” Debord proposed that urban spaces had “psychogeographical contours, with constant currents, fixed points and vortexes.” The *dérive* was more than just strolling. See Guy Debord, “Theory of the *Dérive*,” in *Les Lèvres Nues* #9 (November 1956), reprinted in *Internationale Situationniste* #2 (December 1958). Also, relevant here is Charles Baudelaire’s concept of *flânerie* in his collection of poems, *Les fleurs*

Neuhaus hosted walks around New York where he would stamp the word “Listen” on each walker’s hand.⁵² In Canada, R. Murray Schafer, Hildegard Westerkamp, and the researchers at the World Soundscape Project in Vancouver used the term *soundwalking* under the rubric of acoustic ecology.⁵³ Schafer explained that “when you take your ears for a soundwalk, you are both audience and performer in a concert of sound that occurs continually around you.⁵⁴ By walking, you are able to enter into a conversation with the landscape.”⁵⁵ The *soundwalk*—usually performed out in a landscape in silence—became a deep listening exercise to foster the observation and preservation of the soundscape.⁵⁶ The documentation of the soundscape was through field recordings and scores that accompany the walker as they “reconnected with nature.”⁵⁷ In 1974, Westerkamp noted that the soundwalk revealed the often-ignored everyday sights and sounds, “a soundwalk is any excursion whose main purpose is listening to the environment,” she explained. “It is exposing our ears to every sound around us no matter where we are. *Going for a walk* is one way by which urban people attempt to regain contact

du mal (Flowers of Evil), which became the foundation of Walter Benjamin’s project on modernity. Charles Baudelaire, *The Flowers of Evil*, (1993).

⁵² Max Neuhaus, “Max Neuhaus: Walks,” accessed May 2, 2016, <http://www.max-neuhaus.info/soundworks/vectors/walks/> Neuhaus was interested in expanding listening beyond the concert hall: “Why limit listening to the concert hall? Instead of bringing these sounds into the hall, why not simply take the audience outside?” he asked.

⁵³ Soundwalking was devised by Murray Schafer when he set up the World Soundscape Project in the late 1960s. Hildegard Westerkamp and Barry Truax initiated the World Forum Acoustic Ecology, WFAE, at *The Tuning of the World* conference, Banff, 1993. Hans Ulrich Werner, “The Tuning of the World,” reprinted in *The Soundscape Newsletter*, no. 7, January, (1994), 9.

⁵⁴ *World Soundscape Project (WSP)* was founded and directed by R. Murray Schafer and included Barry Truax, Howard Bloomfield, Peter Huse, Bruce Davis, and Hildegard Westerkamp. They researched soundscapes and their concern about “noise pollution” in Canada and Europe. See, Shaefer, *The Vancouver Soundscape* (ARC Publications, 1978).

⁵⁵ Schafer, *The Vancouver Soundscape*, 71.

⁵⁶ Westerkamp, “Soundwalking as Ecological Practice,” *The West Meets the East in Acoustic Ecology, Proceedings for the International Conference on Acoustic Ecology*, Hirosaki University, Hirosaki, Japan. November 2-4, 2006, accessed May 20, 2018, www.sfu.ca/~westerka/writings%20page/articles%20pages/soundasecology2.html Westerkamp explained that soundwalking encouraged a deep listening atmosphere, “soundwalking is always an effective way to gain deeper knowledge and information about the seemingly familiar, but often ignored sound environment.”

⁵⁷ See R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World*, (Destiny Books, Vermont, 1977).

with nature. The intention of soundwalking is listening.”⁵⁸ Soundwalking had a history at the Banff Centre, most notably during *The Tuning of the World* conference (1993) dedicated to Schafer’s legacy. Cardiff had developed her own audio walk two years prior, so the conference theme intersected not just with Cardiff’s work but also how the soundwalks engaged the landscape of the Banff Centre and surrounding area.⁵⁹

During *The Tuning of the World*, a series of soundwalks took place as daily exercises in “clean hearing.”⁶⁰ Deira Sykes reported in *Leonardo Music Journal* that the soundwalks encouraged the participants to form an appreciation of their sonic environment. “The hum of a stairwell’s fluorescent lights, the chattering of squirrels and the distant rush of a river were received with opened ears that noted comparisons, metaphors, and analogies of perception and meaning,” Sykes explained.⁶¹ Participants were encouraged to keep a sound diary of their auditory reflections. A booklet was distributed to participants that included a soundwalk observation example written by composer Robert J. Rosen:

⁵⁸ Westerkamp, *Soundwalking* (1974): 18–19, Originally published in *Sound Heritage*, vol. 3, no. 4, 1974, Revised 2001, <http://www.sfu.ca/~westerka/writings%20page/articles%20pages/soundwalking.html>

⁵⁹ For further discussion on soundwalking practices see “Soundwalking: Aural Excursions into the Everyday,” in *The Ashgate Research Companion to Experimental Music*, ed. James Saunders, (Aldershot etc.: Ashgate, 2009), 163–192.

⁶⁰ In his seminal work on soundscape studies *Tuning of the World* (1977) Schafer referred to a proposition made by Marshall McLuhan, which stated that since the emergence of electronic culture and technological progression, society had regressed to a tribalist state. “And I think he is right,” noted Schafer, “the very emergence of noise pollution as a topic of public concern testifies to the fact that modern man is at last becoming concerned to clean the sludge out of his ears and regain the talent for clairauidience—clean hearing.” R. Murray Schafer, *The Tuning of the World*, (New York: Alfred A. Knopf, 1977), 11; The soundwalk “cleaned the ears in preparation for the many sound experiences to be had on the coming day.” Werner, “The Tuning of the World,” *The Soundscape Newsletter*, January, 1994, 4, accessed 22 August, 2018, https://www.sfu.ca/sonic-studio/WSP_Doc/Newsletters/Number7.pdf ; This notion of “ear cleaning” comes from the Cagean idea of recalibrating our ears in order to reexperience our acoustic environment. Timothy Buell, “Welcoming Letters: Message from the Conference Director,” in *The First International Conference on Acoustic Ecology: The Tuning of the World*, ed. The Banff Centre, 1993, 5.

⁶¹ Deira Skyes, “The Tuning of the World: The First International Conference on Acoustic Ecology,” *Leonardo Music Journal*, 3 (1993): 82–83.

7:00 Max Bell Lobby. Resonant hum of fluorescent lights at stairwell, ... I catch a glimpse of the Banff Springs Hotel, also a beautiful view of Bourgeau Mountain, and hear Bow Falls - I admire and listen for a while. I notice my breath for the first time as I also hear the air starting to stir . . . I have been noising my footsteps. The different textures of the trail have been creating fascinating contrasts. Bow Falls become the prominent drone as I keep walking.⁶²

Rosen's observations, describing the sights and sounds of Bow Falls, his footsteps, and the aural textures of the trail echoed the audio commentary that Cardiff recorded and edited in *Forest Walk* two years before.⁶³

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Figure 6: Eric Leonardson and Lou Mallozzi, "The Tuning of the World: Conference report," header reprinted from a review in *The New Art Examiner*, Summer, 1994, pp. 72-73.

At this point, we might specify the technology that had been used up to that moment in 1993. In the early 1980s, Westerkamp had begun using a Tascam 4-track recorder to record and mix field sounds, applying echoes, and other electronic effects. A well-known example was *Cordillera* (1980), a 45-minute four-channel "acoustic environment" installed at Western Front in Vancouver as part

⁶² Robert J. Rosen, "Soundwalk Booklet," *The Tuning of the World: The First International Conference on Acoustic Ecology* (Banff: The Banff Centre of the Arts, 1993), 2-3.

⁶³ For another example of aural observations of footsteps see Westerkamp's self-reflective walking instructions in *Soundwalking* (1974).

of the *New Wilderness Festival* in 1980.⁶⁴ In that work, her then-husband, writer Norbert Ruebsaat, recited the long title poem from his book *Cordillera*, mixed with environmental field recordings produced in Western Canada. A plane flew overhead; footsteps trekked through gravel; water and waves pounded. These sounds panned from left to right and front to back across four strategically-placed speakers arranged in a room. Ruebsaat's voice was flat and emotionless, unlike Cardiff's recorded voice in *Forest Walk*. In addition to the panning effects, Westerkamp used tape loops to create an echo. At the midpoint (25:54 minutes) of the recording a loop produced a one-second echo delay in Ruebsaat's voice, which intoned, "Here on the edges, (here on the edges), here on the talus slopes (here on the talus slopes), slate-grey cliffs, I try out my human voice (try-out-my-human-voice), human voice echo, (echo)." As Ruebsaat's voice layered and repeated, the echo constituted spatial sound as the voice phased between speakers.⁶⁵ The echo was applied to select parts of the vocals, forming a dialogue between the voice, its echo, and the speaker arrangement.

Westerkamp used similar editing effects on *Kits Beach Soundwalk* (1989), which she broadcast on her Vancouver-based radio program *Soundwalking*.⁶⁶ *Kits Beach Soundwalk* was a highly-edited field recording made on Kits Beach in Southern Vancouver. It was recorded on a calm winter morning "when the quiet lapping of the water and the tiny sounds of barnacles feeding were audible before an acoustic backdrop of the throbbing city," Westerkamp recalled.⁶⁷ Her voice was close-miked as she described the sounds around her and reflected on their

⁶⁴ A recording of *Cordillera* (1980) is available here: Canadian Electroacoustic Community, Westerkamp *Cordillera*, accessed April 6, 2018, http://cec.sonus.ca/electrobox/sonus02/Westerkamp_Cordillera.mp3

⁶⁵ Patricia Lynn Dirks, "Hildegard Westerkamp: Transformations," *Computer Music Journal*, 23:1, March 1, (1999): 91-92. Westerkamp used the echo effect in other works like *Fantasie For Horns I* (1978), a composition for horn and tape. "The echo dialogue between the tape material and the French horn draws the listener into the sound experience through Westerkamp's use of repetitive material."

⁶⁶ Westerkamp, "Kits Beach Soundwalk (1989)," *Hildegard Westerkamp – Composer*, accessed May 3, 2018, http://www.sfu.ca/~westerka/program_notes/kits.html

⁶⁷ Westerkamp, "Kits Beach Soundwalk."

acoustic properties: “The city is roaring around these tiny sounds. But it is not masking them.” Her ingenious post-production in the studio was even more important than documentation and preservation of sounds. *Cordillera* and *Kits Beach Soundwalk* were two of the many compositions in which she merged acoustic ecology with electroacoustic post-production. It was the way that Westerkamp merged attentive listening and ways of spatialising sound that was equally evident in how Cardiff used sound in her audio walks. However, it was in Westerkamp’s insistence on preserving the documentary form that differentiated her compositions and soundwalks from Cardiff *audio walks* (and Kubisch’s *electrical walks*).

1.3 *Forest Walk* (1991)

Forest Walk (1991) was the first of over twenty audio walks that Cardiff produced between 1991 and 2006.⁶⁸ The audio walks were a series of installations where the walker donned headphones and followed a prescribed route while listening to a recording on a cassette Walkman and a headset. The cassette recording became an orientation device as the walker negotiated the path and the recorded sound. The audio recording formed a spatial overlay on the walker’s real-time experience of the place being walked. By synchronising the pre-recorded audio with the walker’s real-time experience, a curious phasing effect formed. This was what Cardiff referred to as a “strange blending of technology and reality” where the walker could hear “the sounds of reality around played back” as I will explain.⁶⁹

Cardiff produced *Forest Walk* during her summer artist residency at the Banff Centre for the Arts in 1991. The idea for *Forest Walk* was, as most good ideas are, stumbled upon by chance. Cardiff was walking through The Old Banff Cemetery

⁶⁸ Janet Cardiff, *Forest Walk* (1991), audio recording, 12 minutes. Banff Centre for the Arts, Canadian Artist in Residence Program. Collection of the Whyte Museum of the Canadian Rockies, Banff, Alberta, Canada. Although Miller assisted Cardiff in the making of the audio walks, they were exclusively authored by Cardiff herself, and the video walks were co-authored with Miller.

⁶⁹ Cardiff, “I Want You to Walk with Me,” II.

recording herself, talking into a portable voice recorder.⁷⁰ At one stage, she unintentionally pressed *rewind* on her voice recorder. Upon pressing *play*, she heard her voice sounding the names of the tombstones she had just passed:

I inadvertently pushed the rewind button and then pressed play to see where I was and in the headset I heard my footsteps walking and my voice started describing what was just in front of me. I started to walk with my own footsteps while listening to my voice and I was totally freaked out. It was one of those ‘aha’ experiences. It was a really strange thing walking in the footsteps of myself but seemingly another, and hearing the sounds of the reality around played back. That’s when I thought that I had to use this strange blending of technology and reality in a piece.⁷¹

Walking along and recording herself, the tape not only captured her voice but the sound of her footsteps and the ambient soundscape. Hearing the “sounds of the reality around played back” the sounds overlapped her real-time experience of the same space as she walked the same path. This process created a “strange blending of technology and reality” that she went on to use in *Forest Walk*.⁷²

Forest Walk had evolved out of Cardiff’s opportune discovery of the spatial overlay effect, binaural sound, and soundwalking practices that she combined in the audio walk.⁷³ Her “aha” moment arose within the context of musical experimentation and soundwalking alike. Cardiff experimented with various methods to edit, layer, and loop these recorded sounds onto audio tape, always using binaural sound recording, her Tascam four-track tape recorder, and handheld voice recorder. Combining several recording methods Cardiff created a

⁷⁰ The Old Banff Cemetery is situated below the Banff Centre on route into the Banff town centre. The path between the Centre and the cemetery is a forest trail.

⁷¹ Cardiff, “I Want You to Walk with Me,” II.

⁷² Janet Cardiff, artist notebook 1991. Grindrod studio archive, accessed July 25, 2014.

⁷³ Cardiff, interview by author, Sydney, February 25, 2014.

recording that could be played back on a portable Sony cassette Walkman with headphones.⁷⁴

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Figure 7: Janet Cardiff, *Forest Walk*, 1991, audio walk, 12 min, Banff Centre for the Arts, © Janet Cardiff.

1.3.1 Spatial overlays

So far, I have described the connection between the audio walk and established soundwalking practices. The remainder of this section investigates Cardiff's experimentation with binaural technology and other recording methods. Essentially, the "aha" moment cited above was more than a serendipitous encounter. It was a moment when Cardiff discovered that playing back a recording in the same space in which it was recorded created a peculiar effect within the practise of walking and listening. By applying this slight delay, or what is known as a "phase" effect in music, Cardiff was able to create a curious spatial

⁷⁴ Audio walks such as *Forest Walk* (1991) and *Louisiana Walk* (1996) have been transferred onto iPod mini players. Other works like *Her Long Black Hair* (2005) are still on Discman CD players.

overlay with binaural sound. This method would replace her earlier attempts to work spatially with two-dimensional materials.

Moreover, the spatialisation of sound was enhanced further through her adoption of multiple recording devices. With *three* modes of recording sound—binaural, voice recorder, and Tascam—it was possible to record sounds of varying spatialities, distances, and fidelities. Cardiff recalled the production process for *Forest Walk*: “I just went walking around [Banff],” Cardiff explained. “They had a Sennheiser binaural kunstkopf head [at the Banff Centre]. I had my Tascam four-track recorder and a little stereo recorder.”⁷⁵ The recording and re-recording possibilities of the Tascam, allowed Cardiff to edit, layer, and manipulate sounds.⁷⁶ The final recording was then mixed using binaural recordings, spoken dialogues and directions recorded with a voice recorder, and field recordings. Using these methods, Cardiff explored the malleable and sculptural possibilities inherent in sound and ingeniously adopted established sound composition methods.

Working with the materiality of the analogue cassette tape, Cardiff could record and playback the tape to produce a slight delay: “you walk and hear the sounds half a second later,” explained Cardiff.⁷⁷ The delay, happening just out of time, was a compositional technique that musicians and composers used to accentuate space and depth and architectural acoustics. The added reverb, or what Sterne had referred to as “artificial reverb” made the soundscape sound “fuller.”⁷⁸ Reverb was made by simultaneously playing two of the same analogue recordings and taking advantage of the inevitable lags in the recorded tape.⁷⁹ This technique of

⁷⁵ Cardiff, interview by author, Sydney, February 25, 2014.

⁷⁶ Cardiff, interview by author, Sydney, February 25, 2014. The analogue equipment was replaced first with unreliable Macintosh computers, and later with a MacBook Pro. In 2014, Cardiff and Miller referred to the Tascam recording device as a “primitive” technology.

⁷⁷ Cardiff, artist notebook, 1991, Grindrod studio archive, accessed July 25, 2014.

⁷⁸ Sterne, “Space Within Space.”

⁷⁹ Jean-Paul Thibaud referred to this experience as a *visiophonic knot* where the audio heard through the Walkman converged with the visible environment that surrounds the listener. See

interlocking patterns was a conventional composition method made famous by minimalist composers like Steve Reich. He created “phasing” patterns using tape loops of multiple but otherwise identical elements for *It’s Gonna Rain* (1965) and *Come Out* (1966). Reich took a recorded spoken phrase on two channels, initially played in unison. As the tapes played, they eventually fell out of sync until the words become unintelligible, remaining as tonal and rhythmic patterns.⁸⁰ In the early 1980s English DJ Greg Wilson used a similar phase effect in his DJing performances. His “re-edits” used reel-to-reel tape to cut and paste parts of existing songs to form new ones.⁸¹ In 1983, Wilson appeared on UK Channel 4’s *The Tube*, demonstrating record mixing. He played two identical vinyl recordings of David Joseph’s disco soul classic *You Can’t Hide (Your Love from Me)* (1983) on turntables with one record following the original, one beat behind. Using a Revox reel-to-reel tape recorder, Wilson was “recording and playing it [the record] back,” explained DJ Mike Shaft, who provided the commentary while Wilson mixed on stage: “It’s going to give it a phase effect,” he explained, “it makes the record sound as though it’s filling the whole room.”⁸² The repetition inherent in phasing, with three versions of the same piece of music played simultaneously, added to the spatial complexity of the sound so it produced an effect as if the sound was “filling” the room.⁸³ In Sterne’s explanation of artificial reverberation,

Jean-Paul Thibaud, “The Sonic Composition of the City,” in Michael Bull and Les Back, *The Auditory Culture Reader* (Amsterdam: Berg Publishers, 2015), 337.

⁸⁰ For further discussion on Reich’s phasing, see Alex Ross, “Alex Ross,” *Steve Reich* (website), 2006, accessed August 24, 2018, <http://www.steverreich.com>

⁸¹ Ben Homewood, “Greg Wilson and the art of the re-edit,” *Red Bull*, February 20, accessed June 2, 2016, <https://www.redbull.com/gb-en/greg-wilson-interview-re-edits>

⁸² Mike Shaft, Greg Wilson, Jools Holland, in electrofunkrootsuk, “1st UK DJ to mix live on TV – Greg Wilson on The Tube, February 25, 1983,” *YouTube video*, posted February 24, 2008, accessed June 2, 2016, <https://www.youtube.com/watch?v=77sjudOzLJY>

⁸³ Shaft, “1st UK DJ to mix live on TV.” Moreover, in Walter Benjamin’s *The Work of Art in the Age of Mechanical Reproduction* (1936) he argued that the infinite repeatability of new technologies of cultural production (like the movie camera) was one of the essential characteristics of the modern means of production. Although he makes no mention of audio tape or the tape recorder, the practice of repeatability of electronic sound media (in actions such as sampling) had been elevated to the level of a new art form in popular music such as hip hop and house. The essence of sampling and mixing problematizes Benjamin’s proposal of the aura, authenticity, and sense-perception. Benjamin, “The Work of Art in the Age of Mechanical Reproduction,” in *Illuminations*, ed. Hannah Arendt, (New York: Harcourt, 1968), 217-52.

reverb created “perceptual equivalence and not mimicry.” Accordingly, rather than attempting to mimic the sound, reverb reproduced the *effect* “of sound rather than its cause or process.”⁸⁴ In other words, the effect was not trying to mimic reality, but instead to enhance or create an effect.⁸⁵ Cardiff’s *Forest Walk*, like Wilson’s turntables and reel-to-reel player, utilised the materiality of the analogue audio cassette in order to repeat, layer, and mix sounds. Playing back the recording at the same location as it was recorded, Cardiff created a phase effect: adding a spatial layer over the walker’s experience. Just as Wilson’s phasing filled the room with sound, listening to the audio over the headphones in *Forest Walk* supplemented physical space at the area walked.

Beside her discovery of the spatial possibilities of processed sound in an outdoor environment, Cardiff also experimented with recording binaural sound. The Sennheiser Kunstkopf head was a binaural recording device configured from a dummy head fitted with small omnidirectional microphones inserted in the ear-shaped moulds in the head. The device was shaped like a human head so that it recorded sound relative to human hearing. The single-channel microphones captured shifting balances in frequency. When the sound was reproduced over headphones, the left and right channels were played back unmixed. The effect produced sound that was heard within the listener’s 360-degree sphere of hearing.

Combining the mobility of the Walkman and the spatiality of binaural sound, Cardiff created a spatial soundscape that the walker heard in three-dimensions. Although the direction of the sounds changed continuously, Cardiff’s voice emerged from the same position at the back of the walker’s head. We will come back to this in greater detail in Chapter Five, but for now, we should emphasise the strange sensation of Cardiff’s voice, perceived not in the walker’s ears but at

⁸⁴ Sterne “Space within Space,” 112.

⁸⁵ Paul du Gay et al, *Doing Cultural Studies: the story of the Sony Walkman* (1997), 92. This echoes Sony’s market research for the Walkman, coined the Walkman as an “enhancement” of the walker’s experience.

the back of the head *between* both ears. The anchoring of her voice counterpointed the dynamic spatial soundscape that developed around the walker. Cardiff explained that the positioning was deliberate, and the binaural technology and human senses determined spatial positioning as follows: “Even if we record something in front of us with this binaural audio technique I use, we don't see it as in front of us because we use our eyes to position things,” Cardiff explained. “If we don't see it in front of us we hear it from behind.”⁸⁶ She explained that our eyesight spatially positions sounds to appear in front of the body. If the sound source was not visible, the sound was heard from behind. Thus, the ability to localise the sound source involved hearing the directionality as well as the distance of the sound from the perspective of the listener. Upon making this discovery, Cardiff then edited her vocal directions with multiple layers of spatial sound including music samples, other voices, atmospheric sounds, and the sound of her footsteps.⁸⁷ As the walker listened, Cardiff's directional voice sounded continuously while other sounds moved incessantly. By using multiple technologies to manipulate and vary the spatial effect, she created a multifaceted recording and sonic texture.

Cardiff explained that her unique method of combining sounds could shape the physical environment.⁸⁸ “You could walk along and add sounds, and it would affect what you saw visually,” Cardiff recalled, “so that's what really interests

⁸⁶ Janet Cardiff, in Patricia Maloney, “Bad at Sports: Interview with Janet Cardiff,” in *Art Practical*, December 7, 2015, <https://www.artpractical.com/column/bad-at-sports-interview-with-janet-cardiff>

⁸⁷ Schafer also commented on the effect that listening to someone else's footsteps had on the soundwalker: “a good rule is to spread out the participants so that each is just out of earshot of the footsteps of the person in front. By listening constantly for the footsteps of the person ahead, the ears are kept alert; but at the same time a privacy for reflection is afforded.” Schafer, *Listening, Sound Heritage*, vol. 3, no. 4 (Aural History, Provincial Archives of British Columbia, 1974): 10-17.

⁸⁸ Cardiff in, Janet Cardiff and George Bures Miller, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia, Head of Exhibitions and Projects, Whitechapel Art Gallery. May 2003,” interview by Andrea Tarsia, *Whitechapel*, 2003, accessed July 2, 2015, originally on Whitechapel website but now archived here: http://white.cyberporte.net/content.php?page_id=426 ; Cardiff noted that she tried to break “filmic moments” down so that the walker is aware of themselves physically walking in the street. She called it a “reverie,” a daydreaming between the physical and imagined. “Strangely enough, accentuating a person's hearing also accentuates their sight,” she said.

me.”⁸⁹ She created a soundscape in which she could “add sounds” that would affect what the walker experienced in real-time.

Highly aware of Canadian sound art and new music, Cardiff felt restricted by what she perceived to be the rigidity of the Canadian sound community: “A lot of artists [at the time] were making sound collages and voice works [referring to the acoustic ecologists]. Others were making machine sounds [referring to the electroacoustic composers],” Cardiff recalled. “When I first started doing audio walks a lot of artists were like ‘oh they are recorded sounds and not source sounds.’” By this, she referred to the use of field recordings and not recorded, scripted, sampled, or edited sounds. She described the sound community as “quite uptight and very modernist.” Miller also shared the same non-conformist attitude: “That’s what also bugged George about the program he was in [Photoelectric Arts at Ontario College of Arts in Toronto],” Cardiff explained. “They didn’t want him to do rock videos; they wanted him to do abstract sound. Like Nexus or something. George and I have always had the narrative interest in it [sound]. As well as creating pictures.”⁹⁰ Beyond the rigidity of the sound community, Cardiff and Miller determined ways they could explore the storytelling potential of sound to create aural images where she could “add sounds” to the walker’s acoustic space.

So, in *Forest Walk*, she mixed and layered multiple tracks in a combination of field and recorded sound. The first track was recorded as Cardiff walked through the forest, narrating the directions the walker needed to follow—both Cardiff’s voice and her footsteps were audible. The second track was created from short narrated stories and monologues that Cardiff recorded in a studio, using what she called her thinking voice, “I recorded it as if I was thinking. I made it flat so as not to remind the listener of another type of recording.” Cardiff explained that there was “a delicate balance between not giving too much away and giving enough

⁸⁹ Cardiff, interview by author, Sydney, February 25, 2014.

⁹⁰ Cardiff, interview by author, Sydney, February 25, 2014.

information so that the piece grows on you.”⁹¹ The other tracks were composed using Cardiff’s voice, dubbed film noir scores, music samples, and field recordings she made out on location. Composed and loosely edited, the recorded soundscape formed an acoustic space that overlapped the walker’s real-time experience.

Like other artists in the early 1990s, Cardiff adapted sound recording and playback technologies to explore possibilities of music beyond musical notation. There was emerging interest in acoustic space and spatial electroacoustic music in Canada thanks to advancements in the accessibility of computer, recording, and playback technology. In the Banff Centre’s newsletter in February 1991, writer Jim Hamilton noted that developments in computer software and technology were sparking interest in electroacoustic music and sound: “Although electroacoustic music has been around since the 1950s, it has taken a quantum leap in the last few years.” The new systems and technology allowed composers to create “exciting works that are breaking new musical ground.”⁹² Composer Robert Normandeau confirmed that the late 1980s were very “open.” In particular, Montreal was perceived to be so liberal that it did not need to conform to the same musical lineages as in France or Europe generally.⁹³ Canadian composer Daniel Scheidt, for example, explored music and sound well beyond its musical representation by making music “in a non-traditional way.” He explained, “I don’t work with notation—and I’m using the computer to explore different kinds of relationships.”⁹⁴ Scheidt was part of a touring electroacoustic concert called *Electro Traces* was hosted at the Banff Centre in February 1991. It showcased

⁹¹ Cardiff in Monica Biagioli, “Janet Cardiff. The Missing Voice (Case Study B): an audio walk,” *Artfocus*, London, England, Winter/Spring 2000, 12-13.

⁹² Jim Hamilton, “Electro Traces Brings New Musical Dimension to Banff,” *The Banff Centre Letter*, Wednesday, February 20, 1991, 2.

⁹³ Robert Normandeau, in David Ogborn, “Interview with Robert Normandeau,” *eContact*, 11.2, 2008, accessed December 12, 2017, http://econtact.ca/11_2/normandeau_o_ogborn.html

⁹⁴ Daniel Scheidt quoted in, Alison Appelbe, “Computer Composers Create on the Musical Edge,” *The Vancouver Courier*, Wednesday, February 27, 1991, accessed May 2, 2017, [https://www.electrocd.com/en/billet/3902/Computer Composers Create On the Musical Edge](https://www.electrocd.com/en/billet/3902/Computer%20Composers%20Create%20On%20the%20Musical%20Edge)

composers who explored acoustic space with computer-generated compositions.⁹⁵ The system spatialised sound as it “moved” the sound around the space creating a “third dimension to musical works.”⁹⁶ This *spatial* dimension emerged over eight speakers positioned around the space.⁹⁷ Cardiff adopted this idea of the acoustic space in *Forest Walk*. The overlapping and intersecting of the recorded sound with the physical space produced a blending of recorded soundscape and real soundscape, as I will now explain.

For *Forest Walk*, the walker was instructed to collect a Walkman from the Walter Phillips Gallery front desk.⁹⁸ The attendant directed the walker to St Julien’s Road behind the gallery. The walker was instructed to press *Play* and begin the walk once they reached the skip bins in the delivery dock. The audio was heard in binaural audio over the headset. As explained above, Cardiff’s voice, identified in the script as *Janet*, was recorded with a close-miked voice recorder close to the walker’s ear. *Janet* directed the walker to “go towards the brownish green garbage can. Then there’s a trail off to your right. Take the trail; it’s overgrown a bit. There’s an eaten-out dead tree. Looks like ants.” The sound of Cardiff’s footsteps set the pace as she instructed the walker to “follow my footsteps” down a predetermined trail through a small forest area. Her crooning led the walker south to Bow River Falls behind the gallery. “Walk up the path. I haven’t been in this forest for a long time. It’s good to get away from the Centre, from the building noises to idyllic nature. Ok, there’s a fork in the path, take the trail to

⁹⁵ Jim Hamilton, *The Banff Centre Letter*.

⁹⁶ Scheidt, “Computer Composers Create on the Musical Edge.”

⁹⁷ Roger Levesque, “‘Cinema of the Ear’ In New Techno-Sound,” in *The Edmonton Journal (Canada)*, February 27, 1991, Electrocd.com (website), accessed May 2, 2017, https://www.electrocd.com/en/billet/3903/Cinema_of_the_Ear_In_New_Techno-Sound. The exploration of acoustic space was what Normandeau described as “cinema for the ear.” It signified a “certain artistic intent to create within the confines of electronic technology and the studio using acoustic, electronic and ‘found’ or sampled sources of environmental sound.” Ultimately, the acoustic space was not as an addendum to a cinema or visual image but rather unfolded around the audience. Mark Morris also explained that using either found sounds or electronic samples artists created musical scores to “sound as if it is a soundtrack to an unshown film or unstaged theatre piece.” Morris, “Convergence Conference a Convincing Experience,” 2.

⁹⁸ *Forest Walk* is no longer on cassette Walkman, it has been transferred to an iPod Shuffle MP3 player and Sony wrap around headphones.

the right.”⁹⁹ What began as a typical soundwalk, was interrupted with what Cardiff described as an “abstract monologue” of recorded sounds and effects. The monologue recounted an encounter with an elk (elks were frequently sighted around the Banff Centre), described fallen pine trees, and a darkening sky. On occasion, a male voice (narrated by Miller) sounded. “It’s so beautiful in the forest at night ... it’s kind of spooky, though,” he said. Followed moments later by, “it’s my fucked personality, blame it on me.” Rather than forming a logical story, the words fused into the layers of textural sounds in the highly directive yet ambiguous soundscape. “But once the voice is recorded it’s no longer me. I edit it from an objective point of view. She is then only a character who’s words have to work on an aesthetic, formal level,” explained Cardiff.¹⁰⁰ It was the recording process that transformed her voice into a physical sound object.

Enmeshed within these voices were sound effects: the sound of leaves rustling in the wind, birds chirping, sampled music, and the sound of the rapids of Bow River Falls. The audio had been arranged on her Tascam to create what she referred to as a collage of sounds. She often cited collage in Dada and Cubism as the influence on how she organised her images and artworks.¹⁰¹ Sound collage, cut-up, mixing, *musique concrète*, DJ’ing, and plunderphonics have a long history. In the 1950s and 1960s, Brion Gysin and William S. Burroughs popularised a cut-up technique based on the collage process at around the same time that Pierre Schaeffer began experimenting with sound spatialisation.¹⁰² In the late 1970s and 1980s, cut-up and sampling methods were used by hip-hop artists in techniques

⁹⁹ *Forest Walk*, audio script.

¹⁰⁰ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

¹⁰¹ Cardiff in Carolee Thea, “Inexplicable Symbiosis: A Conversation with Janet Cardiff,” *Sculpture Magazine*, 22, January/February (2003): 52-57. Cardiff stated, “my work was more about the cubist narrative of layering.”

¹⁰² See William S. Burroughs, *Electronic Revolution* (Expanded Media Editions, 1970); Pierre Schaeffer on electroacoustic music and *musique concrète* in Schaeffer, *Treatise on Musical Objects* (1966).

further developed in electronic music, particularly house and techno.¹⁰³ In Canada, composer John Oswald, a contemporary of Cardiff's, coined the term "plunderphonics" to signify making music by taking one or more audio recordings and altering them.¹⁰⁴ Like *musique concrète*, plunderphonics used sampled sounds as sources. *Forest Walk* extended this idea by integrating field and voice recordings and vocal directions. Later, in 2014, Cardiff would speak about her interest in ensuring there was sufficient texture in the audio walk: "We think about texture like drawing. When you are making a drawing, you think about darkness, lightness and that's how we approach the audio walks."¹⁰⁵ Her focus on maintaining compositional balance emerged from her training as a printmaker.

But something else emerged. Cardiff's walking directions and the natural disintegration in audio tape limited the effectiveness of her clear "drawing." She recalled that *Forest Walk* "didn't have very good instructions."¹⁰⁶ Indeed, vocal directions became increasingly difficult to follow as *Janet's* dialogue repeatedly described fallen trees or groups of trees, which made it difficult for the walker to identify the right path. Both the audio recording and the actual landscape lacked adequate signposts that the walker could easily navigate. Inevitably, not long after setting off down the path, they found themselves unsure if the fallen tree described over the audio was the tree in front of them or the tree they just passed. The walker's attention would continually shift from one sound and direction to another. The walk became a multitasking event in which the walker attempted to negotiate the landscape, follow *Janet's* directions, and piece

¹⁰³ Rayvon Fouché, "Analog turns digital: hip-hop, technology, and the maintenance of racial authenticity," *The Oxford handbook of sound studies*, ed. Trevor Pinch and Karin Bijsterveld, (New York: Oxford University Press, 2012).

¹⁰⁴ John Oswald, "Plunderphonics, or Audio Piracy as a Compositional Prerogative (1985)," *Plunderphonics*, accessed May 2, 2015, <http://www.plunderphonics.com/xhtml/xplunder.html>

¹⁰⁵ Cardiff, *Artists Talk: Biennale of Sydney*, Customs House, Circular Key, Sydney, May 30, 2014.

¹⁰⁶ Janet Cardiff, "*Forest Walk*, 1991," Cardiff and Miller website, accessed, June 15, 2014, <http://www.cardiffmiller.com/artworks/walks/forest.html>

together the “story” of the vocal narratives.¹⁰⁷ The audio was not only difficult to follow because the directions were imprecise, but also because of insufficient contrast in the various layers of sound. The physicality of analogue tape meant that the sound quality was grainy and the more it was recorded and re-recorded, the more the sound clarity was compromised: “The quality of my mixing was terrible since it was mixed on a 4-track cassette deck, but the work really inspired me and changed my thinking about art,” Cardiff recalled.¹⁰⁸

Even withstanding the limitations, the ability to record, re-record, and layer sound—particularly her voice—had transformed Cardiff’s approach to art. One of the people to experience *Forest Walk* was Canadian curator Kitty Scott.¹⁰⁹ Scott introduced Cardiff to Bruce Ferguson who was curating an exhibition *Walking and Thinking and Walking* (1996) at Louisiana Art Museum in Denmark.¹¹⁰ Upon introduction, Ferguson commissioned Cardiff’s first internationally-exhibited audio walk, *Louisiana Walk #14* (1996).¹¹¹ The year following, Kasper König

¹⁰⁷ In 2005, David Joselit claimed that what was distinctive about what he called “navigational” art was not simply the association between the physical and virtual realm, but their confusion. Joselit noted that a walker engaged in the “navigation” of the physical and virtual world presented over personal media. Mounting in an experience of straddling two or more locations simultaneously had caused the negotiation of both physical and virtual worlds to become increasingly disembodied, and as with cultural shift, this transformation has produced new opportunities for art. Joselit, “Navigating the New Territory,” *Artforum*, 43.10 (Summer 2005): 276-279. However, I suggest that the audio walks did not merely present an association—or even a confusion—between the physical and the mediated. The potential in Cardiff’s walks was the application of the specific editing technique where she used recorded sound or video to overlap the physical world being walked. The inclusion of video (as discussed in Chapter Five) opened a new level of experimentation that was essentially based on the same overlay effect introduced in the audio walk.

¹⁰⁸ Cardiff, “*Forest Walk*, 1991.”

¹⁰⁹ Cardiff in John Wray, “Janet Cardiff, George Bures Miller and the Power of Sound,” *The New York Times*, July 26, 2012, 1-7. Scott was assisting Bruce Ferguson with the exhibition “Walking and Thinking and Walking.”

¹¹⁰ The exhibition set out to investigate the politics of moving through the space of the museum and how walking and thinking shaped art. See Tony Godfrey, “NowHere. Copenhagen,” *The Burlington Magazine*, vol. 138, no. 1124, November (1996): 769-770. Artists included: Marina Abramovic, Vito Acconci, Francis Alys, Marcel Broodthaers, Sophie Calle, Janet Cardiff, Felix Gonzalez-Torres, Mona Hatoum, Gary Hill, Jenny Holzer, Bruce Nauman, Adrian Piper, Charles Ray, Gerhard Richter, Michael Snow, Talking Heads, and others.

¹¹¹ Cardiff in John Wray, “Janet Cardiff, George Bures Miller and the Power of Sound,” *The New York Times*, July 26, 2012, 1-7.

commissioned Cardiff to make *Münster Walk* (1997) for Skulptur Projekte in Münster 1997. These two exhibitions internationally launched Cardiff's audio walk career.



Figure 8: Trail behind Walter Phillips Gallery, the site for *Forest Walk*, 1991, photograph by author, 2014.

Forest Walk became the prototype for the audio walks that followed, Cardiff now could create artworks where malleable sound overlaid the walker's physical space. "When I listen to it [*Forest Walk*] now, I can appreciate the freshness and looseness, even with all the bad editing."¹¹² The "bad editing" was not all Cardiff's doing. As Alvin Lucier's *I am Sitting in A Room* (1969) had shown, the recording and rerecording of audio tape played and replayed over time and space sounded his voice into a grainy and unintelligible mess the more it was played back and

¹¹² Cardiff, "*Forest Walk*, 1991."

re-recorded.¹¹³ Cardiff acknowledged the poor quality of analogue tape: “The sound edits could never be precise and the more you recorded or reused sound, the more worn out it became.¹¹⁴ You may have four or eight tracks and then record it to a 24-track recorder.”¹¹⁵ The rawness of Cardiff’s treatment of audio was reflected in the way the walker encountered the walk finding difficulty in following directions.¹¹⁶

Interestingly, as the walker attempted to follow directions, the only indication that they were in the “right” position was when the recorded sound of Bow Falls through the headset synchronised with the sound of the rapids in real-time. The sound of Bow Falls and any knowledge that the walker might have had about Tunnel Mountain Drive and Bow River became locational markers.¹¹⁷ So, the walker’s knowledge was aligned with audio orientation clues. Inevitably, as the walker became preoccupied with trying to shadow the vocal directions and the pace of the footsteps, they became less attentive to the audio mix. *Forest Walk*

¹¹³ For a discussion on Alvin Lucier’s *I am Sitting in a Room* (1969) see Seth Kim-Cohen, “Sound-out-of-itself,” *In the Blink of an Ear: Towards a Non-Cochlear Sonic Art*, (New York: Continuum, 2009), 189-193.

¹¹⁴ For further discussion on tape editing see Lars Nyre, *Sound Media: From Live Journalism to Music Recording* (New York: Routledge, 2008), 124-125.

¹¹⁵ Cardiff, interview by author, Grindrod, Canada, July 24, 2014.

¹¹⁶ The shift from analogue to digital computer editing made the editing process easier. For example, in *Alter Bahnhof Video Walk* (2012), examined in Chapter Five, Cardiff did not record her footsteps as she walked. Footsteps became a sound effect applied in post-production. They also did not need a recording studio as they could use laptops and makeshift sound booths that they would create in the accommodations they stayed in while recording on site. The shift from analogue to digital, advancement in technology, and editing suites made editing more seamless and professional.

¹¹⁷ I experienced *Forest Walk* in July 2014. After doing several of Cardiff and Miller’s audio and video walks, *Forest Walk* was certainly the most abstract of the audio walks. I do not think I ever found the correct path. In fact, it was very difficult to gain a sense of direction considering that there little visual cues or differentiation in the landscape. However, I could loosely follow Janet’s audio cues such as listening for the Bow Falls and cars on the road. Inevitably the landscape changed over time. For example, toward the rear of the forest area near the falls, a wooden lookout platform has been built since that looks out over the river and mountains, which did not exist in 1991. It was odd walking in the bushes while tourists on the platform could see you in the bushes wearing a headset.

became a multitasking process for the walker to negotiate as they walked and listened.

The walker navigated the route and engaged in a linear unfolding of the audio walk as they transitioned from point a to point b.¹¹⁸ Both the script and the walker's experience developed according to a sequence between points. The walker's footsteps, moving in time with Cardiff's own, underpinned the sounds of each location, both phasing in and out of the walker's field of hearing towards or away from the aural markers. For example, the sound of Bow Falls became louder the closer the walker moved toward the falls and away from the road. The phasing—moving in and out of the walker's field of hearing—was part of the day-to-day experience of walking around Banff. Tracking gravel paths, from one location to the next, the crunching gravel beneath one's feet approaching the roaring waterfall or the hum of a building's air-conditioning system, phased in and out of audibility and formed the pace for the experience.

Evolving as a spatial and linear event, the walker negotiated both the audio recording and physical terrain, while the Walkman and headset acted as mediators between the “real” and recorded soundscape. *Janet's* monotone voice—planted firmly between the walker's ears—and the sound of Cardiff's footsteps, noising, set a pace, a rhythm, for the walker to join. As Walker J. Ong explained in *Orality and Literacy* (1983), sound has a grounding and centring mechanism: “the centring action of sound (the field of sound is not spread out before me but is all around me) . . . an ongoing event with man at its centre.”¹¹⁹ In *Forest Walk*, with headphones and Walkman, the walker remained at the centre of both the multilayered spatial soundscape and the physical space.

¹¹⁸ Cardiff and Miller note the linearity in their work *Road Trip* (2006). “I’ve crossed the country so many times, it makes sense to me to see it sequentially.” Quote from *Road Trip* (2006) script. Cardiff has explained that *Road Trip* is a work that symbolizes their working process most aptly. Cardiff, interview by author, Grindrod, July 2014.

¹¹⁹ Walker J. Ong, “Some Psychodynamics of Orality,” *Orality and Literacy: The Technologizing of the World* (London: Routledge, 2012), 71.

The centripetal position of the walker is far from the discourse which claimed the atomizing effects of the Walkman or the isolation of the listener from their everyday environment. The Walkman and personal playback devices were seen as media that induced anti-social behaviour. For example, Jacques Attali suggested that the Walkman was personalising the consumption of music. “The consumption of music is individualised,” noted Attali, “[and was] no longer a form of sociality.”¹²⁰ Similarly, Theodor Adorno criticised the “regressive” consequences of individual listening practices.¹²¹ However, in the *Walkman Effect* (1984) Shuhei Hosokawa rejected the view that the Walkman user became alienated in the “lonely crowd,” but joined a complex texture of relations.¹²² The listener was thus traversing through what he called an “intersection of singularities.”¹²³ Thus the Walkman could also be seen as a means of animating our perception of our surroundings. In 1993, (two years after the release of *Forest Walk*), science-fiction author William Gibson remarked on his personal use of the Walkman in the summer of 1981. He recalled that the Walkman had made the largest impact on human perception—more so than any virtual reality device. “I can’t remember any technological experience since that was quite so wonderful as being able to take music and move it through landscapes and architecture.”¹²⁴ He recalled that he walked through the streets of Vancouver listening to Joy Division on the Walkman for the first time. The freedom proffered by the Walkman altered his perception and understanding of the city:

¹²⁰ Jaques Attali, “Noise: The Political Economy of Music,” in “The Sound Studies Reader,” ed. Jonathan Sterne (New York: Routledge, 2012), 30.

¹²¹ Adorno, “On the Fetish Character in Music and the Regression of Listening,” in *The Culture Industry: Selected Essays on Mass Culture* (London: Verso, 2001), 30-60.

¹²² Shuhei Hosokawa, “The Walkman Effect (1984),” in *The Sound Studies Reader*, ed. Jonathan Sterne (New York: Routledge, 2012) 104.

¹²³ Hosokawa, “The Walkman Effect,” 104.

¹²⁴ William Gibson, *Time Out 6*, (October, 1993): 49, quoted in, Michael Bull, “The Privatizing of Audiovisual Aesthetics,” in *The Oxford Handbook of New Audiovisual Aesthetics*, ed. Claudia Gorbman, John Richardson, Carol Vernallis (Oxford; New York: Oxford University Press, 2013), 632.

I haven't had that immediate a reaction to a piece of technology before or since. I didn't analyse it at the time, but in retrospect, I recognised the revolutionary intimacy of the interface. For the first time I was able to move my nervous system through a landscape with my choice of soundtrack.¹²⁵

Looking back at this experience, Gibson recognised that the intimacy and immediacy of listening to the Walkman while walking was unlike anything he had experienced. Furthermore, his soundtrack choice shaped his experience traversing the streets of Vancouver. As Iain Chambers maintained, the Walkman did not subtract from the listener's encounter but added and complicated it.¹²⁶

We find a similar encounter in *Forest Walk*. Listening to the Walkman while walking, *Janet's* voice and her footsteps maintained the pace of the piece, while different sounds phased in and out of audition, continually re-centring the listener within space. By synchronising the pre-recorded audio with the walker's real-time experience, a curious phasing effect formed—what Cardiff referred to as a “strange blending of technology and reality” where the walker could hear “the sounds of reality around played back.”¹²⁷

1.3.2 Technology as a Tool

Although Cardiff acknowledged the technology she used and the way she could meld technology and reality, she tended to understate its significance when directly asked about her relationship with media. She maintained that her motivation to use sound did not emerge out of an interest in electronic music or abstract sound art: “I'm not interested in media for media's sake,” Cardiff said. “I'm not interested in experimental electronic music or abstract sound art. I'm

¹²⁵ Gibson quoted in Bruce Headlam, “Origins; Walkman Sounded Bell for Cyberspace,” *New York Times*, July 29, 1999. <http://www.nytimes.com/1999/07/29/technology/origins-walkman-sounded-bell-for-cyberspace.html> It was the portability of the Walkman that influenced Gibson's conception of cyberspace. Headlam explained: “His conception of cyberspace, he said, arose after he saw a bus-stop poster for the Apple IIc that showed only the machine's CPU and keyboard, not its monitor. He became captivated with the idea of how people might process data in the future.”

¹²⁶ Iain Chambers, “The Aural Walk,” in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox and Daniel Warner (New York: Continuum, 2004), 100.

¹²⁷ Cardiff, in Scott, “I Want You to Walk with Me,” II.

interested in taking technology and seeing what it can do: using it and manipulating it for conceptual reasons.”¹²⁸ Cardiff turned to sound because it allowed her to create images spatially and manipulate perspective space by making a recording and playing it back in the space it was recorded.

Furthermore, while Cardiff declared her interest was to utilise technology as a tool, this also reflected the temperament for artists working with sound, media, and video in the 1980s and 1990s. Emerging out of the first wave of media, the dictum “technology for technology’s sake” was the *faux pas* of postmodernism as it developed into a critical response to the ubiquity of communications and media theory.¹²⁹ It is also obvious that Cardiff’s *Forest Walk* did not fit in neatly amongst electroacoustic sound art or acoustic ecology practices. Cardiff was thinking beyond just creating abstract soundscapes or following established soundwalking practices. However, it is undeniable that the traditions of acoustic ecology, soundwalking, and electroacoustics are palpable in Cardiff’s *Forest Walk*.

Thus, the synchronicities that existed between Cardiff’s output and sound works of the time cannot be denied because they are so obvious. This affinity is also evident in her next major installation, *Whispering Room* (1991). In what was Cardiff’s first sound installation, instead of superimposing a soundscape on the listener’s physical space, the listener walked and weaved through speakers arranged in a gallery space.

However, before we move on, it is necessary to explain how changes in technology effected the development of the audio walks that followed *Forest Walk* as it underscores the significance of sound range and texture in the walks.

¹²⁸ Cardiff, “Interview with Carolyn Christov-Bakargiev,” in Christov-Bakargiev, *Janet Cardiff: A Survey of Works* (2002), 27.

¹²⁹ For example, the writings of Baudrillard, Derrida, Jameson, Deleuze and Guattari, and Lyotard, became the benchmark of postmodern thought that usually implied a critique of systems and communications theories. For example, in the 1970s, Derrida criticised the dichotomy Marshall McLuhan proposed between writing and speech. Derrida wrote, “we are not witnessing an end of writing which, to follow McLuhan’s ideological representation, would restore a transparency or immediacy of social relations.” Derrida, “Signature Event Context,” *Margins of Philosophy*, (1982), 329.

As the cassette Walkman phased out of use in the 1990s, Cardiff experimented with other portable sound recording technologies—Sony Discman, iPod Shuffle—and digital recording technologies. These advancements had an enormous impact on how the artist composed. For example, *Louisiana Walk* (1996) was the first time Cardiff used digital mixing technology. While editing the walk on her computer Cardiff could see the sounds as visual waves on the screen. In the mid 2000s, Cardiff used the Sony Discman and iPod. Cardiff explained that they needed to modify and install new amplifiers in the forty standard off-the-shelf Discmans used in *Her Long Black Hair* (2004) as the original amplifiers installed in the devices were not powerful enough: “The amplifiers in the Discman’s had an in-built volume control that prevented us from being able to use them effectively in the walks.”¹³⁰ The year following the production of *Her Long Black Hair* Cardiff trailed the iPod Shuffle. Cardiff explained that iPods were better than Discmans because the in-built amplifiers were louder, lighter, and cheaper. Cardiff noted, “I’ve started to use iPods now as they are cheap enough as well as they have better amplifiers than Discmans. The government made rulings that forced the Discman companies to decrease the volume of their amplifiers. Because I use subtle sound as well as loud sound, a real range, it made it impossible for me to use them in the last few years.”¹³¹ So, because of the need for sound range and fidelity, the Discman’s were not suitable. This point emphasised Cardiff’s insistence on ensuring the recording had sufficient spatial texture—an aspect that she was able to develop in the shift from analogue to digital through the 1990s. Although the analogue technology was rudimentary at the time, she worked with the technology creatively to push its capabilities.¹³²

¹³⁰ Cardiff, interview by author, Grindrod, July 2014.

¹³¹ Cardiff, in Anthony Easton, “Janet Cardiff in conversation with Anthony Easton,” *Jacket*, 31, October, 2006.

¹³² Cardiff explained: “Technology was basic back then, but since then George and I have pushed this to the limit.” Cardiff and Hans Ulrich Obrist, “Architecture Biennale - Janet Cardiff (NOW Interviews),” *YouTube video*, BiennaleChannel, August 31, 2010, accessed July 2, 2016, <http://www.youtube.com/watch?v=VljtdNsNw9E>

1.4 *Whispering Room* (1991)

1.4.1 Acoustic phenomenon or spatial effect?

In September 1991, two months following the showing of *Forest Walk* at Banff, Cardiff exhibited *Whispering Room* at the New Gallery in Calgary, Alberta, a one-and-a-half hour drive east of Banff.¹³³ Cardiff began working on *Whispering Room* in 1990, mere months after Montreal composer Charles de Mestral presented *Sound Cruise* (1989), a multiple speaker installation in the four-storey silo-shaped staircase of the then newly constructed Lougheed Building at the Banff Centre for the Arts. Like Kubisch's *Landscape*, de Mestral's *Sound Cruise* was presented at the *Convergence* conference.

While de Mestral's and Cardiff's installations differed in how they incorporated the room's acoustics and architecture (as I will describe below), comparisons were inevitable in how they both referenced the acoustic oddity of the "whispering gallery," specifically in *Whispering Room*'s title, and *Sound Cruise*'s dependence on architectural acoustics.¹³⁴ The installations also adopted similar loudspeaker configurations to direct and sculpt the sound throughout the exhibition space. *Whispering Room* continued Cardiff's interest in spatial sound by replacing the Walkman and headset (and outdoor space) for a 16-speaker sound system, tape decks, and projector. In *Whispering Room*, the visitor was suspended between the whispering voices conversing back and forth between the speakers.

¹³³ *Whispering Room* was acquired by the Art Gallery of Ontario, Toronto in 1998
<http://www.ago.net/janet-cardiff-whispering-room>

¹³⁴ The whispering effect was what Wallace Clement Sabine, the American physicist who founded the field of architectural acoustics, referred to as sound *creep*. "The whisper seems to creep around the gallery horizontally," she explained. The whispering effect was considered an acoustic defect that should be avoided in concert hall and auditorium design. Wallace Clement Sabine, *Collected Papers on Acoustics* (Cambridge: Harvard University Press, 1927), 272.

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Figure 9: Janet Cardiff, *Whispering Room*, 1991 multimedia installation, 16 audio speakers mounted on metal stands, 16 audio sources, film projection © 2001 Janet Cardiff, photograph by Art Gallery of Ontario, Toronto, Downloaded November 2, 2018 from <https://ago.ca/exhibitions/janet-cardiff-whispering-room>

Installed in the circular staircase of the Lougheed Building, *Sound Cruise* was an “electroacoustic collage” that was “diffused by a sound system specifically designed for the characteristics of the space: long and complex reverberation and ‘whispering gallery’ sound diffusion.”¹³⁵ So *Sound Cruise* was reliant on the inherent architectural acoustic properties of the curved “silo” shaped walls as it circulated the recorded sound around the space, creating a long reverberation and echo.

The whispering gallery effect was realised through the holophonic sound system specifically designed for the space.¹³⁶ De Mestral installed speakers at various points along the spiral staircase, and a long, organ-like tube in the centre. The holophonic system produced a similar spatial effect to binaural audio recording. Indeed the sound recording was made using a dummy head (similar to the

¹³⁵ Charles de Mestral, “Artist Statement,” in Canadian Electroacoustic Community, “Convergence CEC Electroacoustic Days at Banff,” paper presented at *Convergence*, The Banff Centre, 1989, 49. Mestral was a founding member of the Canadian Electroacoustic Community (CEC).

¹³⁶ de Mestral, “Artist Statement,” 49.

binaural head that Cardiff used in *Forest Walk*).¹³⁷ The composition of what de Mestral described as “mostly natural” sounds with some “electroacoustic colouring” played through the speakers into the reverberant space of the stairwell.¹³⁸ Reviewer Mark Morris observed that “very distant sounds seem right in your ear due to the curves of the walls,” and that the “whispering gallery effect” was most prominent if one stood to face the wall near the doorway.¹³⁹ The installation was dependent on the interaction between the recorded sound and the room’s architecture. The sound’s heard changed depending on the listener’s position as they explored the acoustic space.

The likeness of the work’s title to the “whispering gallery” reference in de Mestral’s *Sound Cruise* may have been a coincidence. Perhaps Cardiff encountered de Mestral’s installation in the leadup to Miller’s exhibition of *Exquisite Corpse* (1989) and *Exquisite Corpse with Mercy Seat* (1989) in the group exhibition *Noise Under the Tongue* in February 1990, at the Walter Phillips Gallery. Or perhaps Cardiff read Morris’s review of de Mestral and Kubisch’s installations in *Bow Valley This Week* in November 1989.¹⁴⁰ It could also be that Cardiff was making a reference to the “whispering gallery” as the first step into the exploration of recreating acoustic spaces and dioramas—like an attic space in *The Dark Pool* (1995), cinema space in *The Paradise Institute* (2001), Japanese house in *Storm Room* (2009), or concert hall in *The Murder of Crows* (2008)—a method that she would later coin as “spatial environments.”

¹³⁷ Also see Barry Fox, “Tomorrow’s Sound’ is a blast from the past,” *New Scientist*, April 7 (1983): 24; Hugo Zuccarelli, “Ears hear by making sounds” *New Scientist*, vol. 100, November 10 (1983): 438-440; A. J. Baxter and David T. Kemp, “Letters: Zuccarelli’s theory,” *New Scientist*, vol. 100, November 24, (1983): 606. Holophonics was invented by Hugo Zuccarelli and was a binaural technique that uses a dummy head called “Ringo.” It works in the same way as the binaural dummy head recording technique but was designed to be played from loudspeakers.

¹³⁸ de Mestral, “Artist Statement,” 49.

¹³⁹ Morris, “Convergence Conference a Convincing Experience,” 2.

¹⁴⁰ Miller’s *Exquisite Corpse* (1989) and *Exquisite Corpse with Mercy Seat* (1989) were included in the group exhibition *Noise Under the Tongue*, 1990.

While de Mestral relied on acoustics inherent in the stairwell to reflect and reverberate sound, Cardiff developed the whispering gallery concept differently. Utilising technologies that were commonplace in music composition and new media of the time—two-channel loudspeakers, the Tascam, and the tape loop—Cardiff manipulated analogue tape and loudspeaker arrangement to form layers, space, depth, and “play with time and space,” as she defined it.¹⁴¹ Rather than relying on architectural acoustics (like the sound reflecting qualities inherent in architecture, or the concave of an acoustic mirror), *Whispering Room* distributed sound through an arrangement of sixteen speakers, in pairs or trios, throughout a gallery space. The loudspeakers were positioned on stands to project sound at head height. Rather than being passive receiving or reflective units, the speakers became active agents that generated and emitted recorded sound throughout the space.

Whispering Room challenged the idea of a “whispering gallery” as an architectural acoustic phenomenon and a consequence of site. Through the methodological programming and placement of the loudspeakers and looping cassette tapes, Cardiff could generate a room full of acoustic whispers. Rather than mixing down numerous recordings onto one cassette tape as she did in *Forest Walk*, Cardiff arranged eight cassette players and sixteen loudspeakers to play simultaneously. The soundscape unfolded through an arrangement of sixteen 6.5-inch black 5-watt loudspeakers positioned at head height on tall and thin black welded metal stands.¹⁴² During the production stage of the work, Cardiff had sketched a group of figure outlines suspended from speaker stands in her artist book. These sketches resembled a cluster of Tony Oursler’s projection dolls with stuffed heads like *Judy* (1993). Like Oursler’s projected faces, the loudspeakers in *Whispering Room* became the anthropomorphized bodies of the looped voices that emanated

¹⁴¹ Cardiff, artist notebook: 1991, Grindrod studio, Canada, accessed July 24, 2014.

¹⁴² Sherry Phillips and M. Haupt, “Janet Cardiff, *Whispering Room*, 1991, Installation Notes, October 1998 – revised February 4, 2009,” *Whispering Room* File, Art Gallery of Ontario Archives, Toronto, accessed July 11, 2014. Cardiff also reused the 16-speaker configuration in *To Touch* (1993) discussed in Chapter Three.

from the black speaker cores as they conversed from left to right. A spatial effect could be formed by programming the speakers to operate as pairs of speakers using the left and right two-channel speaker configuration.¹⁴³ Eight cassette decks (the piece was originally recorded with cassette tapes and converted to laser disk in the late 1990s) were programmed to loop, so each speaker received stereo sound but played one channel.¹⁴⁴ Cardiff also built the amplifiers to run the speakers.¹⁴⁵

The spotlights illuminated the darkened gallery space as the edges of each speaker cast shadows throughout the space. Not hidden from view was 450-meters of speaker wire that powered the installation. The clear-coated 22-gauge wire was neatly draped and secured down the length and leg of each stand with clear insulation tape. The wire was then secured in a straight line along the floor with brown packing tape. The wires continued to run along the edges of the room, concealed with strips of white medium-density fibreboard, until the point the wires enter the wall to meet the eight cassette players and eight amplifiers stored in a wall cavity. In the gallery, the two speakers positioned closest to the entrance of the gallery acted as “visual and auditory lure” for the audience as they passed the gallery entrance.¹⁴⁶

¹⁴³ Phillips and Haupt, “Janet Cardiff, *Whispering Room*, 1991, Installation Notes.” The speakers required repositioning depending on the dimensions of the room. If the room has concrete floors, sound baffles to be installed on the ceiling to manage sound reverberation.

¹⁴⁴ Phillips and Haupt, “Janet Cardiff, *Whispering Room*, 1991, Installation Notes.” *Whispering Room* was complex to install. The speaker placement was negotiated according to the measurements of the room, which needed to be determined in consultation with Cardiff and Miller each time the work was shown. The installation required three people two weeks to install and three days to dismantle. The most time-consuming element of the work was securing the wires to the floor.

¹⁴⁵ Cardiff in David Blazer, “Interviews: Janet Cardiff & George Bures Miller Chat About Their New Ago Survey,” *Canadian Art*, April 3 (2013). <https://canadianart.ca/features/cardiff-miller-lost-in-the-memory-place/> Cardiff explained that she had to build “amplifiers for *Whispering Room*, back in 1991 when I had to. Now we have the money to buy stuff.”

¹⁴⁶ Phillips and Haupt, “Janet Cardiff, *Whispering Room*, 1991, Installation Notes.” The instructions specified the positioning of the speakers near the entrance.

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Figure 10: Janet Cardiff notebook sketch of *Whispering Room*. 1990. Cardiff Miller studio archive, Grindrod, Canada, photograph by the author, 2014.

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Figure 11: Janet Cardiff, *Whispering Room*, 1991, Installation image, 1998, Art Gallery of Ontario, Toronto Exhibition Files, © AGO, photograph by author, 2014.

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Figure 12: Janet Cardiff, *Whispering Room*, 1991, Art Gallery of Ontario, Toronto installation design, 1999, AGO Exhibition Archive © AGO, photograph by author, 2014.

The number of speakers in the installation was determined by the limitations imposed by the sixteen-track soundboard (audio-mixer) used for the recordings. As there were sixteen tracks, Cardiff could program sixteen speakers. When played in the space, some recordings were programmed for one channel, others for left and right channels. The recordings were programmed to loop continuously so rather than generating a room of homogeneous sound, the positioning of front-facing speakers on varied angles generated a room of directional and spatialised sound.

Cardiff once explained that she was trying to create a spatial or perspectival apparatus, like a *camera obscura*, with highly directional sound: “I liken it to a *camera obscura* effect, but with sound.”¹⁴⁷ Rather than the inverted tracings of light in *camera obscura*, Cardiff used directional sound to pierce through the darkened gallery space. Cardiff’s perspectival machine amplified sound into concentrated zones and then allowed the directed sound from each speaker to follow their own course as it reflected and intersected another ray of sound.¹⁴⁸ The visitor, however, was not trapped in the black box of the perspectival producing machine.¹⁴⁹ The bare and freestanding loudspeakers were visible for the listener position and reposition themselves relative to the speakers.¹⁵⁰

¹⁴⁷ Janet Cardiff, George Bures Miller, *Audio Recording of Artist Talk: Janet Cardiff and George Bures Miller, The Dark Pool*, Walter Phillips Gallery, Banff Centre for the Arts Archives, 1995, Exhibition Files, Paul D. Fleck Library and Archives, Banff Centre, 1989, accessed July 16, 2014.

¹⁴⁸ Frederick Kittler explained that camera obscura “focused light into a single bundle of straight lines and then allowed them to follow their course.” Kittler, “Camera obscura and linear perspective,” *Optical Media: Berlin Lectures 1999* (Cambridge, UK; Malden, MA: Polity, 2010), 52.

¹⁴⁹ In their study of devices used to augment human perception, Barbara Maria Stafford and Frances Terpak described the black box of a camera obscura as a space where they could no longer “see the source of the scintillating apparitions appearing before them.” The channelling of the light coming from outside, resulted in an “odd fusion of the suspended vision with the embodied viewer’s fancies.” Barbara Maria Stafford, Frances Terpak, J. Paul Getty Museum, “Revealing Technologies / Magical Domains,” *Devices of Wonder: From the World in a Box to Images on a Screen* (Los Angeles: Getty Research Institute, 2001), 81.

¹⁵⁰ In *Techniques of the Observer* Jonathan Crary examined how precinematic devices like the stereoscope and kaleidoscope ruptured in the idea of perspectival space. He explained that in the nineteenth century photography “already abolished the inseparability of observer and camera obscura, bound together by a single point of view, and made the new camera an apparatus fundamentally independent of the spectator, yet which masqueraded as a transparent and

1.4.2 “Unravelling” through movement

Whispering Room unfolded as the audience moved through the space, “unravelling” the piece as they continually positioned and repositioned themselves relative to the speakers. The visitor became entangled in the whispering voices that emanated and conversed back and forth between the speakers to their left and right. During an interview with Hans Ulrich Obrist in 2010, Cardiff explained that the visitor’s movement pieced together *Whispering Room* as they wandered around the space: “It was my first experiment of unravelling the piece and concept through the movement of the spectator.”¹⁵¹ As the visitor drifted “from speaker to speaker through the space,” they experienced the installation as an unfolding event, continually positioning and repositioning themselves within the soundscape.¹⁵²

Yet, what the visitor unravelled as they traversed through the space, from speaker to speaker, was not a narrative story that they pieced together from the fragmented tape loop dialogues. Instead, they unravelled an ambient soundscape of conversing voices. The speakers sounded “short storyline clips that repeated, over, and over, again,” Cardiff explained.¹⁵³ Each speaker played a single audio track produced from vocal recordings Cardiff made with Miller and other friends. The effect produced gave the listener the impression that they were listening to a conversation between the voices. Although the audio played continuously, no two recordings played simultaneously as each tape varied in length from 40 seconds to 3 minutes.

incorporeal intermediary between observer and world.” Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 1990), 35.

¹⁵¹ Cardiff in “Architecture Biennale - Janet Cardiff (NOW Interviews).”

¹⁵² Cardiff, “Whispering Room,” *Cardiff and Miller* (website), accessed 2 June 2017, http://www.cardiffmiller.com/artworks/inst/whispering_room.html

¹⁵³ Janet Cardiff, George Bures Miller, *Audio Recording of Artist Talk: Janet Cardiff and George Bures Miller, The Dark Pool*.

The recordings were further abstracted into fourteen different parts that conversed out of the sets of left and right speakers. *Janet's* multiple and repeating voices created a curious rhythm throughout the space. Some speakers stood isolated to relay a single tape loop out into the room—describing fragments of past and future events, dreams, thoughts, internal dialogues, or actions. Other speakers were positioned close to or slightly facing another speaker so that the speakers conversed between pairs or in groups. Unlike de Mestral's reliance on the reverberation and the acoustics of the circular stairwell, Cardiff's "whispering effect" was created through the grouping of the speakers. Consequently, when the audience stood between the speakers, it sounded like the voices were conversing.¹⁵⁴ Moreover, the rhythm created in *Whispering Room* was contingent on the simulation of space and movement that was achievable through the sound and the technologies used.

The repetition and intersection of voices, or "abstract monologues," developed a sonic effect. For example, one tape loop sounded: "One night I counted eighty-eight passing cars on the wall of my bedroom. White shadows moving around the room, disappearing before I thought they would," from one speaker. Then, "she got a phone call, two phone calls, then left her house, turning all the lights off. She was carrying a suitcase and wearing a long coat," could be heard simultaneously from another speaker.¹⁵⁵ The voices relayed back and forth as the visitor was intermittently suspended between two or more speakers. As the visitor weaved through the space, the voices, or "utterances," merged in and out of audibility and coherence. The sound transitioned from a cacophony of sounds to distinct and individualised zones.¹⁵⁶

¹⁵⁴ As will be discussed in Chapter Four, this positioning of speakers to achieve a spatial effect was an idea that she carried over to *Forty Part Motet* (2001) where speakers were arranged into groups of five. Two of the five speakers were slightly positioned to face one another to produce a conversing effect between the two speakers.

¹⁵⁵ *Whispering Room* script.

¹⁵⁶ Mikhail Bakhtin, noted how voices, or "utterances" as he called them, interact with one another. "This is why the unique speech experience of each individual is shaped and developed in continuous and constant interaction with others' individual utterances." Mikhail Bakhtin, *Speech*

These sonic effects, however, did not evade basic human and social instinct's search for cohesion and meaning. Just like the unclear directions and fragmented narratives in *Forest Walk*, *Whispering Room* combined similar notions of provoking the audience through fragmented vocal narratives. Ultimately, these narratives have no other purpose but to entice the audience's attention and "hook" the listener. In a catalogue essay for *Whispering Room*, Laurel Woodcock observed that the installation played on the visitor's instinctive search for social constructs:

Associations flow amidst cessation and uncertainty, feeling a desire for meaning. You embark on an unconscious search for the social constructs that form our vocabulary and compose our personalities. Cardiff's voices weave a subversive and complicated web that parallels the intricacies of communication.¹⁵⁷

Woodcock explained that the sounding of Cardiff's voice subverted the listener's longing and search for meaning and communication. Sounding like lines from a movie, a book, or something we had heard before but cannot quite pinpoint, the sounds of the voices evaded meaning as they layered and repeated.

Cardiff described the sound of the voices as a "barrage of information," that "comes at you but it doesn't just come out in the same form. It becomes muddled and transformed into nonsensical mixtures."¹⁵⁸ In place of a soundscape of voices to be understood and followed, the "nonsensical" voices created an intricate aural texture.

The contingency of the piece was exacerbated further by a video projection installed to the right of the gallery space. An image of a young girl in a red sleeveless dress, tap-dancing, intermittently ruptured the atmosphere of whispering voices. The image was projected from a Bell and Howell film projector

Genres and Other Late Essays, trans. Vern W. McGee, (Austin, TX: University of Texas Press, 1986), 86.

¹⁵⁷ Laurel Woodcock, *Janet Cardiff, To Touch*, (Alberta: Southern Alberta Art Gallery, 1994), 14.

¹⁵⁸ Cardiff, artist notebook, 1991, Grindrod studio archives, accessed July 21, 2014.

that sat on a plinth. The film was shot at either dawn or dusk at a nature display (diorama) with the iconic Lethbridge Viaduct, High-Level Bridge, in the background. The image appeared slowed down, as each of her movements and steps was articulated in slow motion. In the gallery, the film projector was connected to a sequence timer and controlled by a motion detector.¹⁵⁹ The sensor was positioned to detect movement slightly off the main path in the gallery space, making it less likely to be continuously triggered by people quickly entering and exiting the gallery. Cardiff installed a time delay to “help create the illusion of randomness in the projectors operation.”¹⁶⁰ The unpredictability of the projector’s operation accentuated the irreconcilable stories spoken by the voices. As the recorded tape and video projection continued to loop, the sonic objects that the voices developed had averted the storytelling ability of the voices. The recording and relaying of the voices continuously denied the visitor’s “search for meaning” and desire to unravel a logical story.

The unravelling of the spatial dimension in *Whispering Room* was more dependent on the restraints of technology than sound’s capacity to create an auditory illusion or the phenomenon of architectural acoustics. The way Cardiff engaged the whispering gallery effect differed to de Mestral’s room acoustic method. As explained de Mestral used holophonic spatial recording and playback and the spatial acoustics of the silo-shaped stairwell to achieve his whispering gallery effect. Cardiff, instead, relied on analogue methods of recording and rerecording tape and splitting channels to create the spatial sound effect in *Whispering Room*. The two channel speaker system only allowed a left and right variation. Cardiff created a front to back movement by intermittently pausing and playing each of the tapes so that the voices could alternate from speakers at the front and back of the space. Like Kubisch’s walker suspended between two

¹⁵⁹ Cardiff, artist notebook, 1991.

¹⁶⁰ Sherry Phillips, email correspondence with Akira Yoshikawa, March 9, 2009. “Whispering Room (1991) exhibition file,” Art Gallery of Ontario Archives, accessed July 2014. The sequence timer was set to play for 32 seconds and the motion detector was set off for 26 seconds to avoid constant activation of the projector and to accommodate visitors entering and leaving.

electromagnetic fields, the visitor of *Whispering Room* was suspended amid the rhythm and repetition of the conversing whispers that were tactically projected from the sixteen speakers.

As *Forest Walk* initiated a new trajectory of audio walks, the speaker placement in *Whispering Room* became an archetype for how Cardiff, and later in collaboration with Miller, approached their keen interest in spatial sound installations. This attention to spatial sound can be observed in the speaker installations *Forty Part Motet* (2001), *Berlin Files* (2003), and *The Murder of Crows* (2008) discussed in Chapter Four.

1.5 Conclusion

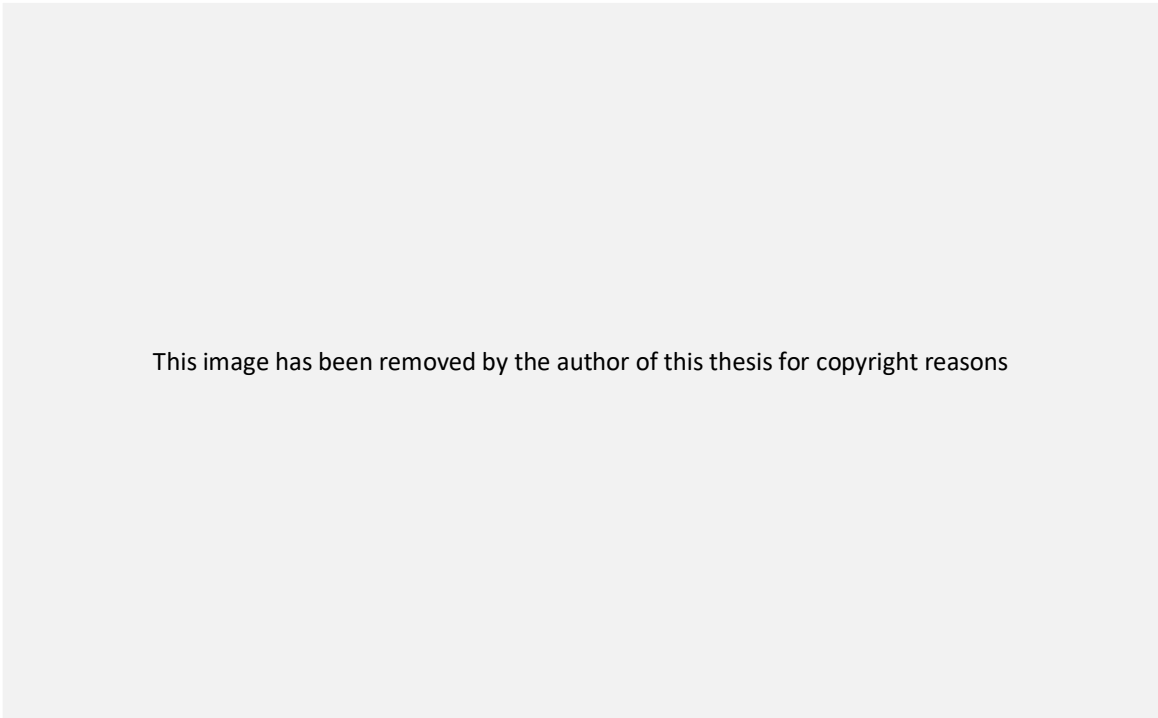
This chapter has explained how Cardiff's use of multitrack tape recording, binaural sound, Walkman, and loudspeakers in *Forest Walk* and *Whispering Room* enabled her to form layers, space, and depth with sound. This "strange blending of technology and reality" allowed the sound in *Forest Walk* and *Whispering Room* to behave first as phasing effects, and second, as spatial overlays that intersect with the listener's physical space.

In *Forest Walk*, Cardiff used a four-track Tascam to create a complex and layered audio recording that was overlaid on the walker's experience as they listened to the audio walk while wearing headphones and listening to a Sony Walkman. In *Whispering Room*, Cardiff arranged sixteen loudspeakers, eight cassette recorders, and a projector to play looped recordings that produced a spatial sound effect. As I have explained, these effects were "phasing" effects.

The sound environments created by *Forest Walk* and *Whispering Room* neither negated nor cancelled out the recorded soundspace, but nor did they obliterate the real environment either. What this chapter has highlighted, was the coexistence of the recorded and real acoustic spaces, as one layer folded into the other. These early experiments with binaural audio, multitrack tape recording, and loudspeaker arrangements revealed (for Cardiff) sound's spatial and physical potential *as art* instead of *as new media* or *electroacoustic music*. This was a

project of cross-art-form translation that became integral, I emphasise, to Cardiff and Miller's practice over the next three decades.

During this period in the 1980s and 1990s, Miller was maintaining his solo art practice, making room-sized kinetic sculptures and installations. Miller's access to sound recording, video equipment, and new media was integral to Cardiff's adoption of sound technologies. What also became clear was the impact that Miller's art school training and his interests in art—in particular, his emphasis on installation, shadows, and kinetics—had on Cardiff and Miller's subsequent collaborations which were shortly to appear, in 1995.



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Figure 13: Janet Cardiff, *Jena Walk*, 2006, audio walk, Cardiff recording with binaural head © Janet Cardiff.

Chapter 2:

George Bures Miller's Simple Experiments, 1982-1994


2.1 Introduction

Before his collaboration with Janet Cardiff from 1995 onwards, George Bures Miller had created a series of installations from found objects, sound, electronics, sensors, kinetics, and lights. Despite a practice spanning more than a decade, little if any writing exists that examines Miller's early years as an artist—certainly, not enough to grasp his importance, even less examining his role once he and Cardiff began co-authoring artworks. This chapter addresses this absence, understanding that Miller's production in the 1980s and early-1990s emerged out of a particular period of new media and video art in Canada. This period saw postmodernism's drawn-out subversion of Marshall McLuhan and his "global village," but was before the advent of the internet.¹ We are likely to forget that this appeared as a ubiquitous phenomenon only as late as the mid-1990s. Rather than exploring art *about* technology, as had earlier new media artists of the 1960s, artists in the 1980s probed the implications of technology on art and society.

Miller created installations that were symptomatic of this emphasis specifically in his *Exquisite Corpse* series (1989), *Simple Experiments in Aerodynamics* series (1991-98), and *Conversation/ Interrogation* (1992). These artworks are the subjects of this chapter, and through them, we will grasp the two tropes that subsequently became fundamental in Cardiff and Miller's collaborative works: *experimentation* and *spatiality*. Miller's interest in technology and problem-solving emerged from his identification with new media art. However, his interest in spatial volume grew from his identification with contemporary art. In particular, the necessity of

¹ See Marshall McLuhan, *Understanding Media: The Extensions of Man* (London: Routledge Classics, 2001).

the structuring and subordination of new media innovation within contemporary art's typology of exhibition spaces and exhibition opportunities.



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Figure 14: George Bures Miller, 1991, Banff Fall Residency Program, Banff Centre for The Arts, Banff Centre Library and Archive, photograph by author, 2014.

As Miller adopted new media's difficult-to-master technology and questioned its role in society, he came to emphasise, more than usual amongst contemporary artists, the notion of technological problem-solving and experimentation. His emphasis emerged from his art school training in new media at Ontario College of Art (OCA), Toronto. Miller was determined to generate a sustained *tension* between the techniques of abstraction and the adoption of kinetic movement and

electronics that he calculated into these installations. By adopting non-conventional materials such as electronics, light, sound, video, and kinetics Miller produced installations that emphasised the exhibition space and movement in a bid to extend the sculptural foundations of the art to include the installation space. Although clearly of their time, but now effectively antique in their technology, these artworks signpost Miller's interest in new media discourse at a particularly crucial moment: the convergence of high and low art in the 1980s. Simultaneously, he also explored something else entirely: the construction of space through light, sound, and movement. Effectively, I seek to explain in detail the methodology of adopting kinetics, light, and sound in the articulation of spatiality through the genre of installation. This is relevant not only to the present chapter's discussion of Miller's early works but also to Cardiff and Miller's collaborative works from this point onwards.

Moreover, the bearing that this period had on Cardiff and Miller's career must be emphasised. The literature on Cardiff and Miller rarely acknowledges Miller's early solo art or, more precisely, how these were the progenitors of Cardiff and Miller's acclaimed oeuvre. Scanning the numerous catalogues on Cardiff and Miller, there is scant mention of Miller's work with electronics, kinetics, and shadows.² The publication accompanying Cardiff's first mid-career survey, *Janet Cardiff: A Survey of Works Including Collaboration Works with George Bures Miller* at PS1 MoMA, New York, in 2001-2002 is a case in point. Written by the then-chief curator of PS1 MoMA, Carolyn Christov-Bakargiev, the exhibition catalogue is a comprehensive historical survey and documentation of Cardiff's art from 1979 to 2001.³ Although Miller is cited in the title, his place is as a postscript rather than the creative partner of *The Dark Pool* (1995), *Playhouses* (1997), *The Muriel Lake Incident* (1999), *In Real Time* (1999), and *The Paradise Institute*

² There are only two published catalogues of Miller's solo works: *George Bures Miller: Simple Experiments in Aerodynamics* (Lethbridge: Southern Alberta Art Gallery, 1995), and *George Bures Miller: Simple Experiments in Aerodynamics: 6 & 7* (Toronto: Mercer Union, 2001).

³ The catalogue *Janet Cardiff: A Survey of Works Including Collaborations with George Bures Miller*, ed. Anthony Huberman (New York: P.S. 1 Contemporary Art Centre; Distributed Arts Publishers, 2002), was an integral reference point for my own research.

(2001). This oversight is not isolated. Other publications—such as Astrup Fearnley Museet for Moderne Kunst Oslo’s catalogue *Janet Cardiff, George Bures Miller* (2003); Mirjam Schaub’s *Janet Cardiff: Walk Book* (2005); Museum of Contemporary Art of Barcelona and Mathildenhohe Darmstadt’s catalogue *Janet Cardiff and George Bures Miller, The Killing Machine and Other stories 1995 – 2007* (2007)—again, detail Cardiff’s early career and influences, but seldom mention Miller’s contribution.

This thesis addresses this oversight and positions Miller’s adoption of kinetics, new media, and installation during the 1980s to 1990s on an equal footing to that of Cardiff’s concurrent production of audio walks and sound installations of the same period. It is imperative that this early formative period in Cardiff and Miller’s oeuvre be navigated and contextualised within discussions on their art, revealing just how significant Miller was to the success of their collaborative works and working methods.

2.2 Experimentation and Spatiality

Cardiff and Miller have often described their art as a process of experimentation.⁴ In my interviews with both Cardiff and Miller in 2014 and 2015, Cardiff explained that “experimentation” emerged from Miller’s early solo works:

It [experimentation] harps back to George’s early works, his series entitled *Simple Experiments in Aerodynamics*, and the concept continued with us. He had the idea that the practice of making art is like being a scientist: you’re in the studio trying things out, but you never know what is going to happen. We love that

⁴ Cardiff referred to “experimentation” in three interviews: In February 2014, as an “experimental” approach to art. Cardiff, interview by author, February 28, 2014; In July 2014 Cardiff identified the early 1990s as a “period of experimentation.” Cardiff, interview by author, July 24, 2014; In April 2015, Cardiff aligned the interest in experimentation to Miller’s approach to art. Janet Cardiff, interview by author, skype, April, 2015. Also see Carolee Thea, “Inexplicable Symbiosis: A Conversation with Janet Cardiff,” *Sculpture Magazine* 22, January/February (2003): 52-57.

approach and think it's integral to making art. It's important to be open to experimentation and periphery ideas.⁵

Cardiff explained that they used methods of “experimentation” and “trying out” ideas in the studio to steer their art production. This attitude followed from Miller’s early works where he approached art as a scientist would approach scientific experiments. In the process of trial and error, his method was contingent on maintaining openness to periphery ideas—a technique evident in Cardiff and Miller’s collaborative works.

The *Simple Experiments in Aerodynamics* works that Cardiff mentioned were the final in a series of solo installations Miller created in the 1990s. These works adopted a DIY “lo-tech” approach to arranging objects—television and projection screens, metal rack frames, light bulbs, and electrical cabling—while circuitry and metal pulleys generated movement and controlled the light and sound. While Cardiff’s reference to “experimentation” and “periphery ideas” could easily be dismissed as routine art-making talk, her emphasis on the *process* of experimentation— “you’re in the studio trying things out, but you never know what is going to happen”—in fact, signalled a specific history: Miller’s time in Toronto between 1983 and 1986.

It was during this period that Miller was exposed to an open-minded and experimental approach to art that he later adapted to his works. Cardiff and Miller moved to Toronto in 1983 so Miller could study Photoelectric Art at OCA. After graduating in 1986, Miller made a video installation *Standing Still in a Room Going Nowhere* (1988)—an arrangement of three large seven-by-five-foot projection screens, placed in a semi-circle at the centre of a gallery space. The projections were composed of scenes framed from the perspective of a front seat of a car driving down a road through the Canadian landscape. The scenes were cut together from a series of short two to three-minute video loops, while Cardiff

⁵ Janet Cardiff, interview by author, skype, April, 2015.

composed the soundtrack for the piece.⁶ It was not until 1989 that Miller began experimenting with lights, electronics, sound, and found objects. Miller utilised these materials as both observable effects and sculptural elements in his art. In his investigation with electronics and new media, Miller's production became progressively focused on extending the artwork beyond its physical bounds to encompass the surrounding space. While developing a dual interest in space and movement, he also emphasised the interface of the technologies so to generate a sustained and internal tension in his art, as this chapter explains.

Historically, experimentation has taken two trajectories: as a logical and observable scientific method, and as a mode of artistic self-questioning.⁷ Often appearing hand-in-hand, experimentation and technology became increasingly intertwined as art became progressively about fostering an open process or exchange rather than finished objects.⁸ This open process approach was fundamental to the emergence of new media, and particularly in Canada. According to Derrick de Kerckhove (former Director of the McLuhan Program in Culture and Technology at the University of Toronto), Canada had been “in the vanguard [of new media arts] from the start.”⁹ Canada's involvement was evident in the enmeshment of communication and media discourse spearheaded by media theorists Harold Innis, Marshall McLuhan, and George Grant.¹⁰ Toronto's

⁶ Cardiff, interview by author, Sydney, February, 2014.

⁷ See Terry Smith's essay on Experimentality. Terry Smith, “Experimentality: Theories and Practices Opening remarks to NIEA Experimental Arts Conference, August 17-19,” *Experimental Arts*, Studies in Material Thinking (Auckland, Auckland University of Technology) vol. 8, 2011.

⁸ This transition was acknowledged in 1968 by Jack Burnham when he wrote of his *systems aesthetics* in *Artforum*. “A polarity is presently developing,” Burnham explained, “between the finite, unique work of high art, i.e., painting or sculpture, and conceptions which can loosely be termed ‘unobjects,’ these being either environments or artifacts which resist prevailing critical analysis.” Burnham emphasised an environment or three-dimensional situation that distinguished an “unobject” from the art object or sculpture. Jack Burnham, “Systems Esthetics,” *Artforum*, September, (1968): 30-35.

⁹ Derrick De Kerckhove, “A Volcanic Theory of Art,” in *Press Enter: Between Seduction and Disbelief*, ed. Louise Dompierre and Power Plant (Art gallery), (Toronto: Power Plant, 1995), 96.

¹⁰ For a detailed discussion on the communication theories of Canadians Harold Innis, Marshall McLuhan, and George Grant, and their embeddedness in the Canadian psyche, see Arthur Kroker, *Technology and the Canadian Mind: Innis/McLuhan/Grant* (Montreal: New World Perspectives, 1984).

OCA and the artist-run centres (ARCs) developed what de Kerckhove considered to be “a new line of investigation in technology” through new media, kinetics, and robotic art.¹¹ What nurtured experimental and installation art in Canada further was the proliferation of ARCs and government funding. Cardiff too noted the role of the Canadian Council on experimental art emerging out of Canada: “The Canadian Council will give you money in different ways to produce works that are installation-based and perhaps won’t ever sell—this gives the artist a lot of freedom,” Cardiff recalled. “I think it’s why you see so many media artists coming out of Canada.” Cardiff attributed the proliferation of media-based art to the Canadian Council funding model and the absence of commercial pressure on artists.¹²

Experimentation’s embeddedness in the Canadian psyche was evident in Miller’s production. Artists like Miller adopted a media-focused approach to art by embracing DIY lo-tech technology and kinetics. Artists were looking to technology with a particular nostalgia; as reviewer Blake Gopnik explained, with the “metaphor-rich mess of the past.”¹³ Writing about the work *Organic Mechanics* (1998) by Toronto artists Simone Jones and Victoria Scott, Gopnik explained that the DIY new media artists emerging out of Toronto relied on the simultaneous embrace and critique of technology:

In an age of megabytes and megahertz, more and more artists are embracing the crude mechanics of sixties style wired art. It may seem downright old-fashioned, but that’s part of its charm.¹⁴

¹¹ Kerckhove, “A Volcanic Theory of Art,” 97.

¹² Cardiff, “Inexplicable Symbiosis,” 53. Cardiff also explained that they grew up in an art-school environment that was not entrenched in the market system. “There is practically no art market in Canada. ... We aren’t as interested in making it into product because it hasn’t been necessary. Where in the U. S., there’s a lot more pressure to make art that is commodified because of money pressures in art school, having collectors coming and checking out young artists, and getting them into galleries right away.”

¹³ Blake Gopnik, “Putting a New Spin on Kinetic Art: Art Review,” *The Globe and Mail (Canada)*, December 12, 1998.

¹⁴ Gopnik, “Putting a New Spin on Kinetic Art.”

Despite the ever-increasing prominence of technology, artists showed nostalgia for the by-now “crude mechanics” of 1960s media and kinetic art. Their adoption of old, “lo-tech,” technology seemed old-fashioned but for these artists that was the point. Artists at the beginning of their careers—like Miller, Victoria Scott, and Simone Jones, and even artists like Rebecca Horn and Olafur Eliasson—were making art that they could not create with traditional media. “It's about using machines to do what paint and bronze can't,” Gopnik continued, “taking advantage of a new medium to make art with old-fashioned potency.”¹⁵ Kinetic art and new media proffered a dynamism that the static art object lacked.¹⁶

Miller adopted lo-tech media and DIY effects as a simultaneous embrace and critique not only of technology but also of his training in abstract painting as I will describe. The 1980s saw an emergence of new media, video, kinetics, computer, and robotic art from Toronto's ARC's like V-Tape, Trinity Square Video, Art Metropole, Media Arts Network of Ontario and Inter-Access that facilitated the growing interest in video and robotic arts. Artists experimented with the latest technologies, editing software, computers, and lo-tech electronics like sensors and black-boxes. Artists cultivated an open-minded and experimental approach to art-making as seen in the methods of Doug Black, Michael Snow, Michael Hayden, and Miller—all OCA alumni.

Furthermore, the conditions of the exhibitions themselves also changed in the late 1980s to 1990s. Art historian Gregor Stemmrich called this transition, where artistic interventions of institutions of the 1960s and 1970s became commonplace for exhibitions, a “critical upheaval” in the reception of institutional critique.¹⁷ Artists in the 1980s and 1990s began working *with* galleries and museums rather

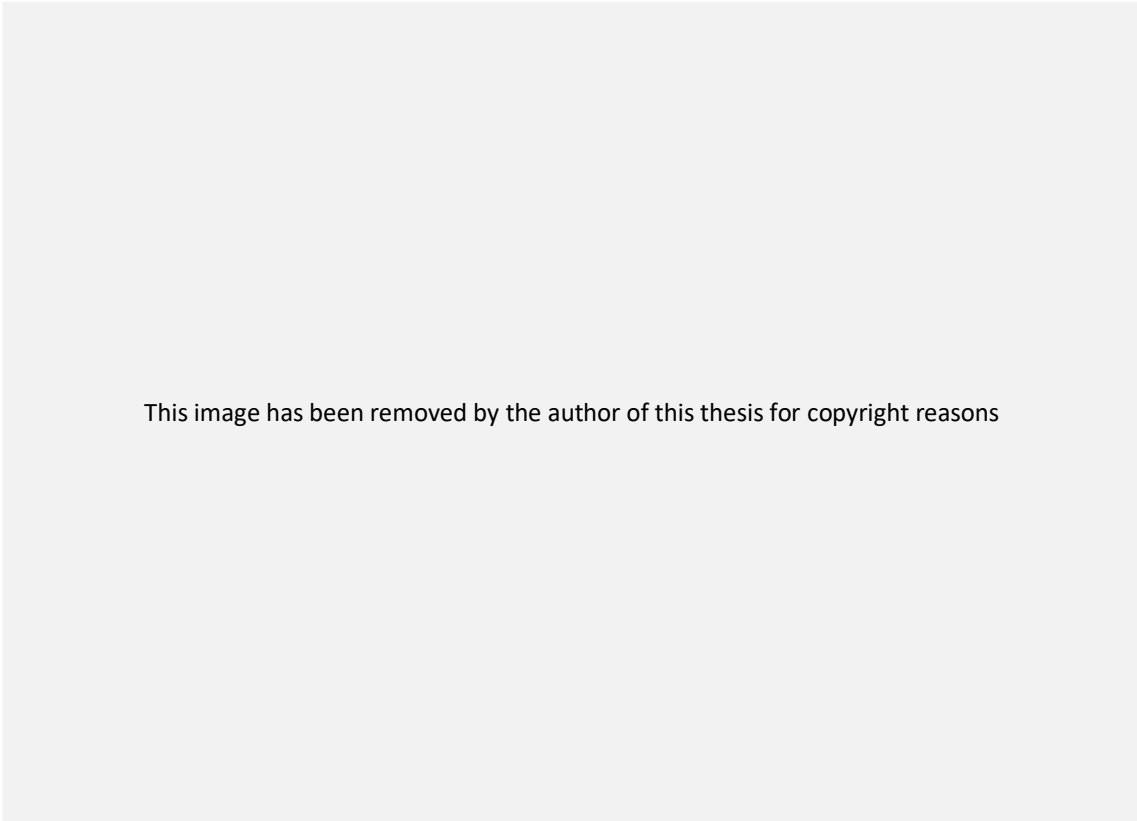
¹⁵ Gopnik, “Putting a New Spin on Kinetic Art.”

¹⁶ See for example Edward Shanken, *Art and Electronic Media* (London: Phaidon, 2009), a comprehensive survey that looks at the exchange and mutual influence of contemporary media cultures and art.

¹⁷ Gregor Stemmrich, “Heterotopias of the Cinematographic Institutional Critique and Cinema in the Art of Michael Asher and Dan Graham,” in Alexander Alberro and Sabeth Buchmann, *Art after Conceptual Art* (Cambridge, Mass.: MIT Press, 2006), 140.

than in political opposition to them; an approach that was evident in Miller's art. From 1986, Miller looked for ways to extend art beyond its physical bounds while also forming space through shadow and movement.

Moreover, it was his insistence on enlisting movement and shadow as a spatial apparatus that is key to the discussion here. Miller used light, shadow, space, and movement to reveal his installations over time gradually. Accordingly, in the phase before the proliferation of the World Wide Web in the mid-1990s, Miller began his experiments with electronics: in his *Exquisite Corpse* series including *Exquisite Corpse* (1989), *Exquisite Corpse with Mercy Seat* (1989), *Conversation/Interrogation* (1992), and *Simple Experiments in Aerodynamics* (1991-1998). In these works, movement functioned as a creator of voluminous and physical space rather than being subordinated to duration, time, or theatricality. Before these works, he negotiated his way from his studies in modernist painting in the fine arts program at the University of Alberta in Edmonton to media studies at Ontario College of Arts in Toronto.



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Figure 15: Bookshelf in Cardiff and Miller's studio, Grindrod, Canada, photograph by the author, 2014.

2.3 Shadow spaces: *Exquisite Corpse* series (1989)

2.3.1 From Edmonton to Toronto: abstraction to new media

Miller's training as an artist began in Edmonton, about an hour west of his home town of Vegreville in Alberta. Miller completed two years of a Fine Arts degree at the University of Alberta, where he studied painting.¹⁸ During his degree, Miller became increasingly frustrated with the modernist abstract painting championed by his professors: deciding that the fine arts program was overrun by an almost "religious" adherence to "rigid" abstraction and formalism.¹⁹ The domination of the Edmonton art scene by late modernism could be attributed to the New York critic Clement Greenberg. In an article that appeared in the Canadian newspaper *The Globe and Mail* in October 1997, journalist Charles Mandel attributed Edmonton's penchant for Formalism to its "patron saint" Greenberg who visited Edmonton in the 1960s.²⁰ Mandel noted that Greenberg found an attentive audience in Edmonton particularly with the director of the Edmonton Art Gallery, Terry Fenton, who championed Greenberg's attitudes toward abstraction within the gallery's program. Local artist Robert Fulford said that the gallery looked as if "Greenberg had purchased the building and made it his summer cottage."²¹ As a student at the University of Alberta, Miller was frustrated by the

¹⁸ Miller met Cardiff in 1982 while she was completing her Master of Fine Art at the University of Alberta.

¹⁹ Miller, in Cardiff and Miller, "Audio Tour of 'The Dark Pool' Installation, Walter Phillips Gallery," by Gavin Woolston, WPG03.269.1, Audio Cassette tape (1995), Paul D. Fleck Library and Archives, Banff Centre, Banff, accessed July 16, 2014.

²⁰ Robert Fulford in Charles Mandel, "War of the Art Worlds, Abstraction Lives," *The Globe and Mail (Canada)*, October 18, 1997. Greenberg's hegemony of modernist painting dominated the Edmonton art scene until the early 1990s. This was attributed to the presence of the Edmonton Abstractionists group of artists—painters Robert Scott, Graham Peacock, Terrence Keller, sculptors Peter Hide, Ken Macklin and Douglas Bentham. These artists were members of the Edmonton Contemporary Artists' Society (ECAS) formed in 1993. Local artist Allen Ball said that a lot of the Edmonton art community's irritation with the group was based on the use of the word "contemporary" in their title. "I take umbrage with their name ECAS. They're anything but contemporary. Is there any photography, any video, performance, audio work, computer generated work?" Ball noted that people were reluctant to talk about ECAS members because of their high standing both within the city's small gallery circuit and at the University of Alberta. "Some of these people are very powerful," said Ball. Ball, quoted in, "War of the Art Worlds, Abstraction Lives," *The Globe and Mail (Canada)*, October 18, 1997.

²¹ Mandel, "War of the Art Worlds."

restraints that formalism placed on his art, and he explained that it was “impossible to escape the sense that these teachers’ style was the only one.” Miller made figurative paintings at the time, and he recalled his instructors dismissing his interests in figuration as “just a fad.” Miller was told: “That’s not really art, and why would you waste your time with that?” The school’s painting and sculpture department was a “very close-minded system,” he explained.²² As he became increasingly frustrated with the narrow focus and rigidity of the school, Miller withdrew from the course after his second year.

In 1983, Miller moved to Toronto with Cardiff to study photography, video, and robotics in the Photoelectric Arts program at OCA.²³ Miller explained that his options to study film were limited: “I had no interest in computers and electronics. I was interested in film.”²⁴ With the lack of courses in video editing, Miller studied interdisciplinary media studies—known as Photoelectrics: “If you wanted to do video editing you had to study Photoelectrics.”²⁵ As Miller had little interest in robotics and new technologies, he continued painting during his studies. Like his experience at UoA, Miller felt the faculty did not support his interest in figuration. “They (the school) weren’t interested in figures in paintings, but if you had robots in there, they were impressed,” Miller said.²⁶ Cardiff recalled that Miller wanted to change courses and apply for film school in Montreal but decided to stay in Toronto. “George had this idea that he was going to quit and go to film school in Montreal,” Cardiff said. “We’d do things with experimental sound, and then we started doing these short films with George’s friends from high school. Ironically, they ended up going into film school, and we

²² Miller, “War of the Art Worlds.”

²³ Roy Ascott became Director of OCA in 1972. Although his appointment was highly contested, Ascott’s legacy outlived his short, ten-month tenure. He introduced his ideas on cybernetics and new media into the curriculum. Ascott’s emphasis on process and technology became integral to the Photoelectric Arts Program established six years following his departure. See Morris Wolfe, *OCA 1967-1972: Five Turbulent Years* (Toronto: Grub Street Books, 2001).

²⁴ Miller, “Audio Tour of 'The Dark Pool'.”

²⁵ Miller, interview by author, Sydney, February 28, 2014.

²⁶ Miller, “Audio Tour of 'The Dark Pool'.”

didn't."²⁷ Working with experimental sound, Miller explained that he lost interest in film because he felt too restricted by the collaborative process of filmmaking. Instead, he enjoyed the autonomy of being able to make, edit, and record the components himself without requiring a team of actors and production staff.²⁸ So, Miller remained at OCA, continued painting, and worked as a music video editor—which gave him and Cardiff access to sound and video editing equipment.

With access to an editing suite in Toronto—and a penchant for French New Wave cinema—Cardiff and Miller made experimental films and sound works on Super8 and ¾ inch U-matic videotape.²⁹ These early experiments instigated Miller's succession from painting to new media and installation. Cardiff and Miller left Toronto soon after he graduated in 1986. "We made bad art in Toronto," Cardiff recalled. "[There were] too many influences of being in a big city. But we had access to equipment there."³⁰ For Cardiff and Miller, Toronto was double-edged. They had access to equipment and technology, which was a crucial driver in their subsequent shift to sound and new media works, but they found the immediacy of being immersed in a "big city" unproductive.³¹ Seeking critical distance, Cardiff and Miller moved to Lethbridge, Alberta. It was only upon

²⁷ Cardiff, in Meeka Walsh, Robert Enright, "Pleasure Principals: The Art of Janet Cardiff and George Bures Miller," *Border Crossings* May, no. 78 (2001), <http://bordercrossingsmag.com/article/pleasure-principals-the-art-of-janet-cardiff-and-george-bures-miller>

²⁸ Miller, "Pleasure Principles." Miller recalled that they "discovered from the experience that we weren't really interested in becoming filmmakers because of the whole collaborative aspect. You have to get so many people involved. Even with super-eight it's still a huge process."

²⁹ Cardiff, interview by author, Sydney, February 27, 2014. Works included, *Guardian Angel* (1983); *The Followers* (1983-85), 45 minutes, Super 8 film; *Mum Has Gone Away* (1986); *An Obscure Sense of Possible Sublimity* (1987); a graphic novel, *Thirst*, (1986). Many of these videos did not survive as they were made on "bad quality video." *Guardian Angel* had a "really bad plot that we don't want to go into. It had a car-chase scene in it and detectives." Miller, "Pleasure Principles."

³⁰ Cardiff, interview by author, February 28, 2014.

³¹ Janet Cardiff and George Bures Miller, in Tyler Green, "No. 38: Janet Cardiff and George Bures Miller," *The Modern Art Notes Podcast*, July 26, 2012. Cardiff explained the importance and influence of the access they had to audio and video recording equipment during this period. For example, in her interview with Tyler Green, she explained that "a lot of it [the reason they progressed into sound] has to do with access."

leaving Toronto that Miller began using circuitry, kinetics, and electronics in his work.³²

Three years after graduating from OCA in 1986, Miller began assembling installations made from found objects and lo-tech electronics—including electrical wiring, circuitry, and lights.³³ “I was fascinated in electricity, and I started thinking about circuitry,” Miller recalled. “I started calling up Norman [White] and Doug [Black] and Laura Kulkalka who I took classes from. I would say to them ‘remember that circuit you were telling us about?’”³⁴ Miller initiated conversations with his instructors from OCA and solicited their assistance in making electronic circuit switches and “black boxes.” With their help, he built circuits that controlled and flickered light. “I began including light bulbs into my works.”³⁵ Adopting lo-tech electronics, Miller investigated the boundaries of the body, technology, and space in *Exquisite Corpse* (1989) and *Exquisite Corpse with Mercy Seat* (1989). His double background in abstraction and painting, and somehow as well as new media, emerged in these new works. His art reflected a merging, rather than a reaction or rejection, of the two canons. Consequently, Miller’s approach was to absorb and reconfigure modernism as a method of new media practitioners.

2.3.2 Extended nervous systems: *Exquisite Corpse* (1989)

The absorption and reconfiguration of modernism and new media were evident in Miller’s *Exquisite Corpse* series.³⁶ Miller used electronics and flickering lights to

³² George Bures Miller, “Noise Under the Tongue: Artist Talk, Friday Mach 2, 1990,” WPG Sound Box 1., WPG83.204.1 VI. Tape 1, Presentation Room, JPL Building, Paul D. Fleck Library and Archives, Banff Centre, Banff, accessed July 16, 2014. Miller described the paintings and drawings he made with oils and charcoal in abstract terms, as being “very black” paintings, and that they were a response to being “back in the west,” (in Alberta).

³³ Cardiff and Miller also often referred to the curiosity and playfulness that they attribute to their art making process. See, Green, “No. 38.”

³⁴ Miller, “Audio Tour of 'The Dark Pool'.”

³⁵ Miller, “Noise Under the Tongue: Artist Talk.”

³⁶ *Exquisite Corpse* (1989) mixed media installation: 3.65m x 1.25m x 0.45m. Steel frame, 16 bricks, 55 black and white Ortho Film transparencies, 8 plastic light fixtures, electrical wire, 6x 15w light bulbs, 2x 25w light bulbs, 3 x 4x4” plate glass, portable cassette player, 500w light organ (black

create simultaneous contrast and balance between the light and shadows in the space. Consequently, the art gradually revealed and encompassed the installation space beyond the objects that occupied it.

The idea for *Exquisite Corpse* came when Miller began “ripping out wiring” from his studio and incorporating it into his work. He explained that he was interested in looking at electricity as a “nervous system.”³⁷ Echoing McLuhan’s notion of “extending our central nervous system” through advancing technology, Miller produced *Exquisite Corpse* (1989) and *Exquisite Corpse with Mercy Seat* (1989) from electronics, lights, sound, printed transparencies, and other found materials. Using electronics, he could connect the components in the art where the circuits and electrical currents became the central mechanism.

The phrase “nervous system” appeared in McLuhan’s *Understanding Media* (1965). In the introduction to *Understanding Media* McLuhan declared that the shift from the industrialisation of the “mechanical ages” to the automation of “electric technology” had changed the way we had connected with the world:

After three thousand years of explosion, by means of fragmentary and mechanical technologies, the Western world is imploding. During the mechanical ages, we had extended our bodies in space. Today, after more than a century of electric technology, we have extended our central nervous system itself in a global embrace, abolishing both space and time as far as our planet is concerned.³⁸

McLuhan declared that before the 1950s, industrialisation and mechanical technology had fragmented the world. However, since then the rise of electronic

box), 3-min tape loop, purple felt; *Exquisite Corpse with Mercy Seat* (1989), Electrical wire, light bulbs, bear traps, charred wood chair and barbed wire, bricks, portable cassette player, light organ (black box). “Noise Under the Tongue,” George Bures Miller Exhibition Files, 1990, WPG02.204 Paul D. Fleck Library and Archives, Banff Centre, Banff, accessed July 15, 2014.

³⁷ Miller, “Audio Tour of 'The Dark Pool'.”

³⁸ Marshall McLuhan, “Introduction,” *Understanding Media: The Extensions of Man* (London: Routledge Classics, 2001), 3. The core of McLuhan’s theory was that media was an extension of ourselves. Electronic media extended our central nervous system—for example, wheels extended our feet, television extended our eyes and ears, and telephones extended our voices.

technology and globalisation had contracted and imploded space. Electrical technology had abolished time and space by extending our “central nervous system” out into the world.

Although the term “central nervous system” continued to appear in discussions on technology and media in the 1970s to 1990s, its idealism did not.³⁹ Instead, the emphasis shifted to the discursive boundaries between body, art, technology, life, and space. In the 1980s, writing on science fiction—such as Donna Haraway’s *A Cyborg Manifesto* (1984), and cyberpunk novels like William Gibson’s *Neuromancer* (1984)—spread the awareness of the so-called “darker side” of technology and cyber-culture.⁴⁰ In the early 1990s, cyber-culture led to a renewed interest and re-reading of McLuhan.⁴¹ His dictum, media as the extension of man, was reinvigorated by the idea of the “post-human.”⁴² McLuhan’s revival was legitimised further through the mainstream adoption of the World Wide Web in 1994. Thus, what changed over the years was the emergence of new conditions under which media was received.

This line of inquiry was also clear in art and curatorial practice. For example, in the catalogue for the 1995 exhibition *Press/Enter: Between Seduction and Disbelief*, Power Plant Gallery, Toronto, curator Louise Dompierre recalled a time she was sitting at her computer desk. “I wondered . . . about the impact of this new technological tool in my life,” she wrote. “My concern . . . was less about the

³⁹ Jack Burnham made an analogy between the computer and the human nervous system. “The computer,” Burnham stated, “is a means by which information is directed incrementally toward the maintenance of a constant level of stability, a function similar to that of the human nervous system.” Jack Burnham, “The Aesthetics of Intelligent Systems,” in *On the Future of Art*, ed. Arnold Toynbee and Solomon R. Guggenheim Museum (New York: Viking Press, 1970), 97.

⁴⁰ Cardiff and Miller referred to cyberpunk novels such as Neil Stevenson’s *Snow Crash* (1992) and the writings of William Gibson, Philip K Dick, and Jorge Luis Borges as major influences in their practice.

⁴¹ In 1993, *Wired Magazine* honoured McLuhan the title of “Patron Saint” of *Wired Magazine*. *Wired 1*, *Wired Magazine*, March/April, 1993.

⁴² McLuhan, *Understanding Media*. For further discussion on the idea of the “post-human” see N. Katherine Hayles, *How we Became Post Human: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999), 3-6.

possibility that this mega machine might be ‘disciplining and punishing’ my body than about the conditioning process that I felt was occurring.”⁴³ Citing Michel Foucault, Dompierre was less concerned with technology’s power than its conditioning.⁴⁴ Two decades earlier, the inaugural issue of *Radical Software* (1970) declared that technology was acquiring power through the dissemination of information: “Power is no longer expressed in land, labour, and capital, but by access to information and the means of disseminate it.” The call-to-arms was the humanisation of technology. “Our species will survive, neither by totally rejecting nor unconditionally embracing technology—but by humanising it; by allowing people access to the informational tools they need to shape and reassert control over their lives.”⁴⁵ The only way society could endure the information era was by assimilating technology into everyday life.⁴⁶

The idea of a “nervous system” as a stabilisation mechanism, was also adopted in art.⁴⁷ This rhetoric resonated with Miller in his experiments with electronics in *Exquisite Corpse*.⁴⁸ By using electronics as a tool to “make lights flicker” Miller achieved two things: he laid bare the inner mechanisms of McLuhan’s utopian vision and took McLuhan’s adage of extending “our central nervous system” to its

⁴³ Louise Dompierre, "Introduction: On Hold—between Seduction and Disbelief," in *Press Enter: Between Seduction and Disbelief* (Toronto: Power Plant, 1995), 14.

⁴⁴ See Michel Foucault, *Discipline and Punish: The Birth of the Prison*, (Harmondsworth: Penguin, 1979).

⁴⁵ Inside front cover of *Radical Software* (1973) vol. 2, no 5 (1973), 2. Quoted in Lucinda Furlong, “Tracking Video Art: ‘Image Processing’ as a Genre,” *Art Journal, Video: The Reflexive Medium Fall*, (1985): 233-237.

⁴⁶ American critic David Antin (1975) referred to the idealism that underscored discourse—enthusiastically embraced by artists such as Nam June Paik, Frank Gillette, and Roy Ascott—as “cyberscat” discourse. Antin wrote: “a kind of enthusiastic welcoming prose peppered with fragments of communication theory and McLuhanesque media talk.” Antin, “Video: The Distinctive Features of the Medium,” in *Video Art*, ed. David Antin, Lizzie Borden, Jack Burnham, John McHale and Suzanne Delehanty (University of Pennsylvania, Institute of Contemporary Art, 1975), 147.

⁴⁷ John Cage (who often referred to McLuhan’s ideas in his writings) recounted a story about a visit to an anechoic chamber at Harvard University in 1951. While he was in the silent chamber he heard his nervous system and blood in circulation. Similarly, in his philosophy of *Silence*, Cage wanted to draw people’s attention to the invisible and inaudible. See John Cage, *Silence: Lectures and Writings*, [Middletown: Wesleyan University Press, 1961].

⁴⁸ Miller, “Audio Tour of ‘The Dark Pool’.”

logical conclusion.⁴⁹ He did this by using electrical wiring to relay light and sound, while also exposing and incorporating the light bulbs and wires (the inner workings and mechanisms of the arrangement) into the installation's aesthetic.

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Figure 16: George Bures Miller, *Exquisite Corpse*, 1989. Reprinted from Gilbert, Sylvie, *Noise under the Tongue*. Edited by Walter Phillips Gallery. Banff: Walter Phillips Gallery, 1990.

⁴⁹ Miller, "Noise Under the Tongue: Artist Talk."

Exquisite Corpse was exhibited alongside *Exquisite Corpse with Mercy Seat* in the exhibition *Noise Under the Tongue* (1990) at the Walter Phillips Gallery, Banff. The arrangement was constructed from fifty-five transparent orthochromatic film sheets arranged in a rectangular grid formation on panes of glass and supported by a steel frame and rows of bricks that formed a bricolage-like arrangement.⁵⁰ Viewed collectively, the arrangement of film transparencies formed a monochrome photo-image of Miller's nude figure. Eight light bulbs positioned underneath the arrangement intermittently flickered and illuminated the transparencies and the otherwise darkened gallery space. Although Miller explained that he was working with the human figure "in an abstract way," rather than fragmenting or "shattering" the image, the jigsaw-like arrangement reconstructed the image of his body as a new whole.⁵¹ Using electronics and a light organ "black box" designed by Doug Back, an audio-cassette loop of a heartbeat was converted to a current that controlled the lights to flicker on and off. As the light illuminated the transparencies, the negative spaces of the film cast shadows and revealed the image.⁵² Shadows appeared on the floorboards and the gallery walls, transforming the gallery into a voluminous space.

⁵⁰ Bruce Grenville, interview with author, Vancouver, July 27, 2014. Bruce Grenville referred to Miller's installations as "bricolages."

⁵¹ Miller, "Audio Tour of 'The Dark Pool'." Miller jokingly added, "[I was] Being haunted by an abstract past at the University of Alberta."

⁵² Elizabeth Beauchamp, "Artist Explores Light in Gallery Darkness," *The Edmonton Journal*, November 18, 1989. Beauchamp observed that the flickering lights revealed the work over time.

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Figure 17: Miller's 'Black Box,' Cardiff and Miller studio, Grindrod, photograph by author, 2014.

Consequently, the flicker refocused the attention from the objects in the space (the lights and transparencies) to the light, shadow, patterns, and volumes of the space. Miller explained that the negative spaces created by the shadows in *Exquisite Corpse* were essential in the installation: “the floor becomes a big part of the work because the figure shadow becomes the negative space.”⁵³ What united

⁵³ Miller, “Audio Tour of 'The Dark Pool'.” The emphasis on the immaterial space echoed views, such as those by László Moholy-Nagy, that space itself was a primary means of creation. László Moholy-Nagy and Oliver A. I. Botar, *Sensing the Future: Moholy-Nagy, Media and the Arts* (Zürich, Switzerland: Lars Müller Publishers, 2014), 62. Also see Moholy-Nagy, *The New Vision*, (1930). László Moholy-Nagy notably addressed the environment that surrounded the artwork in his “lighting equipment” *Light Space Modulator* (1923-30). Moholy-Nagy extended the idea of movement to not only push the temporal possibilities of the art object —like Duchamp’s *Bicycle*

the work, and what produced the negative space, was the electricity that charged the kinetics, sound, and lights.

No doubt, the title of the work, *Exquisite Corpse*, was a gesture to the Surrealist game of the same name. The *exquisite corpse* was a system of intuitive drawings made from multiple images.⁵⁴ *Cadavre Exquis* (1927) was a composite image created by Yves Tanguy, Joan Miró, Max Morise, and Man Ray. A participant drew an image on a sheet of paper, which they then folded to hide the image, and then passed the folded sheet onto the next player. The complete drawing was revealed only upon unfolding the piece of paper.⁵⁵ André Breton wrote that the shared production of a drawing, or a sentence, “bore the mark of something that could not be created by one brain alone,” and that it “provoked a vigorous play of often extreme discordances, but also supported the idea of communication between the participants.”⁵⁶ Likewise, Miller’s *exquisite corpse* was created through the interrelation of the unorthodox materials and the gallery space.⁵⁷ Miller expanded Breton’s idea. Rather than using multiple participants, he composed the scene using kinetics and electricity to connect and illuminate the disparate parts with electricity as the “nervous system.” Specifically, his experiments with unconventional materials evolved from his adoption of *curiosity* as a working method. In addition to his training in abstraction and new media, it was this

Wheel (1913), or Naum Gabo’s *Kinetic Construction (Standing Wave)* (1919-1920)—but also expand the spatio-temporal dimension to include the *entire environment* around the object.

⁵⁴ For a collection of essays that examine the history of the Surrealist parlor game see Kanta Kochhar Lindgren, Davis Schneidermann, and Tom Denlinger, *The Exquisite Corpse. Chance and Collaboration in Surrealism’s Parlor Game*, (University of Nebraska Press, Lincoln & London, 2009).

⁵⁵ Similarly, William S. Burroughs’s and Brion Gysin’s “cut-up” technique, also abstracted working methods through the interpretation of the work by the audience. See Burroughs and Brion Gysin, “The Third Mind” (1978), a collection of cut-up writings and essays on the form. Burroughs, William S. Burroughs, and Brion Gysin, *The Third Mind*, (New York: Viking Press, 1978).

⁵⁶ André Breton, “The Exquisite Corpse,” *Surrealism*, ed. Patrick Waldberg, (New York: McGraw-Hill, 1966), 95. Originally published in the catalogue for the “Le Cadavre Exquis: Son Exaltation,” exhibition at La Dragonne, Galerie Nina Dausset, Paris, October, 1948,

⁵⁷ The idea of the interrelation of materials was also echoed in McLuhan’s writing. McLuhan stated that “no medium has its meaning or existence alone, but only in constant interplay with other media.” McLuhan, *Understanding Media*, 26.

method which allowed him to develop a sustained tension in *Exquisite Corpse* and *Exquisite Corpse with Mercy Seat*.

2.3.3 The curious method

Miller's curiosity evolved out of his fascination with outmoded science experiments and electronics. Miller collected electronic magazines and old-world science experiment books such as *Gordon McComb's Gadgeteer's Goldmine* (1990) and copies of Radio Shack's *Engineer's Mini-Notebooks*, and various photocopied pages from old science experiment books.⁵⁸ His inquisitiveness could be dismissed as routine source-gathering—artists are, after all, both problem solvers and bowerbirds. Curiosity, however, is also an emotion and an artistic trope. Edmund Burke wrote that curiosity was “the first and the simplest emotion which we discover in the human mind.”⁵⁹ Yet, his insistence on being curious was more than sheer human predisposition. For Miller, it was a conscious approach to art-making. He explained that curiosity and openness were important to his process: “To me, art isn't about what you like or what you don't like. It's about exposing yourself to new things and being curious.”⁶⁰ Miller's “experimentation” went hand-in-hand with his sense of curiosity—that he adapted to his artmaking. Interestingly, this approach echoed historical discussions on curiosity in art.⁶¹

⁵⁸ Miller's studio archives in Grindrod hold many photocopied pages from *Radio Electronics* magazine (August, September and October, 1989), and electronic books and manuals such as George Hawkins, *Hawkins Electrical Guide 7: With Questions and Illustrations; Hawkins Electrical Guide 6, A.C Switch Boards, Circuit Breakers, Measuring Instruments, 1587-1884*; *Engineer's Mini-Notebook*, Radio Shack, 555 Timer IC Circuits; Steven Lunbar, *The Smithsonian Book of Information Age Inventions; Info Culture*; Horn, *Basic Electronics Theory with projects and experiments*.

⁵⁹ Edmund Burke, “Novelty, On the Sublime and Beautiful,” in *Essays*, London, (1876), *The Making of Modern Law*, (Gale, Cengage Learning Harvard Law School Library); 61, accessed September 13, 2018, <http://galenet.galegroup.com.ezp.lib.unimelb.edu.au/servlet/MOML?af=RN&ae=F100595359&src=hp=a&ste=14>

⁶⁰ Miller in, Jennifer Matis and Shannon McKee, “Art Gallery Shows Diversity,” *The Endeavour*, no. 15, Lethbridge, March 16, 1995, 11.

⁶¹ In the mid-sixteenth century the European *Wunderkammern* or cabinets of curiosities were repositories for exotic objects, artefacts, wonder, and curiosity. The approach to art of the seventeenth-century evoked curiosity through illusionism and darkness—notably in the phantasmagoria and *trompe l'oeil* traditions which diverged from the Renaissance notion of linear

The “curious perspective” was a term used by author Ernest B. Gilman to signify techniques artists used to disrupt linear conventions.⁶² It is also a position from which we can understand Miller’s insistence on playing out the sustained tensions between materials and space. In the seventeenth century, artists challenged the harmony and realism of the Renaissance style. The curious perspective was the demonstration of what Ernest B. Gilman referred to as “visual wit”—sustaining tension in art and challenging ordered pictorial space. Thus, the tension between, say, reality and illusion, or light and dark dislocated the viewer from the “centric point” formed by linear perspective. The viewer thus experienced art from many perspectives.⁶³ Miller also looked at ways to use electronics, lights, kinetics, and other materials to provoke tensions between the objects and the exhibition space in *Exquisite Corpse*.

In 2006, Miller explained that his motivation in dealing with tensions in his art emerged from his interest in depictions of reality. “We’re fascinated with layers of reality,” Miller explained, “and I guess that comes back to painting, the mirror in the Dutch painting [Jan van Eyck’s *The Arnolfini Portrait* (1434)].”⁶⁴ Keen to explore notions of reality, Miller referenced Northern Renaissance painter van Eyck’s portrait to illuminate his idea. At the centre of the portrait of Giovanni di Nicolao Arnolfini and his wife, a convex mirror reflected the entire room and depicted two figures in the doorway, situated in the exact position of the viewer as they viewed the work. The presence of the figures suggested that there was

perspective. See Noam Elcott, *Artificial Darkness: An Obscure History of Modern Art and Media* (Chicago; London: University of Chicago Press, 2016). As I explain over the following pages, what made Miller’s approach unique was not his focus on darkness or illusion alone but the sustained tension he could create between the materials and space.

⁶² Ernest B. Gilman, “Introduction,” *The Curious Perspective: Literary and Pictorial Wit in the Seventeenth Century* (New Haven: Yale University Press, 1978), 14.

⁶³ Gilman, “The Curious Perspective in England,” *The Curious Perspective*, 50.

⁶⁴ Miller in, Michael Juul Holm, “Janet Cardiff and George Bures Miller, Interviewed by Michael Juul Holm,” in *Louisiana Contemporary: Janet Cardiff and George Bures Miller*, ed. Michael Juul Holm and Mette Marcus (Humblebaek: Louisiana Museum of Modern Art, 2006). In the same interview, Cardiff expanded on Miller’s idea, “I’ve often thought about the whole rhetoric around linear perspective in the Renaissance and how amazed everyone was at the 3-D illusion of linear perspective, . . . we keep getting pushed into these different levels of understanding of reality, but it’s basically the same rhetoric from 300 years ago.” Cardiff in, Holm.

more to the image than could be depicted through perspectival painting. In *Exquisite Corpse*, the lights flickered to reveal Miller's exquisite corpse printed on the transparencies, while simultaneously casting shadows around the room. Curator Ralf Beil suggested that the association between Eyck's painting and Cardiff and Miller's work was premised on the grounds of escapism—an attempt to allure the viewer into “other worlds.”⁶⁵ However, what Miller's insistence on curiosity revealed was that rather than becoming fixated on the notion of the reveal, following Bertolt Brecht's concept of *epic theatre* or Beil's notion of alluring the viewer into an alternative space, Miller teased out the unveiling proffered by the mirror.⁶⁶ Miller's notion was not based on dialectic reasoning but rather the actualities of the flow of electricity, and how it facilitated interaction between the materials to unveil the installation as a whole gradually. Consequently, the installation presented both the image and the space as tension amongst truth, reality, and artifice.

In *Exquisite Corpse*, the electricity and sound that intermittently flickered the lights offered brief moments of clarity within the dark exhibition space. The flickering light proffered the “flash of insight” amongst the ambiguity of the objects arranged in the installation. In his analysis of Emmanuele Tesauro's essay on seventeenth century semiotics *Il cannocchiale aristotelico (The Aristotelian Telescope)* (1654), Gilman proposed that wit “delighted in breaking the rules of the rational game, or at least in putting them under strain.”⁶⁷ In fact, wit was enmeshed in ambiguity while revealing moments of clarity and truth. “To the

⁶⁵ Ralf Beil, “Fireworks for the Tympanum and the Cerebral Cortex,” in *The Killing Machine and Other Stories 1995-2007: Janet Cardiff & George Bures Miller*, ed. Ralf Beil and Mari Bartomeu (Ostfildern, Germany: Hatje Cantz, 2007), 80.

⁶⁶ This concept is also present in Walter Benjamin's association of interruption and montage. For example, in *What is Epic Theatre?* Benjamin outlined the technique of montage as a principle of interruption. The mythic power of fiction was dispelled due to the “reveal”—what he called the “principle of interruption” in relation to Brechtian epic theater. “Epic theatre, then, does not reproduce conditions but, rather, reveals them. This uncovering of conditions is brought about through processes being interrupted.” Epic theatre, he wrote, “consists in arousing astonishment rather than empathy.” Benjamin, “What is Epic Theatre,” *Understanding Brecht* (London: Verso, 1998), 19, 99.

⁶⁷ Gilman, “Tesauro on Visual and Verbal Wit,” in *The Curious Perspective*, 73.

steady light of perspicuity,” Gilman explained, “wit prefers the darkness of a coiled enigma with a flash of insight at its core.”⁶⁸ *Exquisite Corpse* too embodied the tensions—between light and darkness, and movement and stillness—formed in the installation as a *dual* conceal and reveal.⁶⁹ Miller described the reveal as setting the viewer up to “expect one thing,” and then to “pull the rug out from under them.”⁷⁰ So, in *Exquisite Corpse*, there was an element of surprise—the reveal—or “flash of insight” as Gilman phrased it. The inner mechanisms of the work were exposed through the shadows and negative space. The darkness contrasted with the gradual piecing together of the life-size figure image on the floor.⁷¹ The tension and the *laying bare* was also evident in *Exquisite Corpse with Mercy Seat*.⁷²

2.3.4 Flickering shadows in *Exquisite Corpse with Mercy Seat* (1989)

Miller’s play with shadows was most pronounced in *Exquisite Corpse with Mercy Seat*.⁷³ Exhibited alongside *Exquisite Corpse*, at the centre of *Exquisite Corpse with Mercy Seat*, a single light bulb sat inverted on the seat of a charred wooden chair

⁶⁸ Gilman, “Tesauro on Visual and Verbal Wit,” 87.

⁶⁹ This strategy was also used in Miller’s triptych video work *Standing Still in a Room Going Nowhere* (1988). Miller looped a continuous scene of a car driving down a road in the Canadian forest. There was little variation in the images shown and there was no distinct beginning and end to the video. Miller replaced the enlightened storytelling located in modernist cinema with uncertainty and opposition. The image in *Standing Still in a Room Going Nowhere* was framed as a linear scene in motion but the monotony in the scene did not progress the piece from one scene to the next.

⁷⁰ Miller “Janet Cardiff and George Bures Miller interviewed by Michael Juul Holm.” Miller used the phrase “pull the rug” again in 2016 in reference to *Berlin Files* (2008). See the discussion in Chapter Four.

⁷¹ The *reveal* of the apparatus is also evident in film theory. Tom Gunning for example, explored the notion of curiosity in his idea of the “cinema of attractions.” Instead of having the audience focus on the stories or narratives the films encouraged the audience to remain aware of the act of looking so they remained highly conscious “of the film image engaging the viewer’s curiosity.” See Tom Gunning, “The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde.” In *Early Cinema: Space Frame Narrative*, ed. Thomas Elsaesser and Adam Barker, (London: BFI Publishing, 1990), 55-62.

⁷² As noted in the Introduction, Jörg Heiser referred to a tension between the “affective ‘contamination’” of the fictional and the “laying bare of mechanisms that fuels both entertainment and art.” Heiser, “Illusion verses anti-illusion, Film/Video Exhibition Architectures,” *All of a Sudden: Things That Matter in Contemporary Art* (New York, NY: Sternberg Press, 2008), 158.

⁷³ Miller was also a fan of Nick Cave, who in 1988, released the song *The Mercy Seat*.

entwined in barbed wire. Electrical cords and light bulbs were arranged on the floor underneath the chair to illuminate an outline of a human figure.⁷⁴ Among the cords, twelve gleaming metal bear traps were setup in a three-by-four grid. The lights were programmed to flicker to a sound recording of a heartbeat. As the lights flickered, the seat's backrest cast an impressive arc of light and shadow on the gallery wall. In an artist talk at the Walter Phillips Gallery in 1990, Miller explained that "[the chair], it's almost like a stage. It was important in the space."⁷⁵ The chair was the position from which light and shadow effects were projected onto the wall behind and the surrounding space, integrating the space into the art.

The intensity of the shadow effect was also evident in the few published images of the works in the catalogue for the *Noise Under the Tongue* exhibition. The documentation photograph of *Exquisite Corpse with Mercy Seat* accentuated and contained the space and shadows. An audience member during Miller's talk also observed the accent of the shadows. The man probed Miller about the coexistence of shadow and light: "You almost don't notice the chair," said the audience member. "You see the shadow after looking at the space. It's a lot more abstract than the other works."⁷⁶ He explained that as the lights slowly flickered on and off, his attention shifted from the chair to its shadow projected on the walls behind.

⁷⁴ Sylvie Gilbert, *Noise Under the Tongue* (Banff: Walter Phillips Gallery, 1990), 24.

⁷⁵ Miller, "Noise Under the Tongue: Artist Talk."

⁷⁶ Audience member, "Noise Under the Tongue: Artist Talk."

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Figure 18: George Bures Miller, *Exquisite Corpse with Mercy Seat*, 1989. Reprinted from Gilbert, Sylvie. *Noise Under the Tongue*. Edited by Walter Phillips Gallery. Banff: Walter Phillips Gallery, 1990.

The audience member also remarked on the signification of the chair at the centre of the space. “It’s a huge space,” he observed, “a chair is a symbol of history.” To which Miller responded, “I did question its symbolism.”⁷⁷ Aware of its representation, Miller was, no doubt, alluding to its significance as a mark of authority. Plato had declared the chair as a perfect form from which we can distinguish reality from illusion.⁷⁸ Alternatively, McLuhan proposed that the

⁷⁷ Miller, “Noise Under the Tongue: Artist Talk.”

⁷⁸ Plato stated that we need to “escape from the cave and see ... the real objects, the forms ... and gain true knowledge,” quoted in Rosalind Hursthouse, “Truth and Representation,” in

“editorial chair” of the nineteenth century was a “sort of ablative absolute of backside” and a “specialist ablation of the posterior” in the way it evoked a point of view and rationalisation of events.⁷⁹ Thus, in *Exquisite Corpse with Mercy Seat*, the charred wooden armchair was the mercy seat from which to question its symbolism. Over time, its significance became trivial once the viewer stood back and watched the installation unfold. According to the audience member, the interplay of light and shadow “created a mood and atmosphere; not so much narrative as the chair.” Accordingly, the light and shadow cast on the walls were not to be confused for the real object as Plato insisted, but as a sustained tension and interplay between object and shadow. Miller considered his tendency to work in this way to have had emerged from his background in the visual arts. “Coming from a visual arts background. There is some dichotomy with a sense of narrative and letting that be obscure,” Miller explained.⁸⁰ This obscurity was evident in the space formed by Miller’s controlled use of light and space.

Miller’s method, however, not only developed out of the visual arts but also in response to his time as a commercial video editor in Toronto in the 1980s. Miller explained that commercial video editing involved a strict formula where a call-to-action was necessary. But in his installations, there was the freedom to subvert any need for narrative or cohesion. “Even that these works have a narrative, that is less important to me than the use of controlled light and space,” he explained.⁸¹ Through his orchestration of light, shadow, and object a voluminous gallery space emerged. Miller explored these ideas further in his follow-up series of installations, *Simple Experiments in Aerodynamics*, where he spent the next seven years experimenting with light, space, and movement.

Philosophical Aesthetics: An Introduction, ed. Oswald Hanfling (Oxford: Blackwell, 1992) 239–296.

⁷⁹ McLuhan, “Introduction,” *Understanding Media*, 5. McLuhan distinguished the fragmentation experienced in the mechanical age from the “technologically extended” involvement with the world of the electronic age.

⁸⁰ Miller, “Noise Under the Tongue: Artist Talk.”

⁸¹ Miller, “Noise Under the Tongue: Artist Talk.”

2.4 Creating spaces that imbalance the viewer: *Simple Experiments in Aerodynamics* (1991-1998)

Imbalance 1 (1991) and *Imbalance 2* (1991) were the first works in the *Simple Experiments in Aerodynamics* series that Miller worked on from 1991 to 1998.⁸² In what curator Kitty Scott referred to as a series of “pseudo-scientific projects,” Miller arranged structures within a gallery space. These works applied movement and kinetics to create precarious spaces in a bid to “imbalance the viewer.” In laying bare the apparatus of the artwork—exposing the wires, cables, and hydraulics that made the arrangement move, light, and sound—Miller was engaging in the diminishing chasm between high and low art, as a tension between the two. This strain ensued as an ingrained probing between the various components of the art. Like the *Exquisite Corpse* series, the interplay between light and shadows fused the entire gallery space into the installation. What unfolded was a convergence of the gallery space and body-space through the media, lights, movement, sound, and space.

Imbalance 1 (1991) was a custom built rectangular metal rack structure, standing two-and-a-half meters in height and one meter wide. The rack held a video monitor and a rear projection screen, aloft, side-by-side. A thick black electrical cable dangled a light bulb just above ground level. An electrical pulse, metal pulley, and hydraulic cables intermittently propelled the lightbulb to swing beneath the screens.⁸³ The mechanism sounded and hissed loudly as the light and cable frantically swung around, casting “thin spider-legged” shadows on the walls of the gallery space.⁸⁴ The dual screens displayed two synchronously waving

⁸² Kitty Scott, *Simple Experiments*, MoMA Research Archive Folder I.A.2902, June 1999, Museum of Modern Art, New York, accessed July 2014. *Imbalance 1* was also known as *Experiment #1* and *Imbalance 2* was known as *Experiment #2*. Other works in the series included *Imbalance 3* (Guernica (1998), #7 *Escape Velocity* (1998), #6 *Jump* (1998), and *Shadow People* (1999).

⁸³ In a later iteration of this work, *Jump* (1996), Miller removed the rack system and the fixed light and suspended the monitor using cables and hydraulic system from the ceiling.

⁸⁴ Wayne Baerwaldt, “Simple Experiments in Aerodynamics: 6 & 7,” *Mercer Union* (website), August 1998, accessed May 10, 2016, <http://www.mercerunion.org/exhibitions/main-gallery-simple-experiments-in-aerodynamics-6-7/project-room-the-last-supper-windows-the-ascension-of-the-good-businessman/>

hands gestured in the shape of wings. The hands fluttered sporadically—at times energetically, occasionally hesitantly.⁸⁵

Positioned on the opposite side of the gallery was a comparably sized sculpture *Imbalance 2* (1991). In *Imbalance 2* the position of the light bulb and the television monitor were inverted. The light bulb was affixed to the metal rack while a television monitor, suspended by a mechanical pulley, dangled below. An 8-minute video of Miller's bare feet, performing a series of stationary jumps, played on the monitor. The feet stood on a black surface, stretched out on to tiptoes, becoming airborne and landing back on the surface. As the feet performed the series of jumps, the sound of the feet contacting the floor was converted into an electrical current that operated the pulley and controlled the flickering light.⁸⁶ While viewing the installation in motion, it was difficult to ascertain if the feet on the screen were trying to become airborne or find their way firmly on the ground.⁸⁷ The sound of Miller's feet, the jerking monitor, cables, and hissing pistons, resonated through the gallery while the jolting silhouette of the television illuminated the darkened gallery space.

In *Simple Experiments in Aerodynamics*, the human figure was presented as an anthropomorphized apparatus, where the extremities of the body—the hands and feet—were controlled by the electrical conversion of sound. The images of feet and hands that appeared on the television monitors seem to be extensions of and controlled by, the pulleys and cables. Miller attempted to, as he phrased it,

⁸⁵ Charles R. Achland, *On the Dynamics of Post-Industrial Culture Relations in George Bures Miller's "Simple Experiments in Aerodynamics,"* (Lethbridge: Southern Alberta Art Gallery, 1995), 7-9.

⁸⁶ Miller extended these ideas to later works such as *Imbalance 3*, which was a modified version of the same installation. Miller used an antique chandelier and hydraulics that controlled the chandelier as it swung around the darkened room.

⁸⁷ Achland, *On the Dynamics of Post-Industrial Culture Relations*, 9.

“humanise technologies that aren't very human.”⁸⁸ The effect was extended to the space surrounding the objects as the space became part of the artwork.

Like the *Exquisite Corpse* series, the apparatuses—the wires, cables, hydraulics—that mechanised *Imbalance 1* and *Imbalance 2* were laid bare for the viewer to witness. Like the dynamic chain reaction of objects in Fischli and Weiss’s *The Way Things Go (Der Lauf der Dinge)* (1987), the viewer could anticipate and witness how each mechanism moved the next. But as the viewer was situated in the same space as the moving objects, there was a precarious undercurrent to Miller’s works. Curator Wayne Baerwaldt too observed that “the light bulb jumps dangerously close to the walls and the gallery viewers who are forced to consider their proximity to the swinging light and menacing shadow.”⁸⁹ Thus, as the viewer stood to observe the work, they became increasingly aware of their proximity to the objects and shadows. “I work hard to make art that I feel rides on the edge of giving and taking. I am looking for some kind of fission, or point, that engages a viewer, maybe the puzzlement of fascination,” Miller explained.⁹⁰

As the television screen jolted back and forth in *Imbalance 1*, its movement generated a sense of unease as the viewer observed and listened. In a review of the 1995 exhibition at the Southern Alberta Art Gallery (SAAG), Bobbi Scheelar noted the precariousness of the work: “The hypnotic theatrics from the instability of the monitors, light sources, and the lack thereof, creates a ground unstable for the approaching viewer.”⁹¹ The instability of the moving objects made the viewer increasingly aware of their proximity to the installation. This instability was also noted in an essay written by curator Charles Achland. He emphasised that the shadows created by the installation generate an unnerving sensation: the “oscillating shadows of the apparatus create an eerie sensation of movement” that

⁸⁸ Miller in Sharon Doyle Driedger, “Hi-Tech Art That Talks Back.” *Maclean’s*, 108, no. 17 (April 24, 1995): 60–61.

⁸⁹ Baerwaldt, “Simple Experiments in Aerodynamics.”

⁹⁰ Miller, artist notebook, Grindrod studio, accessed July 23, 2014.

⁹¹ Bobbi Scheelar, “Experiments and Still Lives,” *The Meliorist*, April 23, (1995): 7.

ignited a “decentred” or “off-balanced” feeling for the viewer.⁹² Miller referred to this off-balanced feeling as creating spaces that “imbalance the viewer.” He explained: “If you take a chandelier and start moving it, it creates a space, and because you’re not used to it moving, it affects your whole body.”⁹³ Miller created precarious *spaces* that made the audience aware of their body space within the installation space.

Moreover, Miller denied the humble light bulb and television their assumed functionality. By propelling them across the room, they were no longer transmitters or modes of communication but hazardous effects. Kitty Scott described this transformation as an “undoing” of the functionality of these technologies. “Miller undoes the functionality of these appliances setting them in motion,” Scott observed. “As the light travels erratically through the black space, shadows flicker across the walls. Under such conditions, the quotidian light fixture is transformed into a sinister and menacing thing.”⁹⁴ The ordinary and everyday light fixture became an unpredictable object as it was propelled throughout the space.

Miller’s installation spaces however, were criticised as being overtly “theatrical” in that the works blurred the boundaries between entertainment and art. His work was critiqued in its staging, and he noted this criticism in his notebooks.⁹⁵ In 1994, Miller wrote, “I love playing with lights. Light becomes darkness too. Theatrical people say.”⁹⁶ We can trace this evaluation explicitly to Michael Fried’s enduring criticism of theatricality. In *Art and Objecthood* Fried had argued that

⁹² Achland, *On the Dynamics of Post-Industrial Culture Relations*, 9.

⁹³ Miller, “Pleasure Principals.”

⁹⁴ Scott, *Simple Experiments*, MoMA Research Archive.

⁹⁵ Author’s research, Grindrod studio archives, July 2014.

⁹⁶ Miller, artist notebook, 1994. Grindrod studio archive, accessed July 15, 2014. Miller’s frustration was evident in his notebook entry: “Ok but I’m making the work for me. ... I like building electronic circuits but that grows out of need for specific circuits in specific pieces not the reverse where you begin talking about your work.”

durational art was “theatrical” because it involved the viewer in the art.⁹⁷ Fried claimed that the significance of theatrical works of art was no longer generated by the artist but by the viewer. At first glance, the same argument could be presumed in Miller’s work. Miller, however, aware of the reproaches of “theatricality,” denied this when he said: “meaning comes later, if at all. So, call me a formalist...” he wrote.⁹⁸ But Miller was no formalist. Rather, he exposed the frictions and tensions between the materials—the weighted pulley and the loud hissing pistons that jolted the monitor and launched the light bulb around the gallery space.

The precarious light, shadow, and sound that filled installation spaces of *Imbalance 1* and *Imbalance 2* created frictions between high and low art.⁹⁹ These strains were initiated through the adaption of electronics and kinetics into his deliberately mainstream art that traversed the conventional boundaries between sculpture, science experiment, theatricality, and event.

⁹⁷ Fried, “Art and Objecthood (1967),” in *Art and Objecthood: Essays and Reviews* (Chicago: University of Chicago Press, 1998), 149-172. Fried began to develop his ideas on theatricality in *Art and Objecthood* (1967) and extended the ideas to the work of Diderot in *Absorption and Theatricality: Painting and Beholder in the Age of Diderot* (1980). Subsequently, he expanded his ideas to photography in *Why Photography Matters as Art as Never Before* (2008) where he substituted “theatricality” for “to-be-seeness”—the image’s inbuilt theatricality or staging for the camera.

⁹⁸ Miller, artist notebook, 1994.

⁹⁹ Fredric Jameson explained the breakdown between “high” and “low” culture through postmodernism: “the postmodernisms have, in fact, been fascinated precisely by this whole ‘degraded’ landscape of schlock and kitsch, of TV series and Reader’s Digest culture, of advertising and motels, of the late show and the grade-B Hollywood film, of so-called paraliterature, with its airport paperback categories of the gothic and the romance, the popular biography, the murder mystery, and the science fiction or fantasy novel: materials they no longer simply ‘quote,’ as a Joyce or a Mahler might have done, but incorporate into their very substance.” Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism* (London: Verso, 1991), 2-3.

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Figure 19: George Bures Miller, *Imbalance 1*, Simple Experiments in Aerodynamics, 1991, Cardiff and Miller studio, Grindrod, photograph by author, 2014.

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Figure 20: George Bures Miller, *Imbalance 2*, Simple Experiments in Aerodynamics, 1991, Cardiff and Miller studio, Grindrod, photograph by author, 2014.

2.5 The Suspicion and Seduction of Technology: *Conversation/ Interrogation* (1992)

As explained above, the *Simple Experiments in Aerodynamics* series did not conform to the traditions of aesthetic quality as either “good” or “bad” art. Miller presented a convergence of the gallery space and the body-space of the visitor *through* technology. As we have seen, Miller investigated these tensions through shadow and movement. Subsequently, I describe how Miller adapted video-editing techniques. In *Conversation/ Interrogation* (1992)—an arrangement of a CCTV camera, pre-recorded video footage, and a motion sensor activated chair—the sitter was situated in a pseudo-conversation with a pre-recorded video of the artist. He used video-editing to complicate the relationship between the sitter’s real-time experience and the recorded image.

Cardiff and Miller held an artist talk for their exhibition *The Dark Pool* at the Walter Phillips Gallery, Banff in March 1995. During the question and answer session, an audience member queried Miller’s use of technology. “You flirt with technology,” the audience member observed, “What is your feeling about technology?” Miller responded, “Technology? I love it. I love building circuits. I feel most comfortable building things.” The audience member probed further, “but it’s not high-tech, it’s more nuts and bolts stuff,” he said, referring to Miller’s use of lo-tech materials like wiring, circuits, and found objects. Miller replied,

Yeah. I also see what is going on with technology. That computers are supposed to save us time, but we end up working 16-hour days. Technology is seductive. Conversation is seductive. The idea of the person controlled by TV. That weird body feeling.¹⁰⁰

Miller was grappling with how technology conditioned the individual in society. As computers were becoming part of the everyday, the promise that technology was going to simplify life was no longer plausible. Nevertheless, both technology and conversation were seductive. Miller probed questions of television’s control,

¹⁰⁰ Miller, “Audio Tour of ‘The Dark Pool’.”

and the viewer's realisation or the "weird body feeling," when they recognised its command in *Conversation/ Interrogation*.¹⁰¹

Miller's interest in media's effect was not isolated. He was part of the emerging theorisation of Virtual Reality appearing in the early 1990s. In particular, he attended an artist residency as part of *Bioapparatus: Conference on Virtual Reality* held at the Banff Centre of the Arts in October 1991. *Immersed in Technology* (1996) was a collection of essays published following the conference.¹⁰² The editor, Canadian new media theorist Mary Anne Moser, described media's transition from the 1960s to 1990s as a shift from the "perceptual" to the "experiential" reception of the image. "[There has been a] shift to the experiential from the perceptual reception of the image," Moser wrote.

Images that implicate the viewer in some way, . . . as with interactive or immersive media, are unbounded. They require experiential cognition. . . . This condition of both embracing and criticizing our immersion in technology seeds a stimulating debate.¹⁰³

This generation of media arts was embracing and critiquing the immersion in technology with artworks that implicated the viewer and technology and questioned their function. *Conversation/ Interrogation* expressed this tension in the quasi-television studio arrangement of the set.

Exhibited at a solo show called *Counterevidence*, at The Stride Gallery, March 1991, Calgary, Alberta, *Conversation/ Interrogation* included a wooden chair, table, television monitor, camera, pre-recorded videotape, timer, beam detector sensor, and a black box circuit control. The wooden chair was positioned

¹⁰¹ This "weird body feeling," was a similar sensation to witnessing the jolting television and light bulb in *Imbalance 1* and *Imbalance 2*.

¹⁰² Mary Anne Moser, Douglas MacLeod, and Banff Centre for the Arts, *Immersed in Technology: Art and Virtual Environments* (Cambridge: MIT Press, 1996).

¹⁰³ Mary Anne Moser, "Introduction," in *Immersed in Technology: Art and Virtual Environments*, Mary Anne Moser, Douglas MacLeod, and Banff Centre for the Arts (Cambridge, Mass.: MIT Press, 1996), xxviii-xix.

opposite a television monitor that was placed on a table. Installed next to the monitor was a video camera that was pointed toward the chair. As the viewer accepted the posted invitation to “please sit down,” a sensor-activated pad placed on the chair triggered a video loop. Miller’s image appeared on the television screen, and his voice began addressing the sitter: “You remind me of my lover,” Miller said. “You know all of my conversations with you are recorded.” The viewer became the viewed, and in turn, the experience was, as writer Sharon Doyle Driedger observed, “at once, amusing and unsettling.”¹⁰⁴ Reviewer Sarah Atkinson described *Conversation/ Interrogation* as intimate, invasive, and open-ended.¹⁰⁵ She explained that Miller’s utterances seemed conversational as they implied that the ‘conversation’ was “introductory, a pick-up scene between strangers, or a job interview, or they are statements that seem to report on a shared past or assume a commonality with the addressed viewer.”¹⁰⁶ Miller’s play on familiarity and his adoption of the language and medium of television was comparable to the way Cardiff used her voice. She addressed the listener in a tone that assumed familiarity or an acquaintance between the voice and audience. In *Conversation/ Interrogation*, Miller adopted conventional video editing techniques to forge an interplay between the video recording and the sitter.

The “conversation” was interrupted through the editing of real-time closed-circuit video recordings of the sitter, with pre-recorded footage of Miller firing questions. Amongst the footage of Miller’s questioning, an image of the sitter briefly appeared on the screen, and moments later, the image cut back to Miller who asked a follow-up question. Miller’s method of editing echoed Cardiff’s technique of replaying of a recording in the location it was recorded in *Forest Walk* (1991). *Conversation/ Interrogation* relayed an image recorded in the same

¹⁰⁴ Sharon Doyle Driedger, “Hi-tech art that talks back,” *Maclean’s*, vol. 108, issue 17, (1995): 60. Canadian new media artist David Rokeby is also quoted in this essay: “Electronic art is particularly pertinent right now. Like it or not, we are surrounded by technology and we need to understand how it transforms the way we experience the world.”

¹⁰⁵ Sarah Atkinson, “Reviews: George Bures Miller,” *C Magazine* 33, March (1992): 46-47.

¹⁰⁶ Atkinson, “Reviews.”

location. Writer Louise Dompierre identified the intersection of live and pre-recorded realities and interaction between sitter and television set:

We see two people apparently conversing on real-time, but in fact, the footage of each may have been shot separately, at different places and times, and edited. In this work, as on TV, a computer controls the edits between the taped video signal and the live one.¹⁰⁷

Dompierre explained that the pseudo-real-time interaction between Miller on the monitor and the sitter in the chair was not an interaction at all. It was, in fact, the real-time *editing* of two recorded images that had taken place at different times.

In *Conversation/ Interrogation*, Rosalind Krauss's narcissistic monologue of the pre-recorded video was interjected with a real-time playback image of the sitter.¹⁰⁸ The camera's position confronted the relationship between the sitter, screen, and camera. Rather than recording a mirror image of the sitter, the image recorded by the camera (situated at an angle in front of the sitter) was an off-centre. The recording then appeared on the television monitor for a few seconds and cut back to the image of Miller; with his gaze directed off-screen left, over the sitter's shoulder. Initially, in this brief interaction, the sitter unwittingly assumed that Miller's questions were directed at them. However, the interaction became more ambiguous and unclear throughout the piece. In fact, it was the specific editing techniques that Miller used that produced this effect. Miller's notebook explained the cross-cutting strategy and the effect it had on the sitter's perception:

They know that this conversation is not taking place nor has it, yet the magic of the editing process makes them see that no matter what their senses tell them,

¹⁰⁷ Dompierre, "Pools of Reflection," in *Press Enter: Between Seduction and Disbelief* (Toronto: Power Plant, 1995), 43.

¹⁰⁸ Rosalind Krauss, "Video: The Aesthetics of Narcissism," *October*, vol. 1 (Spring, 1976): 56-57. According to Krauss, video art in the 1970s was a strategy for artists to close the gap between representation and self. "Mirror-reflection," she wrote, "implies the vanquishing of separateness. Its inherent movement is towards fusion, . . . of illusionistically erasing the difference between subject and object." So, for Krauss, rather than generating a "space" between imitation and the real, much of video art merged the subject and object, self and representation, by erasing any difference between the two.

they know they are not within the situation they perceive on the screen. And instead of the emotional removal that the television engenders, the piece elicits it.¹⁰⁹

The sitter understood that the conversation with the recorded image of Miller was fictional. But it was the “magic” of the editing process that instigated the sitter’s self-questioning. Although Miller appeared to address the sitter, the questions and the rapid succession of cuts between the pre-recorded questions did not allow the participant adequate response time. Moreover, the decentered image of the sitter denied them an immediate identification with the self. He cross-cut pre-recorded and real-time footage to enlist the unwitting sitter in a pseudo-interactive encounter with the camera, the television monitor, and Miller’s image. Thus, it was the editing and media that implicated the sitter as an active participant.

Although the sitter “interacted” with the installation, this interaction was limited to their physical presence. As they activated the sensor, the sitter’s image appeared on screen, causing the space between the sitter and the mirror to contract. At first glance, the positioning of the video camera next to the television screen “re-projects the performer’s image with the immediacy of a mirror.”¹¹⁰ However, the perceived immediacy of this interaction was refused by the fact that Miller’s image on the screen did not address the sitter directly—nor was the sitter able to consume their unmediated image. This situation evoked a “feeling of watching themselves talking to someone while knowing that the actual conversation never occurred,” as Miller described.¹¹¹ Consequently, Miller confronted the viewer’s own narcissistic tendencies as they eagerly awaited their turn to respond.

¹⁰⁹ Miller, quoted in Cardiff’s notebook, 1992, Lethbridge Canada, Grindrod studio archive, accessed July 20, 2014.

¹¹⁰ Krauss, “Video,” 52.

¹¹¹ Miller, “Noise Under the Tongue: Artist Talk.”

While Miller relied on technology to achieve these effects, he dismissed any suggestion that his art was *about* technology, medium specific, or “theatrical.” In fact, Miller (as did Cardiff) repeatedly refuted suggestions that technology was his preeminent focus. For Miller, technology was a *tool* to make things move: “we use technology, but it doesn’t dictate our practice.” He dismissed any assumptions that the technology, circuits, and sound were anything more than a necessity. In *Exquisite Corpse*, for example, he maintained that “the use of technology is not part of it. I need technology to make lights flicker.”¹¹² Instead, technology was implemented as a device to form spaces and tension between the light, shadow, and objects. Miller wrote: “I like building electronic circuits, but that grows out of a need for specific circuits in specific pieces, not the reverse.”¹¹³ That said, the role of technology in Miller’s works cannot be denied or ignored. Accordingly, what can be determined from Miller’s remarks is that the significance of technology (like the new media artists of his generation) went beyond the tricks and gimmicks proffered by art *about* technology that dominated new media in the 1960s.

Furthermore, if we consider Miller’s stance regarding technology in light of the wider views about technology and television’s impact on society (as it was determined in the 1980s and 1990s), it becomes apparent that Miller questioned the postmodern dilemma proposed by Krauss. She had proposed that we have become a “huge billboard, or a wall, of images that separates us from a nature that might exist behind that wall, but we can’t penetrate through. Reality has been swallowed up by a television tube.”¹¹⁴ This “nightmare possibility” Krauss declared, resulted in artists probing a “space between the imitation of the real and the real.”¹¹⁵ Jean Baudrillard similarly referred to the diminishing space

¹¹² Miller, “Noise Under the Tongue: Artist Talk.”

¹¹³ Miller, artist notebook, 1994.

¹¹⁴ Rosalind Krauss, “Episode 9: In Our Own Time,” *Art of the Western World* (TV Series), 1989, presented by Michael Wood, DVD, (2010).

¹¹⁵ Krauss, “Episode 9: In Our Own Time.”

between imitation and the real as a “simulation.”¹¹⁶ Additionally, the debate surrounding reality and simulation, or reality and imitation, also became the platform from which Miller questioned what he referred to as the lure or “seduction” of technology. As Miller phrased it: “technology is seductive. Conversation is seductive.”¹¹⁷

If we follow Krauss and Baudrillard and their position on the confluence of reality and simulation—where the sitter, consumed by the experience, could not distinguish one from the other—this assumption would ignore the paradox proposed in *Conversation/ Interrogation*. Miller’s editing and recording methods not only denied the sitter the opportunity to identify with the image on the screen but also denied the opportunity to misidentify reality for simulation. Miller denied this misidentification by relying on the *tension* that he could create between reality and the pre-recorded image by denying the reflexivity of the sitter witnessing the exchange. This is evident in how Miller triggered the internal contradiction that Sean Cubitt identified in his essay *Timeshift* (1991).¹¹⁸ Cubitt stated that distinctions and fissures of society were essential to counter the “apocalyptic vision” of the postmodern use of “now” and the eternal present.¹¹⁹ Cubitt warned against the inability to identify internal contradictions within social formations. This naiveté resulted in a vision of a total society of empty gestures. Cubitt emphasised that interaction was essential in the formation of social constructs and the “reciprocal influence between individuals that give rise to social formations.”¹²⁰ If we apply this proposition to *Conversation/ Interrogation*, the installation momentarily proffers the promise of interaction, offering what Miller was referring to as an anchor. “As you think of it,

¹¹⁶ Jean Baudrillard, “Simulacra and Simulations,” *Selected Writings*, ed. Mark Poster (Stanford; Stanford University Press, 1988), 166-184.

¹¹⁷ Miller, “Noise Under the Tongue: Artist Talk.”

¹¹⁸ Sean Cubitt, *Timeshift: on Video Culture*, (New York: Routledge, 1991), 26.

¹¹⁹ Cubitt, *Timeshift*, 26.

¹²⁰ Cubitt, *Timeshift*, 26.

[referring to the anchor] it intensifies,” Miller wrote, “then wanes.”¹²¹ Miller presented a two-way situation where Miller’s image on the screen implicated the viewer making them aware of the situation—as an interface between self and the television monitor.

This situation was a long way from institutional critique, and the difference can be grasped by comparison with Dan Graham’s video and mirror works of the mid-1970s. The closed-circuit recording and video monitors in *Conversation/Interrogation* can also be seen in Graham’s CCTV works. Graham used closed-circuit video, mirrors, and television monitors within *Time Delay Room* (1974) and *Present Continuous Past(s)* (1974). We know, from the writings of the artist and by commentary on him, that these installations constituted early versions of what we now call institutional critique.¹²² Using live CCTV and feedback, he refuted the mirror model of the perceived self and used video recording to connect the performer, audience, and the process of perception. According to Graham, video feedback contradicted “the mirror model of the perceived ‘self,’” so that, “through the use of video-tape feedback, the performer and the audience, the perceiver and his process of perception, are linked, or co-identified.” For Graham, there was no “inside” or “outside.”¹²³ The viewer could perceive and adjust his or her behaviour through the direct feedback of the recording. This feedback formed a continuous process and feedback loop that Graham compared to a Möbius strip.¹²⁴ Linked to the just past and immediate future, this refusal of difference or distinctions in the ever-present was the situation that Cubitt warned against in *Timeshift*.

¹²¹ Miller, artist book, 1990, Grindrod studio archive, accessed July 16, 2014.

¹²² Institutional critique implied that the institution was both the subject and object of the art. Where the institution became both the “target and weapon.” Foster argued that Graham sort to make visible the conditions and operations of art. Hal Foster, “Subversive Signs,” in *Recordings: Art Spectacle, Cultural Politics* (Seattle: Bay Press, 1987), 100; See also Dan Graham, *Essay on Video, Architecture and Television*, (1979).

¹²³ Graham, “Video Feedback,” in *Essay on Video, Architecture and Television*, (1979), 69.

¹²⁴ Graham, “Video Feedback,” 69.

So, video feedback involved the sitter in what appeared to be a subjective present. The video “encloses the ‘self’ within its perception of its functioning, giving a person the feeling of a perceptible control over his response through the feedback mechanism.”¹²⁵ As the visitor was recorded entering *Time Delay Room*, the footage played on the screen in the gallery using 8-second delay. The visitor watched the screen only to become trapped in a state of observation. Similarly, Gary Hill’s installations *In Situ* (1986) and *Learning Curve* (1993), and Bruce Nauman’s live taped *Video Corridor* (1970), also utilised surveillance and CCTV recorded images. However, *Conversation/ Interrogation* differed from these works in that the splicing of the pre-recorded image of Miller, denied the same level of reflexivity of a continual and uninterrupted feedback loop. Miller called this process a “schizophrenic conversation that shifts between levels of reality.”¹²⁶ The exchange occurred between the artist and the audience and extended beyond the gallery space to wider societal implications of television and technology. “The schizophrenic is not, as generally claimed, characterized by his [or her] loss of touch with reality,” stated Baudrillard, “but by the absolute proximity to and total instantaneousness with things, this overexposure to the transparency of the world.”¹²⁷ Baudrillard challenged the false/true image with saturation. Thus, like meaning, saturation, simulation, and over-reproduction could threaten the Real. However, in *Conversation/ Interrogation*, the reflexivity did not collapse the distinction into a state of “transparency” but instead generated a *loop* and internal contradiction between artist’s image, sitter’s image, and sitter’s critical reflection induced by the experience of witnessing the loop.¹²⁸ Like the *reveal* prompted by Miller’s approach to curiosity and experimentation and the way it


¹²⁵ Graham, “Video Feedback,” 69.

¹²⁶ Miller, “Audio Tour of ‘The Dark Pool.’” These shifts were also evoked in the title of the work, *Conversation / Interrogation*. The slash, “/” implies a relationship between the two words—conversation and interrogation, conversation and, or, interrogation—as a connecting alternative for the conjunction “or” and as used in computer language for file paths.

¹²⁷ Baudrillard, and Sylvère Lotringer, *The Ecstasy of Communication* (Foreign Agents Series. Brooklyn, N.Y.: Autonomedia, 1988), 27.

¹²⁸ Miller, “Noise Under the Tongue: Artist Talk.”

formed tensions in the artwork, the loop cultivated the sustained tension in *Conversation/ Interrogation*.



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Figure 21: George Bures Miller, *Conversation / Interrogation*, 1992, Cardiff Miller Studio Archive, Grindrod, photograph by author, 2014.

2.6 Conclusion

This chapter traced Miller's experimentation into spatiality. We have spent considerable time on works Miller made in the 1980s and 1990s—*Exquisite Corpse*, *Exquisite Corpse with Mercy Seat*, *Simple Experiments in Aerodynamics*, and *Conversation/ Interrogation*. We have explained that Miller emerged from a very particular Canadian (by that we mean Torontonians) new media arts scene. Consistent with that heritage, Miller developed his installations as a series of experiments. In these artworks, he emphasised the kinetic and spatial interplay

between the materials and the gallery space. In doing so, his installations revealed an attention to a physiological imbalance that mirrored an unstable and fluctuating technological society. Miller was determined to create expanded spaces by forming tensions between the objects, the exhibition space, and the viewer. These spaces were emphasised by shadows, in *Exquisite Corpse* and *Exquisite Corpse with Mercy Seat*, by “laying bare” of mechanics and movement in *Simple Experiments in Aerodynamics*, and by rapid CCTV and video editing loop in *Conversation/ Interrogation*.

Adapting DIY lo-tech electronics to cast shadows, and converting sound into kinetic movement and electrical currents, Miller extended his art beyond its physical boundaries to include surrounding space. All of these, and shadows, in particular became tropes that would reappear in Cardiff and Miller’s co-authored installations. Miller, though, did this first, in his *Exquisite Corpse* series. In *Simple Experiments in Aerodynamics (Imbalance 1 and Imbalance 2)* he had expanded this by incorporating kinetic movement to encompass the surrounding environment and audience. Whereas in *Conversation/ Interrogation* Miller applied conventional video editing in a bid to question the postmodern relationship between media and the viewer. Rather than warning against assimilation, he emphasised interaction. While developing a dual interest in space and movement, he emphasised the interface of the materials he used so he could create an internal tension that was gradual revealed over the duration of the work. Likewise, his adoption of the video loop cultivated a sustained tension between the recorded image and the sitter.

After all this, in 1995 Miller began to co-author works with Janet Cardiff and he immediately incorporated all the elements of kinetic movement, shadows, and electronics into these works. Their first collaborative work, *Dark Pool* (1995), vividly staged the theatricality and movement that they would go on to adopt in later works. This was possible thanks to lo-tech circuitry, sensors, multi-track audio, and electronics. And so, Miller’s interest in bricolage, space, and

electronics merged with Cardiff's interest in layered sounds and multi-track recording.

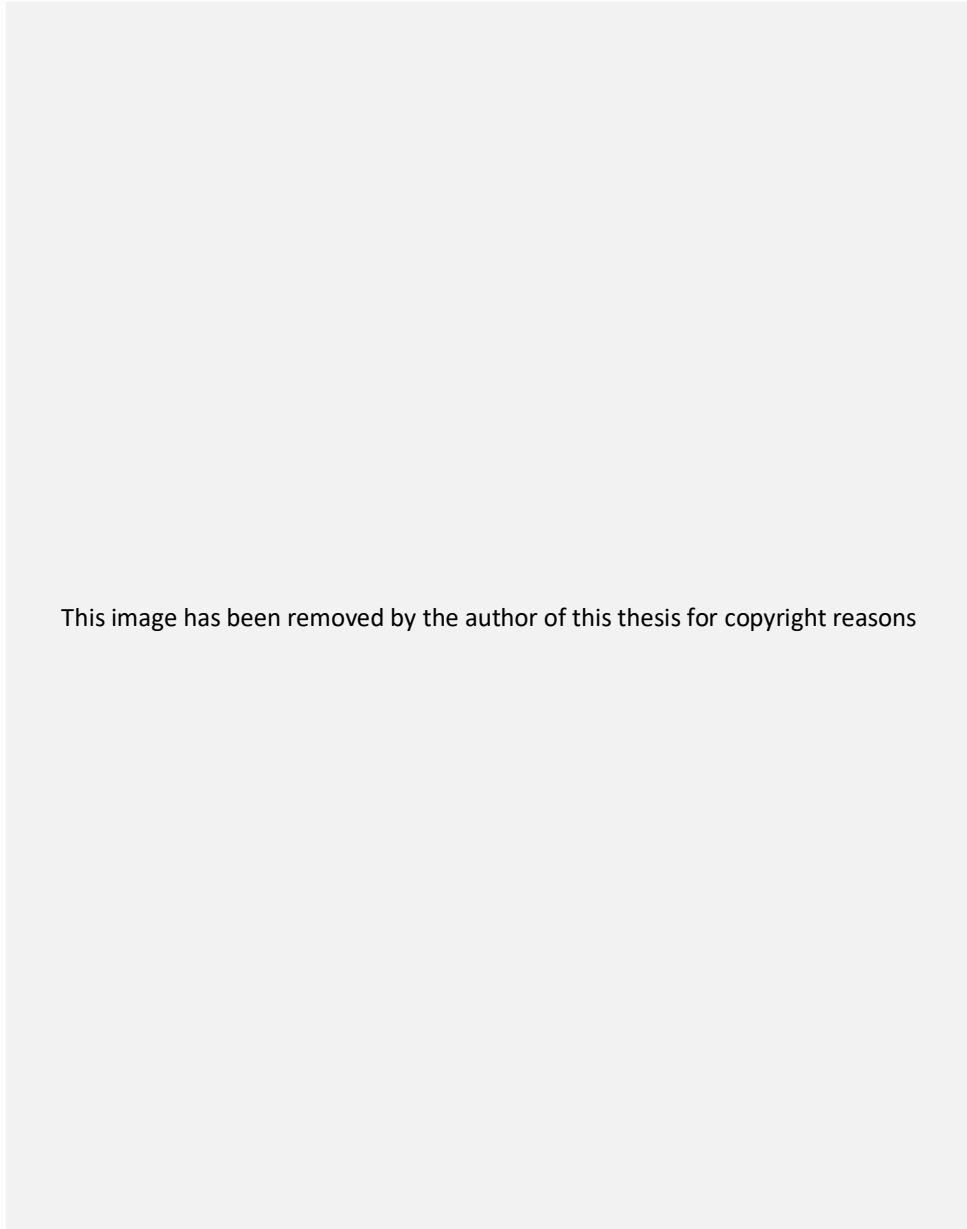


Figure 22: Miller's sketch of *Conversation / Interrogation*, Cardiff and Miller Studio Archive, Grindrod, photograph by author, 2014.

Chapter 3:

Audio Response: *To Touch* (1993) and *The Dark Pool* (1995)

3.1 Introduction

Art installations that require “activation” by an audience are typically categorised within contemporary art as “participatory” or “interactive.”¹ The compulsion to align 1990s installation art, in particular, within these paradigms of participation and benign interaction was largely dominated by the reception and contestation of Nicolas Bourriaud’s theory of “relational aesthetics.”² However, this position neglected two key narratives in installation art that were circulating when Bourriaud’s writings appeared in the mid-1990s: the adaptation of experimental, new media into mainstream contemporary art; and the emphasis on creating installations of spaces. Thus, instead of simply surrendering the 1990s to the horizons of participation and interaction, this chapter sets out differently. This chapter enlists what curator Harm Lux called *erlebnisraum* or “experience-space,” and investigates Janet Cardiff’s and George Bures Miller’s distinctive method of spatial sound. The development of these installations was facilitated through tape loops, sensors, and loudspeakers within purpose-built installation spaces. From

¹ For example, see Samuel Bianchini, Erik Verhagen, Nathalie Delbard, and Larisa Dryansky, *Practicable: From Participation to Interaction in Contemporary Art* (Cambridge, MA: The MIT Press, 2016) and their classification of installation art as “practicable” and “interactive.” Frank Popper was one of the first theorists to talk about art and participation in *Art-action and Participation* (1975) but his focus was on interactivity and new media art. See Popper, *Art-action and Participation* (New York: New York University Press, 1975). Claire Bishop outlined that “participation” was a term for “interactive” art (the activation of the individual viewer), and *social* forms of art that attempt to bring art closer to everyday life. She also differentiated between social forms of participatory art and performance art, with the emphasis on collapsing the distinction between performer and audience, collaboration, and the “collective dimension of social experience.” See Bishop, “Introduction: Viewers as Producers,” in *Participation: Documents of Contemporary Art* (Cambridge, MA: MIT Press, 2006), 10.

² Nicolas Bourriaud first used the term relational aesthetics in 1996 in the catalogue for his exhibition *Traffic* at CAPC Musée d'art Contemporain de Bordeaux. In 1998 he published his book *Relational Aesthetics*. See Bourriaud, *Relational Aesthetics* (Dijon: Les Presses du réel, 2002).

close-focused observations, a new perspective on the wider, overall period will be established.

Specifically, this chapter takes an unlikely source—famous Belgian painter Luc Tuymans’s notion of “twilight”—as a particularly appropriate description for the alternative trajectory that I wish to establish.³ For Tuymans’s piece in a seminal curated exhibition, *This is the Show and The Show is Many Things* (1994), he manipulated the natural flow of light filtering through the gallery skylights as a means to create a particular mood within the gallery. The installation was a carefully-considered response to curator Bart De Baere’s call to conceive a “different space for contemporary art” within the exhibition.⁴ If his idea was just as relevant to the contemporaneous presentation of Cardiff’s *To Touch* (1993) in the similarly titled exhibition *A Night at the Show* (1995)—and further instances of their technological liminality abound from that time—then we must think our way into their trajectory.

Part of the answer is that Cardiff and Miller were involved in the arrival of a very specific moment in the history of installation art, just as Tuymans appeared as a particular type of new painter.⁵ All three emerged as artists who were less concerned with the actual “activation,” “participation,” or “conviviality” attainable through art and were more concerned with constructing art as installation spaces or environments.⁶ However, rather than being an “artistic mode of passivity” as

³ Luc Tuymans, in conversation between Luc Tuymans, Roland Van de Sompel, Dirk Pultau and Bart De Baere, “Film Light Intensity: Mood Imperfection Matter of Course,” in Bart De Baere, Nathalie Angles, Karen Geurts, Willemien Ippel, Hans Martens, *This is the Show and the Show is Many Things* (Gent: Museum van Hedendaagse Kunst, 1994), 130.

⁴ Bart De Baere, in Charles Esche, De Baere, “Exhibition Histories Talks: Bart De Baere – Video Online,” *Afterall online*, (1:26min), March 30, 2017, accessed April 20, 2017, <https://www.afterall.org/online/exhibition-histories-talks-bart-de-baere-video-online#.WQL8b1OGOV4>

⁵ Claire Bishop argued that Installation Art has been driven by phenomenology and marked a paradigmatic shift towards the aesthetisation of art, where artists were interested in presenting rather than re-presenting physical space, sound, light, and accommodate audiences within the space. Bishop, *Installation Art: A Critical History* (London: Tate, 2005), 3-5.

⁶ The list also includes Jason Rhodes, Carsten Höller, Pipilotti Rist and Mike Nelson. This tendency, of course, is not new. It emerged in Dada and Constructivist installations of the early

Seth Kim-Cohen termed this mode of artmaking, the atmosphere (or ambience) created by these works was intended to evoke a “physical and spatial understanding,” as Cardiff characterised it.⁷

My point goes deeper. As demonstrated in the previous two chapters, Cardiff and Miller’s adaptations—of sound, magnetic tape, kinetics, and installation—were part of the same transition where electronic musicians, composers, and artists used the experimental techniques of the underground pioneers. This occurred during the absorption of experimental techniques within mainstream culture in the 1980s and 1990s.⁸ Cardiff and Miller continued to adapt these techniques, that we will describe shortly, to achieve both layered and looped effects in the audio compositions that they incorporated into, or as, artworks. Certainly, in her solo work *To Touch* (1993), Cardiff continued her experimentation with layered multitape-recorded sounds and sensors that she adopted in installations such as *Forest Walk* (1991) and *Whispering Room* (1991) described in Chapter One. In *The Dark Pool* (1995)—Cardiff and Miller’s first co-authored work—this process was

twentieth century, Lucio Fontana’s *Spatial Environments* of the late 1940s, Allan Kaprow’s total art environments in the late 1950s, through conceptual art, situationists, minimalism, installation, and video art of the 1990s. I do not intend to detail this lineage in this thesis. Rather, what this chapter draws on is the effort by artists—namely Cardiff and Miller—to create environments and ambiances in art.

⁷ Seth Kim-Cohen, “Against Ambience,” *Against Ambience and Other Essays*, (New York: Bloomsbury Academic & Professional, 2016), 32. Kim-Cohen discussed the emergence of “ambient”—from Brian Eno’s conception, through to Timothy Morton’s “ambient poetics” and the 2013 exhibition in New York called “ambient.” Kim-Cohen defined ambience as “an artistic mode of passivity. It’s politics ... the kind of relation it fosters ... ambience offers no resistance.”

⁸ For example, John Oswald coined his concept of sampling *Plunderphonics* in 1985. See Oswald, *Plunderphonics or Audio Piracy as a Compositional Prerogative* (1985), <http://www.plunderphonics.com/xhtml/xplunder.html> ; Techno pioneer Juan Atkins commented on the mainstream adoption of synthesizers in Detroit in the 1990s. Juan Atkins, “Roots of Techno,” *Wired Magazine*, September, 1994, <https://www.wired.com/1994/07/techno/> ; David Byrne also spoke about his use of layering effects on audio cassette in the 1980s in *How Music Works* (Edinburgh: Canongate, 2012). For a history of sampling and other recording techniques from the early pioneers to mainstream, see Nicholas Collins, Margaret Schedel, Scott Wilson, *Electronic Music* (Cambridge University Press; 2013).

combined with Miller's approach of constructing a dense spatial bricolage of sounds, objects, speakers, and lights powered by kinetics and electronics.⁹

Finally, this chapter investigates the consolidation of Cardiff and Miller's joint ideas and technological shifts. The unification of their artmaking initiated a new trajectory of room-sized installation works that they co-authored as one artist together, under the name Cardiff and Miller.

3.2 The early to mid-1990s: spatial understanding

Cardiff and Miller's collaborations began in February 1995 while they were living in Lethbridge, Alberta. They received an invitation to attend a three-week media-artists-in-residence program at Vancouver's Western Front artist-run centre. The residency was followed by an exhibition of their first collaborative installation *The Black Pool* (1995) at the Western Front's Front Gallery.¹⁰ *The Black Pool* was the prototype for *The Dark Pool* (1995) that was exhibited at Walter Phillips Gallery at the Banff Centre for the arts four months later. In its second iteration, the installation was a room-sized, dense bricolage of objects and sounds that the audience walked through.

The sheer number of objects, gadgets, and sensors sprawled throughout the room made *The Dark Pool* their most elaborate installation for more than two decades.¹¹ Indeed, *The Dark Pool* was created at a time before Cardiff and Miller

⁹ In *The Savage Mind* (1962) Claude Lévi-Strauss used the word *bricolage* to describe the characteristic patterns of mythological thought. Lévi-Strauss described the 'bricoleur' as "to make do with 'whatever is at hand'." Claude Lévi-Strauss, *The Savage Mind* (Oxford: Oxford University Press, 2004), 17-19; Michel de Certeau described bricolage as "poetic ways of 'making do.'" de Certeau, *The Practice of Everyday Life* (University of California Press, Berkeley, 1984), xv.

¹⁰ Western Front, "Winter Events at the Western Front: Janet Cardiff and George Bures Miller 'The Black Pool': Residency, Exhibition and Artist's Talk," no. 15, 1995, The Dark Pool exhibition files, WPG02.269, 1995, Paul D. Fleck Library and Archives, Banff Centre for the Arts, accessed July 15, 2014.

¹¹ According to the installation notes for *The Dark Pool*, it required a team of two to three installers seven days to install the work. "The Dark Pool Installation Notes, 2001 in Other Janet Cardiff Documentation, III.A.2907, MoMA PSI Archives Series I: Curatorial and Exhibition Records, Museum of Modern Art, New York, accessed July 7, 2014.

began exhibiting their installations internationally, and so Cardiff explained, “we had a bit more time than we do now.” The installation evolved over its first two exhibitions. Cardiff recalled that at first as *The Black Pool*, “there were just a few tables, and then it grew into a room.”¹² As repetitive sound loops emanated from piled objects and speakers positioned around the space, Cardiff and Miller set out to produce an atmosphere or a “feeling” as I will describe later in the chapter.¹³

Similarly, Cardiff expressed her interest in evoking what she called a “physical and spatial understanding.” Describing her work *To Touch* in the press release for the Western Front exhibition, she explained her technique and process in evoking this spatial perception:

I am intrigued by the divergent ways in which to present a story so that it can become less of a linear information experience and more of a physical and spatial understanding. ... I am combining this interest in narrative structure with a technical approach similar to an electronic sampler, using a table with sensors (switches) inserted into the surface. When the sensors are activated there are auditory responses, such as voices, sounds or music that play from various speakers located around the room.¹⁴

Cardiff explains here that she was trying to do two things: create an artwork as a physical and spatial environment and adopt a technical approach similar to the way a composer or DJ would compose on an electronic sampler or play turntables. This effect was possible by setting up a sensor-activated table in the

¹² Cardiff quoted in Carolee Thea, “Inexplicable Symbiosis: A Conversation with Janet Cardiff,” *Sculpture Magazine* 22, January/February (2003): 52-57.

¹³ Miller in David Blazer, “Janet Cardiff & George Bures Miller Chat About Their New AGO Survey,” *Canadian Art*, April 3, 2013, accessed June 9, 2014, <https://canadianart.ca/features/cardiff-miller-lost-in-the-memory-place> ; Miller explained that the layout of *The Dark Pool* changed depending on the size of the gallery space the installation was to be installed in. Although the dimensions of the room changed, the artwork needed to “feel” like *The Dark Pool*.

¹⁴ Cardiff, in “Winter Events at the Western Front.”

middle of the gallery space that played looped recordings from speakers positioned on the walls around the room.

The analogy that the table at the centre of *To Touch* was like an electronic sampler or synthesiser has mostly been understood in terms of the interaction between the visitor and the table. A review by Leah McCartney in *The Meliorist* described the tactile and sensual act of “caressing” the table at the centre of *To Touch*.¹⁵ Cardiff had also said that the piece would be “played” like a DJ.¹⁶ The “talking table” had also been likened to a musical instrument or keyboard, whose “samples” vary with the position of the visitor's hand.¹⁷ Admittedly, locating significance in *To Touch*, however, was not limited to the audience's gestural activation of the work. Likening the table at the centre of *To Touch* to an electronic sampler, was indeed about method and production.¹⁸ Cardiff's technique of recording, layering, and looping sound, and staging it as an artwork—was adapted from *Whispering Room* (1991), *Forest Walk* (1991), and Miller's *Conversation/ Interrogation* (1992). A key development in *To Touch* was the spatialisation of sound through triggering speakers that play, layer, and repeat recorded tape loops. It was a method that was expanded in *The Dark Pool*. In both *To Touch* and *The Dark Pool*, the “mixing” of looped and repetitive sounds via recorded tape, was not completed in post-production but mixed spatially across the speaker arrangement and the visitor's activation of the

¹⁵ Leah McCartney, “To Touch—to eavesdrop, on intimate moments,” *The Meliorist*, 28:19, February 3, 1994.

¹⁶ Cardiff, interview with Rochelle Steiner, in *Wonderland*, (Saint Louis Art Museum, Saint Louis, Missouri, 2000), 52.

¹⁷ Sherry Gache, “Miami: Janet Cardiff,” *Sculpture Magazine*, Washington DC, January-February, (1999), 61.

¹⁸ Cardiff's awareness of sequencer technology in 1994 was quite progressive. The same year Juan Atkins, one of the pioneers of the Detroit Techno scene, explained how it was only until the early to mid-1990s that artists and musicians knew what an electronic sequencer was. “There was a time seven or eight years ago when you could go into a city and four out of five people didn't know what a sequencer was. Now maybe one out of five doesn't. There is a ton of music here, kids are buying Roland and Korg keyboards. And what are they doing? They're not making ballads!” Juan Atkins, “Roots of Techno,” *Wired Magazine*, September, 1994, <https://www.wired.com/1994/07/techno/>

motion sensors. The coexistence of the two elements (the activation of the loops and the spatialisation of the sound over the speaker arrangement) was the innovation in *To Touch*.

We are now ready to focus on the artworks and the milieu from which they emerged. *To Touch* and *The Dark Pool* were created at a time in the early to mid-1990s when installation art was attentive to creating “spaces,” or “ambiences.” I propose that these artworks reflect this moment. I emphasise that although it may initially be tempting to discuss these works within the discourse on social and inclusive audience interaction, I show that these positions are irrelevant.

3.3 *To Touch* (1993)

In 1991, a music television program titled *Intimate and Interactive* aired on Canadian television. The show was broadcast three or four times a year. It featured international bands and recording artists including Destiny’s Child, Midnight Oil, Spice Girls, Blind Melon, Green Day, No Doubt, and Def Leppard, live in 90-minute concerts filmed in front of a studio audience in a Toronto television studio. “Live television is about surprise,” said director Tom O’Neill, “whatever happens, be ready for it.”¹⁹ In between songs the audience would ask the artists questions in the studio, via telephone, or facsimile. The show presented fans with an opportunity to get close to their favourite bands. According to O’Neill, the show’s philosophy was to “make it as interactive as possible—to tear down these ivory walls of broadcasting. We don’t hide the wires.”²⁰ The title of the program, *Intimate and Interactive*, seemed to encompass the cultural sentiment surrounding technological progress and accessibility in the

¹⁹ “Intimate and Interactive Show Puts Emphasis on Live,” *The Gazette*, Montreal, 12 August 1993, D8.

²⁰ The aspiration to dismantle the “ivory walls” was also the crisis faced by the modern sovereign power of the art institution as counter culture and subculture movements began proliferating through the mainstream in the 1960s and 1970s. For a discussion on the paradigm shift since the 1970s from traditional forms of activism (the crisis of modernity) and from disciplinary society to a society of control in postmodernism, see Michael Hardt and Antonio Negri, *Empire* (Cambridge: Harvard University Press, 2000).

early 1990s. Likewise, the significance of *To Touch* was not hinged on subjective experience alone. If we want to “expose the wires” as O'Neill suggested, then we need to examine the artwork.

No doubt, the title of the installation, *To Touch*, evokes a sense of intimacy and tactility. Although the sense of closeness evoked by touching the table and listening to Cardiff's whispering voice was obvious, it was not the endgame. *To Touch* shared its title with a line from Roland Barthes' *A Lover's Discourse: Fragments* (1977), in which he wrote, “what suddenly manages to touch me (ravish me) in the other is the voice.”²¹ In this text, Barthes used structuralist tools to explore the subject of love. The fragmented text was arranged alphabetically, as he referenced his writing and other literature. More specifically, Barthes organised the text with “non-syntagmatic, non-narrative figures” that determined the feelings and states in which a lover experiences—without concerning himself with discovering or explaining the source for these figures.²² Interestingly, however, what was embraced in Laurel Woodcock's catalogue essay for *To Touch*, was the text's intimate and evocative language.²³

Alternatively, a close analysis of Cardiff's method reveals that, like Barthes's fragmented texts, the narrative of the work was not determined by the tactility of the viewer's touch or speech as text. Instead, as I explain below, Cardiff appropriated experimental composition techniques used by musicians and DJ's—recording, layering, and looping sounds. She then distributed these recordings across multiple two-channel speakers within the exhibition space to form a spatial “story” or what curator Harm Lux referred to as an “experience-space.”

²¹ Roland Barthes, *A Lover's Discourse: Fragments* (London: Random House, 2002), 191.

²² Barthes, *A Lover's Discourse*, 7. Also see Sara Mills, *Discourse* (London: Routledge, 2004), 49.

²³ Laurel Woodcock “Speaking of Touch,” in *Janet Cardiff: To Touch* (Lethbridge: Southern Alberta Art Gallery, 1994), 5.

This image has been removed by the author of this thesis for copyright reasons

Figure 23: Janet Cardiff, *To Touch*, 1993, Materials: Wooden carpenter's table, electronic photo cells, 16 audio speakers, Dimensions: Table: 98cm x 140cm, room size variable, © Janet Cardiff.

3.3.1 From “interpersonal relations” to mediations through technology

Before we discuss how Cardiff implemented these techniques, we must recover installation art from the social or cultural appropriation it endured. Undoubtedly, discourse on installation art that emerged in the 1990s was eclipsed by Nicolas Bourriaud’s categorization of “relational aesthetics”—a moment that Bart De Baere referred to as “the beginning of the end.”²⁴ As a term coined for the 1996 exhibition *Traffic*, the fundamental hypothesis for “relational aesthetics” was the “sphere of human relations.”²⁵ This characterisation led to many of the artists in

²⁴ De Baere called the occurrence of Bourriaud’s *Traffic* exhibition in 1996, “the beginning of the end.” De Baere, “Exhibition Histories Talks.”

²⁵ Nicolas Bourriaud, *Relational Aesthetics* (Dijon: Les Presses du réel, 2002).

Traffic rejecting the term becoming a blanket trope associated with their practice.²⁶ Claire Bishop had also expended significant energy, particularly in her essay *Antagonism and Relational Aesthetics* (2004), contesting the term within her discourse on participatory art and participation.²⁷

Interestingly, in an interview with Larisa Dryansky in 2011, Bourriaud also downplayed “participation” being at the core of his concept of “relational aesthetics.” In the interview, Bourriaud backpedalled from his claims suggesting that his adoption of the term was simply a search for a common thread amongst the exhibiting artists. “At the time, I was trying to figure out what the twenty or so artists of my generation who interested me at the time had in common,” he explained. “It seemed clear to me that their commonality lay in the sphere of interpersonal relations.” Bourriaud also said that he thought participation was only part of the story: “It should be noted that participation is only one aspect of a much larger sphere,” he explained. The works should not have been reduced to participation alone.²⁸ Bourriaud proposed that a “new kind of mental paradigm” emerged in the art of the early 1990s.²⁹ In 2016, he reconsidered the situation to

²⁶ See Gillick, “Letters and Responses: Contingent Factors: A Response to Claire Bishop’s ‘Antagonism and Relational Aesthetics,’” *October* 115, Winter (2006): 95–107. Stewart Martin rightfully argued that Bourriaud considered the innovation of 1990s art as not a “style, theme or iconography,” but as an operation within a “sphere of inter human relation.” Stewart Martin, “Critique of Relational Aesthetics,” *Third Text*, Vol. 21, Issue 4, July, (2007): 370.

²⁷ Bishop, “Antagonism and Relational Aesthetics,” *October* (2004): 51–79. Bishop noted a slippage between “participation” (as a symptom for spectatorship) and “participatory art” which she considered a “a type of work that seeks to privilege physical and social ... a first-hand experience in the social field.” Rather than placing emphasis on the “process,” she emphasised the overall meaning of the project. Claire Bishop, interviewed by David Zerbib, “The Myth of the Active Subject,” Samuel Bianchini, Erik Verhagen, Nathalie Delbard, and Larisa Dryansky, *Practicable: From Participation to Interaction in Contemporary Art* (Leonardo Cambridge, MA: The MIT Press, 2016), 797–799.

²⁸ Nicolas Bourriaud interviewed by Larisa Dryansky, *Practicable*, (2016), 785. Bourriaud explained: “What tends to stick in one’s mind is the fact that he [Tiravanija] cooks for people. It’s very reductive to limit him exclusively to that.”

²⁹ Nicolas de Oliveira emphasised the interactive dimension of artworks operating within immersive paradigm. Nicolas de Oliveira, Nicola Oxley, and Michael Petry, *Installation Art in the New Millennium: The Empire of the Senses* (London: Thames & Hudson, 2003), 28. Mark Rosenthal also held the view that installation art had become the hegemonic occurrence of the everyday. He wrote, “there is no frame separating this art from the viewing context, the work and

be more complex than the viewer simply being crowned the creator of an artwork. Accordingly, he appeared to retract from his original position regarding the “conviviality” evoked through the meeting of people with shared interests. Likewise, his reassessment of the relational also seemed to downplay the typical positivist syntax (as enlightenment) that framed the human relations evoked through these artworks. The 2016 revised notion of “relational aesthetics,” as a confrontation between the artwork and the viewer, provided some transparency on the claims he made in his 1996 essay and 1998 publication.

However, even if we are to re-evaluate Bourriaud’s re-conception of installation art as an interface between the artwork and viewer, this assessment still does not consider the specifics of the artists’ modes of production.³⁰ Thus, claiming that the encounter between the audience and the artwork was the artist’s material is too one-dimensional. For example, if we re-focus on *To Touch*, limiting our attention to the relational aspect of the installation is an oversight that becomes apparent in the reference that Cardiff made about the “viewer playing the table like a DJ.” In McCartney and Woodcock’s understanding of *To Touch*, this assertion was restricted to the viewer’s action and the interaction. Confining the association of the “DJ” to cultural analogies ignored the tangible and intangible aspects of the installation—the audio recording, Cardiff’s composition method of looping and layering, the arrangement of the speakers, and the spatial distribution of sound.³¹

Cardiff adapted the language and methods of experimental composition. These techniques and the inclusion of the physical space in the artwork was

space having melded together into an approximation of a life experience.” Mark Rosenthal, *Understanding Installation Art: From Duchamp to Holzer* (Munich: Prestel, 2003), 25.

³⁰ Stewart Martin made a similar critique of Bourriaud in “Critique of Relational Aesthetics,” *Third Text*, vol. 7, (2007): 369-386

³¹ We can also recall other movements in the 1990s such as Britart. In *High Art Lite*, Julian Stallabrass outlined that the principles that gave the avant-garde its energy and optimism had collapsed. Britart was not just about creating an alternative space but part of “a wider failure of a culture of opposition.” Julian Stallabrass, *High Art Lite: British Art in the 1990s* (1999), 54.

symptomatic of developments in contemporary culture at the time.³² Since appropriation, remix culture, and the proliferation of recording technology (including the compact disc) a decade earlier, a new generation of artists such as Angela Bulloch, Carsten Höller, Matthew Barney, Thomas Demand, and David Rokeby continued to question authorship, reception, and the institutional model of the gallery. What distinguished these emerging artists from the prior “Pictures Generation” was that these artists adopted more experimental (and with greater frequency) technology, material, and production methods than their predecessors.³³ However, the new generation of artwork was more inclusive—or, at least more aware of the audience³⁴—the tendency was to focus on installation art’s “relationality,” “interaction,” “participation,” and ignore the conditions of production.³⁵

³² In *Postproduction*, Bourriaud described the art of the 1990s as a “shopping mall” of objects that artists can pick and choose from. Nicolas Bourriaud, Jeanine Herman, and Caroline Schneider, *Postproduction: Culture as Screenplay: How Art Reprograms the World* (New York: Lukas & Sternberg, 2002), 22. At face value, one could interpret *To Touch* as a symptom of the “shopping mall” aesthetic of cultural borrowing in the way it used short tape loops and found recordings arranged and played in a randomised order. However, rather than relating Cardiff’s installations of this period as a symptom of a “shopping mall” aesthetic “ready to be programmed,” this Chapter shows that *To Touch* represented a scenario of art making that was focused squarely on the presentation of art as a system.

³³ See Branden W Joseph, “Angela Bulloch: Ambivalent Objects,” in Nancy Spector, and Solomon R. Guggenheim Museum, *Theanyspacewhatever* (New York London: Guggenheim Museum; Distributed Art Publishers, 2008), 37. The *Pictures Generation* was coined by Douglas Crimp to define the work of a group of American artists (including Cindy Sherman, Richard Prince, Robert Longo and Barbara Kruger) known for their critique and appropriation of media culture. *Pictures* was the title of an exhibition of the work of Troy Brauntuch, Jack Goldstein, Sherrie Levine, Robert Longo, and Philip Smith, which Crimp organised for Artists Space in 1977. See Douglas Crimp, “Pictures,” *October*, vol. 8 (Spring, 1979): 75-88.

³⁴ This visibility of the audience was what Liam Gillick took issue with in Claire Bishop’s essay, *Antagonism and Relational Aesthetics* (2004). See, Gillick, “Letters and Responses: Contingent Factors.”

³⁵ Branden W. Joseph also made a similar assessment of Angela Bulloch’s *Trans-Europe Express* (1993) when he quoted Bourriaud claim that *Trans-Europe Express* was exemplary of “the present-day craze for revisited areas of conviviality.” Joseph argued that such an interpretation overlooked the fact that music was “interrupted as it is transmitted by visitors’ actions,” and that it failed to “account for the specificity of Bulloch’s appropriated material.” Rather than celebrating conviviality, *Trans-Europe Express* problematized interactivity, as an “ambivalent” mediated response to, or through, media. Joseph, “Angela Bulloch,” 31.

As I have explained, this point is particularly decisive in the case of Cardiff and Miller's artworks. A discussion on interaction alone ignores the carefully intended intricacy of the composition and the installation's arrangement within the gallery. That these factors offer more insight into the artwork than a mere engagement with the audience is not insignificant.³⁶ We can only begin to understand what Cardiff implied by her comments about the formation of a "physical and spatial understanding" if we investigate the artwork's physical character and composition.

It is time to explain Cardiff's adoption of analogue cassette tapes and sensors in the compositions. Looking at the method and production of the artwork offers a more nuanced understanding and shows that *To Touch*, and *The Dark Pool*, were more aligned to experimentation, as per a method emerging from new media, than with curatorial ideas on experimental audience engagement. By analysing and homing in on the actual artworks, we can describe how Cardiff and Miller created their physical environments.

3.3.2 The emergence of the DJ: from the underground to the mainstream
The appropriation and theorisation of DJ and electronic music as an approach to cultural production emerged from the socio-cultural scenario of the 1990s.³⁷ In 1998, Genesis Breyer P-Orridge (co-founder of industrial band Throbbing Gristle and experimental band Psychic TV) explained that editing and cutting tape emerged as the harbinger of the proliferation of remix culture in the 1990s. "We realised that the world could be cut-up, that sound could be cut-up, that everything to do with culture could be cut-up and reassembled in ways that didn't exist before," P-Orridge said. "That will be seen as the most radical and

³⁶ Charles Green and Anthony Gardner made a distinction between the experimental practices following new media art and the experimentation as a "self-conscious" active engagement with audiences championed by biennial curators in the late 1990s. Charles Green and Anthony Gardner, *Biennials, Triennials, and Documenta: The Exhibitions That Created Contemporary Art*, (Chichester, West Sussex; Malden, MA: John Wiley & Sons Ltd., 2016), 256.

³⁷ Stewart Martin aptly pointed out that technology and innovation were often considered in terms of its social form, as social theory. Martin, "Critique of Relational Aesthetics," 370.

important thing that could happen this century.”³⁸ The veracity of P-Orridge’s claim saw DJ and electronic music in the 1990s move from counter-culture to the mainstream. The Pet Shop Boys released their pop song “DJ Culture,” and rave parties moved on from the illegal hidden warehouse parties of the 1980s to full stadiums, becoming a commercial enterprise for promoters by the early 1990s.³⁹ Similarly, the figure of the DJ made its way into the visual arts during the 1980s. John Oswald (1987) awkwardly defined the DJ as a “Hip Hop/scratch’ artist who plays a record like an electronic washboard.”⁴⁰ In 1989, artist Christian Marclay appeared on the television show *Night Music*, scratching and mixing found and cut-up records on four turntables.⁴¹ In 1993, Angela Bulloch presented her installation *Trans-Europe Express*, and in 1996, DJ Shadow’s debut album *Endtroducing...* brought much critical acclaim to the art of creating original music via scratching and sampling. Much later, Anri Sala presented *Ravel Ravel Unravel* (2013), a video installation in which part of the work depicted a DJ attempting to beat mix two identical piano concertos at the 59th Venice Biennale in 2013.

Cardiff too adopted the term “DJ” to describe how her audience was to interact with the table at the centre of *To Touch*. The installation appropriated mixing and beat juggling techniques, and her method was less concerned with seamless beat matching and mixing (evident in Marclay, DJ Shadow, or Sala’s DJ) than with forming layers and repetitions as *effects*.⁴² Attributing Cardiff’s “DJ-ing” as a

³⁸ Genesis Breyer P-Orridge, *Modulations: Cinema for the Ear* (1998).

³⁹ This was a global development. In Melbourne, for example, a number of promoters such as *Melbourne Underground Development (M.U.D.)* ran the *Every Picture Tells a Story* parties from 1991-2000, and *Hardware* organised parties in warehouses in the dockyards in Footscray from 1990.

⁴⁰ John Oswald, “Bettered by the Borrower: The Debt (1987),” in Christoph Cox, *Audio Culture: Readings in Modern Music* (New York: Continuum, 2004), 132.

⁴¹ There is footage of Marclay’s appearance on *Night Music* on YouTube. The host introduced Marclay as a “Record Player.” Christian Marclay, “Christian Marclay on Night Music,” (1989), YouTube video, rednoise0, posted September 3, 2008, accessed July 3, 2016, <https://www.youtube.com/watch?v=1IFH4XHU228>

⁴² Historically, the DJ originated from the radio DJ. Radio’s seductive nature and the DJ were the powerful gatekeeper where “music meets the audience.” Bill Brewster and Frank Broughton,

compositional effect—rather than a cultural metaphor, technical acumen, or showmanship—we can begin to trace the trajectory for *To Touch* as a spatial effect or environment.

Before we consider how Cardiff adopted music composition methods to create spatial effects, it is appropriate to further critique the usefulness of Bourriaud's conception of the "artist as DJ or programmer."⁴³ Since Cardiff adapted experimental methods of mixing and DJ-ing, initially, it would seem apt to introduce Bourriaud's conception of the "DJ or programmer" here. Bourriaud's theorisation appeared to address the role assumed by the audience in *To Touch*. He used the metaphor of artist as "DJ or programmer" to frame the 1990s artists who appropriated and reconfigured existing artistic material. He claimed that the act of remixing and re-contextualising was central to the production of an artwork.⁴⁴ However, what distinguished Bourriaud's artist-cum-DJ from Cardiff's audience "playing" the tabletop, was that Bourriaud's hypothesis was limited to the production and appropriation of readymade cultural forms. In fact, he considered technology and innovation as social forms.⁴⁵ However, rather than sampling—or to paraphrase Bourriaud—"programming" found sounds, Cardiff composed and recorded new material. Bourriaud's attention on the "social" implications of the process missed the mark and disregarded the materiality of the artwork. To this end, the framing of Cardiff's installation within a discourse on cultural appropriation is not helpful as it disregards the specificity of the

"Beginnings – Radio," in *Last Night a DJ saved my life* (Headline Book Publishing: London, 2006), 50.

⁴³ Nicholas Bourriaud, *Postproduction* (2002). In his interview with Dryansky, Bourriaud also extended his analogy of the "DJ or programmer" who selects "cultural objects and inserting them into new concepts" to the audience. This association was unclear in *Postproduction* (2001).

⁴⁴ Bourriaud also explained that "DJ's, web surfers and postproduction artists" (what he groups together as "semionauts") all produce original material through the adoption of appropriated cultural elements or "signs." The phrase referred to the processing of recorded material. Bourriaud, *Postproduction*, 4-6.

⁴⁵ Martin, "Critique of Relational Aesthetics," 370.

technology and the methods of production. That is, it ignores the work and its presentation within the gallery space, as I will now explain.

3.3.3 Loops and layers: sound and spatial composition

In *To Touch*, the recordings, playback equipment, and audio techniques enabled Cardiff to produce spatial and textural effects with sound. Specifically, Cardiff applied compositional techniques that generated spatial effects with music and voices. Her artistic innovation was treating the recorded voice as textural effect and not a text.⁴⁶ Cardiff also experimented with speaker arrangements in order to present a multi-layered spatial composition that challenged expectations about how an art audience experienced sound. This was, as we recall, a method that Cardiff initiated in *Whispering Room* and the audio walks.

As established in Chapter One, Cardiff's fascination with sound began in the 1980s, and one of its core attractions was its malleability. With ease, Cardiff could form layers, edit, and re-edit material—a feat that was not possible with the two-dimensional image. “Sound allowed me to layer different voices,” Cardiff recalled, “I could do things with sound that I could not do with the two-dimensional image.”⁴⁷ Voice could be recorded and re-recorded to produce effects that were unattainable with any other medium. Cardiff adopted many of the same materials and technology she used in her earlier works in *To Touch*. She used a Tascam multitrack recorder and a cassette tape deck to record, layer, and loop vocals and other sounds onto tape in *Whispering Room* (1991) and *Forest Walk* (1991). As we might recall in *Whispering Room*, Cardiff arranged sixteen speakers in the gallery space that were connected to cassette tape players. As the visitor moved through the space, the voices layered and conversed, creating a spatial sound environment for the visitor to explore. Like *Whispering Room*, *To Touch* was an arrangement of

⁴⁶ Claire Bishop also noted the move away from text within performance. See Bishop, “Black Box, White Cube, Grey Zone: Dance Exhibitions and Audience Attention,” *The Drama Review*, vol. 62, no. 2 (Summer 2018): 22-42.

⁴⁷ Janet Cardiff, in Carolyn Christov-Bakargiev, “Conversations,” *Janet Cardiff: A Survey of Works Including Collaborations with George Bures Miller*, ed. Anthony Huberman (New York: P.S. 1 Contemporary Art Centre; Distributed Arts Publishers, 2002), 27.

multiple speakers in a room. But, instead of walking around the space and through the speakers, the visitor approached a table at the centre of the space encircled by speakers mounted on the walls. In contrast to the continuous looping of sound in *Whispering Room*, the loops or “auditory responses” in *To Touch* activated only once the visitor triggered the motion sensor by waving their hand above the table.

To Touch was arranged in a dimly-lit, four-walled gallery, where eighteen small black solid HCM2 loudspeakers were mounted to the walls at five-feet (at approximately head height) along the parameter of the room.⁴⁸ Two overhead 1000w spotlights illuminated an old wooden carpenter's table positioned at the centre of the gallery. Hidden wiring and amplifiers connected electronic photocell sensors concealed in the table's surface to nine cassette tape decks.⁴⁹ As the visitor moved their hands and touched the table, the tape loops sounded. The volume of the playback was not particularly loud. What was unusual was the way the sounds signalled from multiple positions around the gallery and filled the room with spatial sound. This was an experience, of course, familiar to anyone who has listened to music in surround stereo or attended an experimental spatial sound concert. However, in 1993, surround sound was still a specialist technology and not part of the conventional art museum or gallery experience. The sensor activated technology was a technique she adapted from Miller's use of sensors in *Conversation/ Interrogation* and her work *Inability to Make a Sound* (1992).⁵⁰

⁴⁸ *The Dark Pool Installation Notes*, 2001, Other Janet Cardiff Documentation, III.A.2907, MoMA PSI Archives Series I: Curatorial and Exhibition Records, Museum of Modern Art, New York, accessed July 7, 2014. As with all Cardiff and Miller's works, Cardiff had specific guidelines as to the side of the room and the architectural materials of the space.

⁴⁹ *The Dark Pool Installation Notes*. The cassette tape decks were eventually superseded by Sony Discman's in the late 1990s.

⁵⁰ *Inability to Make a Sound* (1992), Audio walk with film, and mixed media, 10 min.

The action of triggering the loops generated a repetitive soundscape that materialised and transitioned throughout the piece.⁵¹ The sensors triggered the nine cassette tape decks that played audio tapes, with each loop sounding from 10 to 30-seconds in duration. The vocal recordings—titled “Picture This,” “Touch Me,” and “3 Narratives”—were played by two speakers. Other soundtracks—titled “scary music,” “TV voices,” “SFX,” “chanting,” and “breathing”—were composed of sound effects, musical interludes, voices, and samples dubbed from 1950s movies.⁵²

Although the sounds were mostly familiar, like something you had heard before, Cardiff recorded the tapes to sound like moments and fragments filtered through media.⁵³ The recordings evoked, in Cardiff’s words, “something you have heard before,” such as a scene from a movie, a line from a book, an overheard conversation, or recollections of dreams. Her idea to create these mediated pieces evolved from her memories growing up in a small town in Ontario, Canada.⁵⁴ Cardiff recalled that as a girl she only knew the world through magazines, radio, and television. So, when she finally visited Toronto, she was shocked that the city was not like it was portrayed in the media. Like Barthes’s fragmented lines in *A Lover’s Discourse*, the recordings became narrational citations and aesthetic

⁵¹ The loops would only stop once the visitor stood still and ceased to activate the table with their touch.

⁵² Artwork description in “Works: To Touch,” in *Janet Cardiff* (2002), 51.

⁵³ Cardiff, “Conversations,” 27. Similarly, DJ Spooky said, “When you’re a child, you’re absorbing bits and pieces of language around you. Those sit in your head and you slowly are able to speak your own sentences later. It’s the same with DJ-ing: you’re absorbing these records, these linguistic units, or whatever, and slowly you’re able to reconfigure them and to put them out as a stream of sentences, or stream of mixes.” DJ Spooky, sound clip from battlesounds.com (recorded 8/95). DJ Spooky quoted in *Audio Culture: Readings in Modern Music* (2006), 327.

⁵⁴ In Cardiff’s notebooks, she has many entries of her recollection of dreams. Author’s research, Cardiff and Miller’s Grindrod studio, Canada, accessed July 2014.

effects. These tapes were suggestive of but never directed by their content or their arrangement.⁵⁵

As aesthetic effects, the sounding recordings formed and shaped the physical space of the gallery. How this was achieved is best explained with an example. The soundtrack titled “Touch Me” was a dialogue played across two speaker channels positioned on either side, the left and right, of the gallery:

Woman: Hang onto my wrist.

Man: I can feel your pulse and sweat and the lines from your scars.

W: Tell me stories about my scars.

M: Like this long one.

W: I forget what happened there.

This exchange between the male and female voices (recorded by Cardiff and Miller) played out across two channels—so the male voice was heard from one speaker and the female voice from the other. The lines of the exchange were purposely vague, never revealing enough for the listener to piece together a storyline. What was more suggestive in the exchange, however, was the play of the sounds that projected from the speakers to the left and right of the visitor. This sensation intensified as “Touch Me” sounded collectively with the other soundtracks arranged in the same way—sounding from the left and right speakers around the room. The repetition and layering oscillated from left to right across the eight two-channel speaker arrangement. The effect formed an intense and textured spatial soundscape.

Similarly, musician David Byrne (and former front-man of American new wave band Talking Heads), described how he used found recordings in the album *My Life in the Bush of Ghosts* (1980) that he co-authored with Brian Eno. “Often, what the vocalists were actually saying didn’t matter to us at all,” Byrne recalled. “It

⁵⁵ Cardiff and Miller later used the same idea of activated loops in a work called *Cabinet of Curiosities* (2010), Unique oak card catalogue with speakers and audio, dimensions: 132.08 x 44.45 x 68.58 cm.

was the sound of their vocals—the passion, rhythm, and phrasing—that conveyed the emotional content,” rather than their semantics. “This approach retained some of the ‘authorless’ aspects that had appealed to us when we came up with the fake field-recording concept,” he explained, “but it also turned out to be contentious to those who view songs primarily as vehicles for texts.”⁵⁶ Byrne described that their faux field-recordings offered anonymity within their compositions—an approach that was problematic for those who saw songs as texts. No doubt, his technique of disassociating a sound from its source developed from twentieth-century modernism. Pierre Schaeffer’s concept of “sound objects,” or *objet sonore*, signified a sound whose origin could not be identified by the listener.⁵⁷ Byrne relied on the ambiguity of the recorded voice to generate textural and rhythmic layers, an effect also evident in *To Touch*.

Voice recordings as textural effects can be traced in House music’s adoption of the recorded sample and repetitive rhythms.⁵⁸ Rather than following the political roots of sampling in Hip Hop, the sample in House music was adopted for the “vibe” that the sound could create.⁵⁹ As House and Techno developed in Chicago and Detroit in the 1980s and 1990s, the sampling of music, poetry, or spoken word, that were critical in Hip Hop and Rap formed only part of the equation.⁶⁰ House and Techno developed an atmosphere, “vibe,” or attitude that was conceivable through repetitive recorded music.⁶¹ The music expressed the

⁵⁶ David Byrne, *How Music Works*, (Edinburgh: Canongate, 2012), 158.

⁵⁷ For further discussion on Schaeffer’s concept see: Pierre Schaeffer, *Solfege de l’objet Sonore* (1966), transcript is available here: UbuWeb Papers, <http://www.ubu.com/papers/sch.html>

⁵⁸ This history can also be traced to Sound Poetry movement with its explicit focus on the phonetics of speech and on abstract vocalisations, rather than on semantics. See Marjorie Perloff, and Craig Douglas Dworkin, *The Sound of Poetry, the Poetry of Sound* (Chicago; London: The University of Chicago Press, 2009).

⁵⁹ The political heart of hip hop and rap can be traced in the lyrics of NWA and Public Enemy.

⁶⁰ For an overview of DJ culture and its history within twentieth-century modernism, see “DJ Culture: Introduction,” in *Audio Culture: Readings in Modern Music*, ed. Christoph Cox, Daniel Warner, rev. ed. (New York: Bloomsbury, 2017), 479-480.

⁶¹ See Richard Pope, “Hooked on an Affect: Detroit Techno and Dystopian Digital Culture,” *Dancecult: Journal of Electronic Dance Music Culture* 2, 1 (2011): 24-44, for his analysis of how Detroit techno emerged out of the “dystopian setting of Detroit” in the 1980s. Techno coming out

sentiment of a musical generation who were more in tune with developing a groove or a mood through repetitive beats and sounds, than a coherent narrative communicated through lyrics.⁶² For example, in 1981, Frankie Knuckles played “weird dubbed-up” post-disco sounds. He also worked on “re-edits” of sounds using a reel-to-reel to extend intros and breaks and add new beats and sounds to disco classics. Knuckles would use these effects to give his “dancefloor an extra boost,” he recalled. “I’d arrange them, extend them, rearrange them.” These techniques went on to be appropriated by other musicians.⁶³

The desire to create a groove or a mood was echoed in what would be one of the most sampled house records of all time: Rhythm Control’s *My House* (1987). On the record, vocalist Chuck Roberts famously declared house music was a “feeling”:

You see, House is a feeling,
that no one can understand really
unless you're deep into the vibe of House.⁶⁴

Here we might recall Cardiff’s description of *To Touch* as a physical understanding and connection. Robert’s famed phrase “house is a feeling” was sampled throughout the 1980s and into the 2000s by producers and DJs.⁶⁵ The

of Detroit in the early 1980s, was influenced by Kraftwerk, George Clinton, technology, science fiction (such as Toffler’s *Future Shock* and *The Third Wave*, and Ridley Scott’s *Bladerunner*), and early video games. Juan Atkins began one of the original Techno record labels in Detroit, *Metroplex*, in 1985. He was influenced by science fiction, concepts about the future, and cultural change within Detroit at the time: “It’s always been about insight and forward thinking. It goes as far as the science fiction I was into early on and the class I took in high school called ‘Future Studies.’ One of the textbooks I had to read was Alvin Toffler’s *Future Shock*. Also, Detroit is unlike any other city in the transitions it has endured. When your surroundings change, you go through change.” Atkins, “The Roots of Techno.”

⁶² For a detailed account of the development of House Music and Frankie Knuckles in Chicago see Bill Brewster, and Frank Broughton, “House: Can You Feel It?,” *Last Night a DJ Saved My Life: The History of the Disc Jockey* (London: Headline Book, 2006), 312-338.

⁶³ Brewster and Broughton, “House: Can You Feel It?,” 316.

⁶⁴ Chuck Roberts, lyrics to Rhythm Control, *My House* (1987).

⁶⁵ The line was sampled most famously in Chicago House godfather Todd Terry’s *House is a Feeling* (1991).

“borrowing” of vocals and music samples in the arranging and rearranging of recorded sound was primarily to generate a “feeling,” or as Knuckles explained, to give his “dancefloor a boost.”⁶⁶

The association between recorded music and mood, as in the creation of an atmosphere, dated back to the 1940s when the now-infamous Jimmy Saville began playing records at dance halls in Manchester. “I didn’t think I was an entertainer,” recalled Saville, who claimed to have held the first dance party playing records (rather than live music) as a DJ. He described the “effect” that playing recorded music had on the crowd: “I was creating an atmosphere. Not as control or power but an ‘effect,’” he explained.⁶⁷ Forming an atmosphere and *effect* by playing records proffered the authorial anonymity associated with playing someone else’s music. This was the obscurity that Byrne also defined in his “fake” field recordings. Sound and lyrics were freed from their narrative and authorial content once the presumptions associated with musical authorship and storytelling were removed. Moreover, just as playing recorded music to an audience was about the shaping of a *feeling* through sound, the malleability of sound (via looping and layering of recorded tape) enabled Cardiff to arrange *To Touch* as a physical and spatial encounter.

Indeed, *To Touch* was shaped not only by the composition but also the speaker arrangement. As we recall in our earlier discussion of *Whispering Room*, the speaker arrangement directed the visitor through the space while they could also isolate sounds.⁶⁸ In *To Touch*, however, the speakers were mounted on the walls

⁶⁶ This sentiment was also extended to the rebirth of Brian Eno-esque ambient and experimental music by artists such as The Orb, The KLF, and Aphex Twin in the late 1980s to late 1990s. Andrew Smith wrote in the *Guardian*, “Ambient music has a history... Noting how sound could affect the way a listener experienced three-dimensional space—ask any shopping mall manager about this—Eno saw ambient music as something to be consumed on a sub-conscious level.” Andrew Smith, “Arts: The ambience chaser—Richard James, aka The Aphex Twin, is a new breed of pop star, one who lies outside the traditional music industry. His *métier* is ambient music, the soundtrack for a post-Ecstasy generation,” *The Guardian*, March 9, 1994, 4.

⁶⁷ Brewster and Broughton, *Last Night a DJ Saved My Life*, 53.

⁶⁸ Cardiff further developed the idea of isolating sounds through individual speakers in the *Forty Part Motet* (2001) discussed in Chapter Four.

surrounding the table at the centre of the space. The soundscape in *To Touch* was spatialised by splitting the left and right channels of nine pairs of stereo speakers. The positioning of the corresponding channels at opposite ends of the room generated a sonic interplay between the left and right speaker channels. The sounds looped and repeated throughout the space as the visitor interacted with the table. The obscure soundscape in *To Touch* enabled Cardiff to disrupt the semantic “linear narrative” approach to speech as text.

At the beginning of the chapter, I introduced Cardiff’s analogy of the electronic sampler. Moreover, Cardiff referred to the way the visitor interacted with the table as “playing” the piece like a “DJ.”⁶⁹ Cardiff adopted the gesture and language rather than the sampler technology itself. In fact, *To Touch* used analogue tapes and sensors to simulate the *effect* of playing a digital sampler. Rather than using the latest technologies, the retro and lo-fi quality of analogue tapes, circuits, sensors, and mixing methods, appealed to Cardiff (as they did Miller). Before the electronic sampler became accessible and affordable only in the 1990s, digital machines were bulky and expensive and were only used by a select few musicians. To put things into perspective, Byrne used analogue tape recorders in the early 1980s to play and layer cassette tapes that digital machines could emulate now with the touch of a button or a click of a mouse. “Digital loops and sampling didn’t exist yet,” Byrne wrote in 2012, “but by playing the same part over and over, one could create a rhythmic and hypnotic textural bed that could be manipulated and layered over later.”⁷⁰ Likewise, Cardiff explained her layering process: “On a tape, it is recorded on the physical part of that tape, and if you lay that track and you get it a second late, then you have to re-lay it.”⁷¹ In this era of the transition between analogue and digital, recorded technology and playback allowed artists to do things with sound—that is record, reuse, and relay sounds—

⁶⁹ Cardiff, *Janet Cardiff: A Survey of Works*, 49.

⁷⁰ Byrne, *How Music Works*, 160. Byrne explained that the 1980s was a “DIY affair.”

⁷¹ Cardiff, *Janet Cardiff: A Survey of Works*, 28.

that they could not do live.⁷² Similarly, for Cardiff, it allowed her to do things with sound that were inconceivable with the two-dimensional image.

The proliferation of recorded sound also raised questions of the presentation and compositions of artworks in concert halls or galleries and the conditions of experience. For example, composer Karlheinz Stockhausen's *Hymen* (1966-67), a two-hour electronic and concrete piece with an optional orchestra, was composed for a quadraphonic four-channel system. The recorded sound relayed over the speakers positioned around the room while the audience sat in the centre. Stockhausen's pioneering spirit posed new questions about perspective. His "multi-layered spatial compositions" challenged traditional concerto structures and the concert hall's frontal arrangement—where the audience remained static facing the orchestra.⁷³ Similarly, for the German pavilion at the Osaka 1970 World Fair, Stockhausen designed a large spherical auditorium where 50 speakers surrounded the audience. In *To Touch*, Cardiff also formed a listening space in which the audience was surrounded by speakers, thus, challenging the traditional structures of exhibition viewing and experience. By arranging sensor activated tapes played over eighteen speakers, the audience experienced the composition spatially.

Moreover, Cardiff's adaption of sound materials, techniques, and her re-evaluation of the conditions of the exhibition were reflected in *To Touch's* inclusion in the exhibition *A Night at The Show* (1995) at W139 Gallery, Zurich. As Cardiff's first installation to be exhibited in Europe, it aligned Cardiff with emerging installation artists (out of Western Europe mostly). In the analysis that unfolds below, Cardiff's art aligns with the development of installation spaces and environments in the 1990s. As I have suggested thus far, there is more to *To*

⁷² Byrne, *How Music Works*, 106. Byrne also noted that the use of editing and splicing meant that a "recording" no longer represented a single performance. It could also represent the fact that it was a result of performances that had been done in many different places and spliced together. The "performance" no longer had to be rooted in continuous time or space.

⁷³ Stockhausen, *London Lecture Series* (video) 1972.

Touch than the convivial interaction between the viewer and the table. I have explained that by analysing the artwork itself—the playback technology, installation set-up, and tape loops—what emerged was Cardiff’s interest in spatial sound. Furthermore, as I will now explain, Cardiff also emphasised the *tension* and *atmosphere* that could be formed at the point where the artwork, the viewer, and exhibition space converged—what Tuymans aptly referred to as *twilight*.

3.3.4 Ambiguity and *Erlebnisraum*

In the mid-1980s to early 1990s, several breakthrough exhibitions in Western Europe challenged the hegemony of modernist ideologies and the art institution by taking to task established methods of art production and reception. These exhibitions appeared to embody the legacy of the unrealised 1959 Situationist International project in Amsterdam’s Stedelijk Museum where the gallery rooms and halls were designed as a labyrinth that the audience would drift through.⁷⁴ Exhibitions such as *Les Immatériaux* (1985) at the Centre Georges Pompidou in Paris, *Chambres d’Amis* (1986) in Ghent, Belgium, *Kontext Kunst: The Art of the 90’s* (1993) at Neue Galerie im Künstlerhaus in Graz, Austria, *This is the Show and the Show is Many Things* (1994) in Ghent, Belgium, *A Night at the Show* (1995) at W139 Gallery in Zurich, Switzerland, and *Take Me (I’m Yours)* (1995) at Serpentine Gallery in London, UK, presented performance, installation, and temporal artworks.

Notably, the curator of *This is the Show and the Show is Many Things*, Bart De Baere, developed an exhibition space that he referred to as an alternative to the “petrified” museum model where visitors gazed at artworks from afar.⁷⁵ His alternative space was a place where artists, artwork, and audience could converge. Painter Luc Tuymans, who was included in the exhibition, spoke of twilight as a condition within his artworks. Twilight was the ambiguous space of

⁷⁴ See Simon Sadler’s description of the Situationists Stedelijk project in Simon Sadler, *The Situationist City* (Cambridge: MIT Press, 1998), 115.

⁷⁵ Rutger Pontzen, *Nice!: Towards a New Form of Commitment in Contemporary Art* (Rotterdam: NAI Publishers, 2000), 16.

convergence between artwork and exhibition. Comparably, curator Harm Lux declared his exhibition *A Night at the Show* an “*erlebnisraum*, an experience-space.”⁷⁶ This attitude of artmaking and its presentation as a space of convergence was also echoed in *To Touch* and later in Cardiff’s first collaboration with Miller, *The Dark Pool*. Lux’s *erlebnisraum* transformed the exhibition space from a display of static objects to an active space that incorporated the architecture, atmosphere, and the conditions of the space. Cardiff’s inclusion in *A Night at the Show* unveils insights into the temperament of artmaking during this period. In addition to the composition methods described up until now, these conditions that I propose are valuable catalysts from which *To Touch* can be approached and understood.

In the group exhibition *A Night at the Show*, curated by Lux and Theo Tegelaars at W139 Gallery in Zurich, *To Touch* was shown alongside artworks from Mikala Dwyer, Michel Francois, Carsten Höller, Fransje Killaars, Pipilotti Rist, Ugo Rondinone, Dina Scagnetti, Eran Schaerf, Stig Sjölund, Stefan Pente, Erik Wesselo, and Elin Wikström. Lux explained that the artist’s role shifted from the artist-as-creator of an object or performance to the artist-as-instigator of performative actions. *A Night at the Show* explored the boundaries between art objects and exhibition space. In the artist invitation letter, Lux wrote: “I would very much like to sweep aside everything that is forced, isolated, categorised, and ordered.”⁷⁷ In place of a methodical exhibition display he generated an environment that obscured the margins between what he called a static exhibition space and a lively theatre:

The idea: taking possession of the given architectural space [and] doing it at such a manner that it goes “hand in hand” with a theatrical-setting, combining here the world of the arts with theatrical-reflexion. Turning it into a place where

⁷⁶ Harm Lux, “A Night at the Show (1995), Zürich, Switzerland,” *Harm Lux Curator* (blog), 31 December, 2013, <http://harmluxcurator.blogspot.com.au/2013/12/a-night-at-show-1995-zurich-switzerland.html>

⁷⁷ Pontzen, *Nice!*, 20.

irony and the qualities of performative actions created an atmosphere that we could name with the word “Erlebnisraum/Experience-space.”⁷⁸

Artworks in the exhibition were presented as a series of performative actions that created an atmosphere in the exhibition space-cum-theatre space.⁷⁹ Here, static objects were replaced by lively encounters among the artwork, artist, audience and gallery space. Accordingly, this encounter formed an atmosphere that he called an *erlebnisraum* or experience space.⁸⁰

In a review of *A Night at the Show* in *Frieze* magazine in January 1996, writer Sjoukje Van Der Meulen said that the art of the mid-1990s focused on the creation of exhibition environments and ambiances.⁸¹ “More and more exhibitions are turning into ‘ambiances,’” she noted, “lively meeting places where artworks and multimedia performances are developed and shown. There is, in other words, a tendency towards exhibition environments.”⁸² Van Der Meulen explained that Lux converted the gallery into an active space by “building theatrical structures—a stage, a podium, and a labyrinth.” In building spaces

⁷⁸ Lux, “*A Night at the Show* (1995), Zürich, Switzerland.”

⁷⁹ The concept of a “theatrical setting” was also present in *Les Immatériaux* (1985) at Centre Georges Pompidou in Paris by Jean-François Lyotard and the theorist and design historian Thierry Chaput. In 2015, Antony Hudek described *Les Immatériaux* as a “theatrical setting” in that the exhibition was designed to evoke a contrast between the illuminated exhibits and areas of near total darkness. Antony Hudek, “From Over-to Sub-Exposure: The Anamnesis of *Les Immatériaux*,” in *30 Years after Les Immatériaux: Art, Science, and Theory*, ed. Yuk Hui, Andreas Broeckmann (Lüneburg: Meson Press, 2015), 71-72.

⁸⁰ Barbra London also referred to the gallery as an “experience space” in her exhibition *Video Spaces: Eight Installations* (1995) curated at MOMA New York. The show included environmental video that extended video beyond the screen to encompass the exhibition space. Artists included Tony Oursler, Stan Douglas, Bill Viola, Teiji Furuhashi. Barbra London, and Museum of Modern Art (New York N.Y.), *Video Spaces: Eight Installations* (New York: Museum of Modern Art, 1995).

⁸¹ Sjoukje Van Der Meulen, “A Night at the Show,” *Frieze Magazine*, January-February (1996). Also see Sjoukje Van Der Meulen’s essay about how new media art was usually ignored as a socially engaged practice. Meulen, “A Strong Couple: New Media and Socially Engaged Art,” *Leonardo*, vol. 50, no. 2 (2017): 170-176.

⁸² Van Der Meulen, “A Night at the Show.” In 2016 Seth Kim-Cohen argued that in the exhibition circuit in New York summer of 2013 “we are seeing an unexpected retreat to ambience.” As discussed in the introduction Kim-Cohen wrote that there was a shift toward “ambient conceptualism” in the 2000’s. Rather than a “dematerialisation” of the art object, there was an “immaterialisation.” See Seth Kim-Cohen, “Against Ambience,” in *Against Ambience and Other Essays* (New York: Bloomsbury Academic, 2016), 1-82.

other than the static white cube, Lux attempted to actively converge the artist, artwork, audience, and gallery.⁸³

Like *A Night at the Show*, the artists exhibiting in *This is the Show and the Show is Many Things* (1994) at S.M.A.K. in Ghent, were invited to exhibit artworks that involved the exhibition space in unorthodox ways. Presented as what the curator De Baere called a “work in progress,” the exhibition incorporated “process, collaboration, chance encounter, and [the] whimsy.”⁸⁴ Artists Jason Rhoades, Fabrice Hybert, Anne Decoet, and Luc Tuymans, amongst others, created artworks in situ over the duration of the exhibition.⁸⁵ *This is the Show and the Show is Many Things* stood apart from Bourriaud's concept of “relational aesthetics” as the artist's process became part of the exhibition and the audience's role remained ambiguous. There was a “particularly intelligent and risky strain of experimentation exploring the limits of how the viewer (and artists themselves) might interact within an exhibition space.”⁸⁶ Rather than relying on audience involvement or interaction to complete the work, like say minimalism or relational aesthetics, the audience was only occasionally invited to take part. Even when they were called upon their role remained unclear thus blurring the line between what was and what was not art, what could be touched, and what was to be observed at a distance. Jens Hoffmann characterised this uncertainty and mood of the exhibition as a “particular brand of organised chaos,” and Monika Szewczyk called it an “unhinged temporality.”⁸⁷ From these observations, what became clear was that the actual “interaction,” conviviality, or

⁸³ Van Der Meulen, “A Night at the Show.”

⁸⁴ Former West, “This is the Show and the Show is Many Things,” *Former West*, accessed March 16, 2017, <http://www.formerwest.org/ResearchLibrary/Thisistheshowandtheshowismanythings>

⁸⁵ De Baere, “Exhibition Histories Talks.”

⁸⁶ “This is the Show,” *Former West*. Therefore, these shows focused on experimentation and testing of the limits and boundaries between the artists, artwork, viewer, and art space.

⁸⁷ Jens Hoffmann and Lumi Tan, “Overture,” *The Exhibitionist*, no. 9, April (2014), 3. Also see Jens Hoffmann, *Show Time: The 50 Most Influential Exhibitions of Contemporary Art*, (London: Thames & Hudson, 2014), 56; Monika Szewczyk, “Idolizing Twilight,” *The Exhibitionist*, no. 9, April (2014): 8.

“participation” that ensued was not the emphasis. Rather, *This is the Show and the Show is Many Things* represented a *process* of art-making. Art was thus a means by which ambiguity ensued between artwork, artist, exhibition space, and audience—a condition that Tuymans aptly referred to as *twilight*.⁸⁸

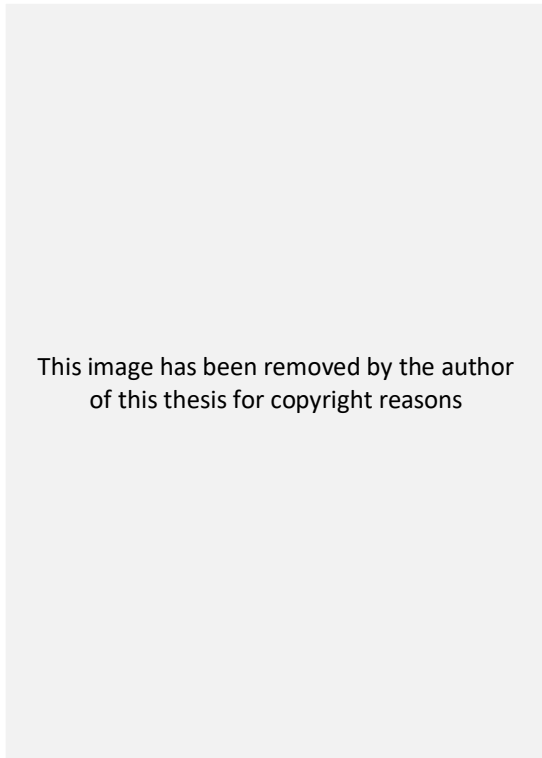


Figure 24: Luc Tuymans, light installation, *This is a Show and the Show is Many Things*, 1994, Reprinted from Bart De Baere, Nathalie Angles, Karen Geurts, Willemien Ippel, Hans Martens, *This is the Show and the Show is Many Things*, Gent: Museum van Hedendaagse Kunst, 1994, p. 143.

In *This is the Show and the Show is Many Things* Tuymans installed two “light” installations: a transparent fabric he laid in the skylights of the gallery hall, and a white linocut fixed high up a gallery wall. For these works, Tuymans applied his painting technique, of portraying muted and diffused light in his portraits and paintings of interior spaces, to the spatial orientation of light within the physical space of the gallery. “I am curious, in this exhibition, to see how things interact with each other,” he explained, “as well as the idea of space . . . how on a material

⁸⁸ Szewczyk, “Idolizing Twilight,” 8. She referred to the lighting effect as a subdued “lighting scheme.” She noted that Tuymans’s comments in the exhibition catalogue provided insight into what was referred to as an “unhinged temporality” and the mood of the show.

basis you can give shape to something that's practically immaterial."⁸⁹ For this exhibition, Tuymans wanted to materialise the light of the gallery space by installing large sheets of transparent fabric—that he cut, dyed, and dried in the gallery space—in the skylights of the museum's halls. The beige hue of the translucent cloth filtered the daylight streaming through the skylight into the gallery. The effect cast what De Baere called a “warm Californian summer light” into the gallery.⁹⁰ For his second artwork, Tuymans cut large linocuts, or “large stamps,” and installed them high up the gallery walls. The light that penetrated the linocut shapes formed soft shadows on the surrounding walls.⁹¹ This subdued “lighting scheme” was what Tuymans referred to as the “point of disappearance” of a horizon and the soft diffused light of twilight.

Indeed, the effect of liminal light is difficult to grasp. The documentation photographs of the work showed the fabric laid between the glass panels in the skylight, Tuymans dying cloth in a bucket, and cloth that had been hung to dry in the gallery. Consequently, only Tuymans's account in the catalogue, and De Baere's recollection of the exhibition described the lighting effect. Tuymans used the expression twilight to define the mood and the “moment of clarity” that he anticipated:

I'm thinking of a particular period in the day, twilight. If that could be made to go on and on, it would be phenomenal: a constant twilight in the exhibition. This will enable you to see things properly, in my opinion, in the sense that you see things just before the point at which they disappear. The vanishing point means that you can sometimes look at something more intensively from a certain kind of depth.⁹²

⁸⁹ Tuymans, “Film Light Intensity,” 131.

⁹⁰ De Baere, “Exhibition Histories Talks.”

⁹¹ De Baere, “Exhibition Histories Talks.”

⁹² Tuymans, “Film Light Intensity,” 131.

Tuymans proposed that a constant *twilight* evoked clarity so “you see things just before the point at which they disappear”—just before the vanishing point. This horizon proffered depth and intensity. The juncture of time and space, day and night, and seeing and not seeing images at their point of disappearance, can be recalled in the “flash of insight” at the core of Gilman’s curious perspective.⁹³ As discussed in Chapter Two, the “flash of insight” ensued in the juncture, or tension, between darkness and clarity proffered by the flicker of light in Miller’s *Exquisite Corpse*.

Similarly, De Baere also described Tuymans’s linocuts as “images that were not paintings but the reverse of paintings.”⁹⁴ By this, he implied that the impressions were not inscribed as an image but projected as outward effects.⁹⁵ Linear perspective emerged in theatre and art as a method to simulate reality and depth from a single vantage point. Alternatively, reverse perspective required the exchange of what artist Daniel Collins referred to as the “perpendicular station-point” (a privileged central viewpoint) for a “cyclopean” view of multiple perspectives.⁹⁶ Within this scope, Tuymans’s *twilight* deviated from the poststructuralist “decentred” subject. Instead, the subject acquired a sense of clarity at the furthest distance on the horizon as it approached its vanishing point. Russian writer Pavel Florensky said that the “absolute power” of the vanishing point was its capacity to swallow “everything wherein the vanishing-

⁹³ Ernest B. Gilman, *The Curious Perspective: Literary and Pictorial Wit in the Seventeenth Century*, (New Haven: Yale University Press, 1978), 19.

⁹⁴ De Baere, “Exhibition Histories Talks.”

⁹⁵ The phrase the “reverse of paintings” was a principle of organising space (particularly in Byzantine art). The term *umgekehrte Perspektive* (reverse perspective) was coined by Oskar Wulff in 1907. See Oskar Wulff, “Die umgekehrte Perspektive und die Niedersicht,” (1907): 3-42. For a discussion on reverse perspective in the twentieth-century, see Clemena Antonova, “On the Problem of ‘Reverse Perspective’ Definitions East and West,” *Leonardo*, 43:5 (2010): 464-469. Christopher Wood also used the term “reverse perspective” in his translation of Erwin Panofsky, *Perspective as a Symbolic Form* (New York: MIT Press, 1997), 114.

⁹⁶ Daniel L. Collins, “Anamorphosis and the Eccentric Observer: Inverted Perspective and Construction of the Gaze,” *Leonardo*, 25, no. 1 (1992): 74.

point functions.”⁹⁷ The “infernal yawn” as Florensky termed it, was also the point of disappearance in Tuymans’s *twilight*.⁹⁸ However, De Baere indicated that this faculty was eliminated from the reverse perspective. Accordingly, Tuymans’s “light” installations produced a shadow effect that created an ambience as exhibition space. Cardiff’s *To Touch* also set out to create a similar effect.

We explained above that the tape recordings that played over the loudspeakers in *To Touch* became sound effects that enacted physical experience rather than a “linear information experience.” This spatial sound effect was generated by looping, layering, and repeating the vocal recordings as the audience touched and activated the sound loops. Each speaker was programmed so that the tape played between the left and right speaker channels. Consequently, the voices played from speakers positioned around the room, creating a multi-dimensional soundscape. Accordingly, the sounding and resounding of the looped tapes formed an ambient space where sounds could be perceived from multiple perspectives rather than unfolding as a logical progression. Cardiff and Miller tested the idea of presenting and perceiving an artwork from multiple vantage points in *The Dark Pool*.

Following the presentation of *To Touch* in Zurich, Cardiff and Miller attended an artist’s residency at the inimitable Western Front artist-run centre in Vancouver, Canada. Here they produced the first iteration of their first co-authored work, *The Dark Pool*. The installation continued to explore the ideas and materials used in *To Touch*—specifically the looped audio and motion sensors. However, Cardiff

⁹⁷ Nicoletta Misler, “Pavel Florensky as Art Historian,” in *Beyond Vision: Essays on the Perception of Art*, ed. Nicoletta Misler (London: Reaction Books, 2002), 93. For Florensky the vanishing point was a “disembodied punctum”—a perspectival black hole that swallows up and destroys reality.

⁹⁸ Florensky, quoted in Misler, “Pavel Florensky as Art Historian,” 93. Florensky explained that linear perspective was “a machine for annihilating reality, an infernal yawn that swallows everything wherein the vanishing-point functions. Conversely, reverse perspective, like a fountain of reality spurting into the world, serves to generate reality, extract it from non-being and advance it into reality.”

and Miller transformed *To Touch*'s minimal speaker and table arrangement into a bricolage of salvaged objects and handmade speakers.

3.4 *The Dark Pool* (1995): "but really we wanted to create a space."

So far, I have explained Cardiff's adaptations of experimental compositions and new media that turned the gallery space into a spatial sound event. *To Touch* was part of a milieu where artists and curators experimented with the conditions of the artwork, artist, exhibition space, and audience. Cardiff was able to experiment with these conditions through the malleability inherent in layering sound and spatialising it throughout the gallery. Cardiff and Miller also applied these methods to *The Dark Pool*. Cardiff and Miller set out to create a room-sized installation that was, above all, a space: "But really we wanted to create a space," Cardiff explained.⁹⁹

In its first iteration, *The Dark Pool* began as a more simplified installation titled *The Black Pool*. The installation was made during Cardiff and Miller's three-week media artists-in-residence in February 1995 at Western Front.¹⁰⁰ The installation included two wooden tables positioned against the wall of the dimly lit gallery space. Covering the tabletops were bare homemade speakers, books, old transistor radios, a speaker submerged in an aquarium, iridescent light lamps, a vintage typewriter, gramophones, two viewfinder cameras, exposed electrical wiring, and sensors that activated the speakers to sound audio tape loops, while a large vintage gramophone hung suspended from the ceiling.

⁹⁹ Cardiff in, Typescript of Janet Cardiff Interview with Carolyn Christov-Barkargiev, 2001, in Other Janet Cardiff Documentation, III.A.415, MoMA PSI Archives Series I: Curatorial and Exhibition Records, Museum of Modern Art, New York, accessed July 7, 2014.

¹⁰⁰ "Western Front; About," *Western Front*, accessed April 14, 2014, <http://front.bc.ca/western-front/>. The exhibition dates were: February 25 to March 24, 1995.

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for copyright reasons

Figure 25: Janet Cardiff and George Bures Miller, *The Black Pool*, 1995, Materials: Mixed media, audio-video-installation, Downloaded from Western Front Archive, accessed November 9, 2018, <https://front.bc.ca/events/the-dark-pool>

Three months following the Vancouver presentation, Cardiff and Miller were invited by curator Catherine Crowston to show at the Walter Phillips Gallery, Banff.¹⁰¹ It was there that *The Black Pool* developed into *The Dark Pool*. Produced before Cardiff and Miller began to exhibit their work internationally, the installation became a complex and technically demanding work as it expanded

¹⁰¹ In the presentation at the Walter Phillips Gallery, there was an online catalogue for *The Dark Pool*. The website was designed as a labyrinth of hyperlinks overlaid onto a map of the room, “one can follow the stories, the evidence and theories associated with each object in the installation in endlessly complicated, circular, irresolvable loops.” Daniel Baird, “Janet Cardiff: A Survey of Works, Including Collaborations with George Bures Miller P.S.I Contemporary Art Center,” *Brooklyn Rail*, January 1, 2002. The site included a hand drawn map of *The Dark Pool* gallery space with hyperlinks that connected to webpages that had descriptions that related to different sounds and objects in the space and that described the fictional story of the dark pool. “Perhaps the work also evolved as a side product of starting to use the Internet and thinking in hypertext,” explained Cardiff. In 2014 the microsite was removed during an upgrade of the Banff Centre of The Arts website. Unfortunately, I did not save the pages that existed.

from a few tables to a whole room.¹⁰² Cardiff recalled, “we had a bit more time than we do now. First, there were just a few tables, and then it grew into a room.”¹⁰³ The room-sized installation was presented in a six-by-nine-meter dimly lit gallery space. The bricolage aesthetic of *The Dark Pool* recalled installations such as a lost and forgotten world of an Edward Kienholz tableaux, one of Dieter Roth’s obsessive installations of found materials, or Gregory Green’s bomb rooms. “George once loved Kienholz’s work, the way he envelops you in his weird environments,” Cardiff explained.¹⁰⁴ Rather than standing outside the installation looking in, the dark interior and sounds of *The Dark Pool* lured the visitor into the space.

Upon opening and walking through the brown wooden door to *The Dark Pool*, the visitor’s movement activated sounds and kinetic objects that invited them further into the space. It was a space that writer Carolee Thea described as an “abandoned junk shop or attic.”¹⁰⁵ It was “as if you’d fallen outside the gallery,” Cardiff explained. “You go through this door, and you’re in somebody’s attic or something. It’s dark and dimly lit, and then these sounds start triggering.”¹⁰⁶ If one searched hard and long enough at the makeshift DIY electronics, circuits, science books, cables, and wiring, it was likely that the space may have once belonged to a couple of old scientists. Although the space was sprawling with objects, there was a clear path for the visitor to follow. The course guided the visitor down the right-side of the space, around a group of tables positioned in the centre, over the left side of the room, and then around some tables to exit through an adjacent door. The room was packed with hordes of objects salvaged

¹⁰² *The Dark Pool* was exhibited in the US in the late 1990s, but it was not until the early 2000s that it was shown in Europe.

¹⁰³ Cardiff “Inexplicable Symbiosis,” 56.

¹⁰⁴ Cardiff, “Inexplicable Symbiosis,” 53.

¹⁰⁵ Thea, “Inexplicable Symbiosis,” 53.

¹⁰⁶ Janet Cardiff, in Robert Enright and Meek Walsh, “Pleasure Principals: The Art of Janet Cardiff and George Bures Miller,” *Border Crossings*, vol. 20, no 2, issue 78 (Winnipeg, Manitoba, 2001) 31. <http://bordercrossingsmag.com/article/pleasure-principals-the-art-of-janet-cardiff-and-george-bures-miller>

from vintage stores, garage sales, and the streets around their home in Alberta. Gramophones, a cot, chairs, discarded tea bags, dusty artefacts, teacups, maps, typewriters, lamps, projector slides, tables stacked with paraphernalia and books, a “wishing machine,” a suitcase containing a diorama of a dark pool, and other objects were arranged meticulously throughout the space. Corrugated cardboard and worn Persian carpets covered every inch of the floor. Cardiff recalled that there were many books arranged in stacks and laid out across the tables including “scientific textbooks that relate to different time periods, encyclopedias from the 1930s containing information that is no longer true, fiction books, wacky objects, [and] personal stories.”¹⁰⁷ The technical equipment used to power the work included three sets of Bowers & Wilkins LMI speakers, eight sets of miscellaneous handmade speakers, electronic equipment, lights, pseudo-scientific devices, and sensors.¹⁰⁸ This “techno-geek’s heaven” also included fifteen audio cassette recordings and other devices.¹⁰⁹

The visitor triggered the voices and lights as they moved around the space.¹¹⁰ Cardiff and Miller’s voices sounded reciting short and ambiguous film-noiresque scenes, a recorded conversation about dancing shadows, and cryptic tales of the black pool, while other voices emanated from small horns and teacups. Other speakers played the sound of footsteps and a creaking door, while a small

¹⁰⁷ Cardiff, “Inexplicable Symbiosis,” 54.

¹⁰⁸ The Dark Pool Installation Notes, 2001 in Other Janet Cardiff Documentation, III.A.2907, MoMA PSI Archives Series I: Curatorial and Exhibition Records, Museum of Modern Art, New York, accessed July 7, 2014.

¹⁰⁹ Jessica Lack, “Artist of the week no 5: Janet Cardiff and George Bures Miller,” *The Guardian*, September 5, 2008, accessed September 20, 2018, <https://www.theguardian.com/artanddesign/2008/sep/04/cardiff.buresmiller.art>

¹¹⁰ As technologies advanced throughout the 1990s and 2000s, Cardiff and Miller “upgraded” playback devices. Cardiff explained that in the 2001 showing of *The Dark Pool* at PSI MoMA in New York, the cassette tape players were superseded with compact discs: “we just upgraded the technology; It used to be on cassette tapes and now it’s on CD players.” Cardiff, “Inexplicable Symbiosis,” 52-57. The upgrading of technology in *The Dark Pool* can also be substantiated by the cultural shift from analogue to digital at the time: the changing nature of television; the impact of the Internet on television and on cinema; and the participative nature of their work; and technological advances at such as Virtual Reality, the Internet, CD-ROMs, hypertext, video camcorders, editing software.

transistor radio played a dubbed sample of Judy Garland singing *Somewhere Over the Rainbow* (1939). The sensors also activated various objects around the space including an old suitcase that lit up to reveal a diorama of the black pool, pipes that clanged near the doorway, a carousel in the aquarium, and a light that illuminated the objects on a table when a visitor peered through a 3D viewfinder.¹¹¹ Despite the presumed randomness of the sheer number of objects and sounds packed into the room, Cardiff and Miller went to great lengths to produce a tightly controlled and structured environment.¹¹² Every inch of the space was controlled so that certain zones would activate as the visitor moved through the space.

This image has been removed by the author of this thesis for copyright reasons

Figure 26: Janet Cardiff and George Bures Miller, *The Dark Pool*, 1995, room plan, The Museum of Modern Art Archives, New York, 1.A.2907, 2001, © MoMA, New York.

¹¹¹ David Garneau, "Janet Cardiff and George Bures Miller," *Art/Text*, no. 57 (1997): 93.

¹¹² Gregory Williams, "The Voice of Authority," *PAJ: A Journal of Performance and Art*, 20, no. 2 (May 1998): 62-67.

Among the objects and things “found in the studio” there were identifiable rudiments of Cardiff and Miller’s earlier works—the repetition and layering of sounds, movement, kinetics, shadows, what Miller referred to as “old world” experiments, and Miller’s use of controlled light. “This was George and my first major collaboration,” Cardiff explained. “Our studio looked quite messy, very much like this [*The Dark Pool*] and because we were pretty sick of the aesthetic of clean, minimal art happening in Canada at that time, it seemed right to move in this direction.”¹¹³ As a space that resembled their studio at the time, the cluttered aesthetic reflected their joint working methods and reactions to the “minimal” aesthetic consuming Canadian art. This aesthetic reflected what they perceived as conservatism in art at the time. Their efforts to entertain the audience and create what Lux referred to as an “experience space” were criticised for being “theatrical.” Indeed, we discussed criticisms of the perceived “theatricality” in Miller works, and Cardiff expressed her frustration with the sound community’s bias toward field recordings.¹¹⁴ Cardiff recalled that “for a while, in the late 1980s and 1990s there was no fun in art at all in Canada.”¹¹⁵

In response to this sentiment, the sprawling “clusterfuck” aesthetic—taking the term from New York art critic Jerry Saltz—of using materials “found around the studio” to create new artistic forms, enabled Cardiff and Miller to embody DIY

¹¹³ Cardiff, “Inexplicable Symbiosis,” 54.

¹¹⁴ This sentiment was also reflected in other artist’s practice emerging at the time. Thomas Hirschhorn, in the mid-1990s, reacted toward what he referred to as the “quality” aesthetic that dominated art. Thomas Hirschhorn in, *Artspace* Editors, “Quality, No! Energy, Yes!’: Thomas Hirschhorn on Why Confrontation is Key When Making Art for the Public,” *Artspace*, November 18, 2016, accessed October 3, 2017, https://www.artspace.com/magazine/art_101/book_report/phaidon-thomas-hirschhorn-interview-54368; Mike Nelson also responded to the “prescriptive and restrictive” art of the decade prior. “My generation in the 1990s was trying desperately to make sense of that while making art that was interesting to look at... I’m an artist making sense of materials.” Mike Nelson, in Roger Atwood, “Britain’s Curator of Garbage,” in *Art News*, June (2011), <http://www.artnews.com/2011/06/01/britains-curator-of-garbage>

¹¹⁵ Cardiff in Blazer, “Janet Cardiff & George Bures Miller Chat About Their New AGO Survey,” Cardiff said, “We’re going for the type of audience member who wants to play, who doesn’t mind having theatricality and fun in an artwork.”

process orientated aesthetic.¹¹⁶ In the December 1996 issue of *Border Crossings*, reviewer David Garneau discussed *The Dark Pool* exhibition at the Alberta Biennale of Contemporary Art, Edmonton Art Gallery. Garneau called the exhibition a “spirit of the times” as it expressed a “new post-ironic, re-enchantment of art.” Garneau explained that the artists in the exhibition were not “romantics turning from the historical moment and its responsibilities; neither are they theorists distancing their selves with critique and irony.” Artists like David Hoffos and Cardiff and Miller were seeking to find common ground between art and science in their installations.¹¹⁷

Aside from being a response to a “clean and minimal” aesthetic, *The Dark Pool*—as a room-sized installation—was also a response to Miller’s frustration with the “flatness” of painting. As a painter during his early career, Miller explained that he wanted to “make installations because then I can step into the painting.” Miller explained that the notion of “stepping inside the painting” was a method to create an artwork in “reality” as opposed to virtuality: “We like to experience the world in reality, and not virtuality. The things we make are real; you can touch them.”¹¹⁸ The transition from looking into a space to looking from within a space implied a shift in what was described earlier as the visitor transitioning from a “perpendicular station-point” to a “cyclopean” view of the installation from multiple perspectives.¹¹⁹ The visitor in *The Dark Pool* walked around the installation and in doing so, the “active” role assigned to the visitor in *To Touch*

¹¹⁶ Saltz described the aesthetic as “the practice of mounting sprawling, often infinitely organized, jam-packed carnivalesque installations is making more and more galleries and museums feel like department stores, junkyards, and disaster films. It is an architecture of no architecture, a *gesamtkunstwerk* or ‘total artwork,’ whose roots are in opera, Dada, the Merzbau and the madhouse.” Saltz, “Clusterfuck Aesthetics,” *Village Voice*, November 29, 2005.

¹¹⁷ David Garneau, “Alberta Biennial of Contemporary Art 1996. Edmonton Art Gallery. Edmonton,” *Border Crossings*, 15 (December 1, 1996): 65-68.

¹¹⁸ Miller in, Murray Whyte, “AGO welcomes home art stars Janet Cardiff and George Bures Miller,” *The Star*, April 5 (2013)
https://www.thestar.com/entertainment/2013/04/05/janet_cardiff_and_george_bures_miller_lost_in_the_memory_palace_at_the_art_gallery_of_ontario.html

¹¹⁹ Collins, “Anamorphosis and the Eccentric Observer,” 74.

(that required the visitor to touch the table), became more reflexive in *The Dark Pool*. As the visitor navigated the space, their bodily movement triggered sensors that activated sound, lights, and kinetic objects. The sounds emanated unexpectedly from gramophones, speakers, or transistor radios positioned on a table, floor, and other locations concealed in the dark corners of the room.

The installation thus functioned as an auditory response to the audience's movement. Adding to this unpredictability was the use of timed sensors. *The Dark Pool* remained static until the visitor activated the sensors. If the visitor stood still, the installation fell silent until the audio loop finished its cycle and activated again upon their movement. Catherine Crowston noted that the audience's involvement in *The Dark Pool* was necessary as both an "interruption of its silence and a necessity for its completion."¹²⁰ In installations like *Whispering Room* (1991) the artwork's configuration determined the sequence in which the sound recordings played.¹²¹ The cassette decks were set to loop while the listener walked through the space hearing the voices collectively and individually depending on their position in the gallery.¹²² The sounds thus developed into what Cardiff referred to as "auditory responses" to the visitor's movement. In *The Dark Pool*, the auditory response formed the ambiguous ambient sound environment. This is different to participatory or convivial art as it came to be defined through relation aesthetics because of Cardiff and Miller's insistence on creating an installation space as an ambience rather than relationships with or between people.

¹²⁰ Catherine Crowston, *The Dark Pool, Janet Cardiff and George Bures Miller* (Banff, Calgary, Canada: Walter Phillips Gallery, 1995).

¹²¹ The *Whispering Room* did use a sensor to activate a video projection loop that projected on to the back wall of the gallery space.

¹²² Cardiff and Miller, interview with Gavin Woolston, "Audio Tour of The Dark Pool installation," audio recording, 1995, Walter Phillips Gallery, Paul D. Fleck Library and Archives, Banff Centre for the Arts, accessed July 15, 2014. Cardiff described how the audience moved around the room, "piecing together the puzzle" of the *Black Pool*.

3.4.1 “Feel as though they are going to unravel a story.”

At the beginning of this chapter, I explained that *To Touch* evolved from Cardiff's desire to implicate the audience in the artwork physically. This was attainable through forming a spatial soundscape with a two-channel eighteen speaker arrangement. The textural sound effects enveloped the audience in spatial sound. Rather than presenting speech as text, the voices evoked an ambient environment. In *The Dark Pool*, Cardiff continued her inquiry into what she once described as the “cubist narrative of layering.”¹²³ In a comparable setup to *To Touch*, multiple sources of voice and sounds were recorded, re-recorded, arranged, and played from fifteen speakers positioned around the room. Her treatment of spatial sound was combined with Miller's interest in spatial bricolage and Kienholz's environmental installations, in particular, the way he [Kienholz] enveloped the visitor in his weird environment.¹²⁴ Moreover, the effectiveness of the physical and spatial environment was hinged on the installation's capacity to uphold its distinct “feeling” or ambience—as I will now describe. It was the ambiguous storylines, the sprawling arrangement of objects, the sounding and resounding of multiple sources emanating from various locations that enveloped the visitor in this weird and ambiguous environment that was *The Dark Pool*.

Specifically, this ambiguousness was apparent in Cardiff and Miller's insistence that the most important characteristic of *The Dark Pool* was the preservation of the mood that was distinct to *The Dark Pool*. In a 2013 interview, Miller explained that while the gallery specifications altered at each presentation, it was crucial that the arrangement preserved the work's distinct “feeling” or ambience. For the 2013 presentation of *The Dark Pool* at the Art Gallery of Ontario, Toronto, Miller

¹²³ We can recall Allan Kaprow's essay *Notes on the Creation of a Total Art* (1958) where he discussed the idea of “total art” as emerging from collage practices. He noted that total art was the development of the “right” balance of a literal space, a painted space, and the convergence of these two spaces to a sound. The balance created was an environmental one. In Kaprow, “Notes on the Creation of a Total Art (1958),” *Essays on the Blurring of Art and Life* (University of California Press, 1993), 11.

¹²⁴ Cardiff, “Inexplicable Symbiosis,” 54.

explained that they “tweak” the work, “to make sure that it feels like *Dark Pool*. That’s about all. We try to stay true to the works.”¹²⁵ While the layout was reconfigured depending on the size of the gallery and conditions of the site, it was imperative that the *feel* of the installation ensued.¹²⁶ The installation was conditioned through the folds and repetitions of recorded voices, sounds, dense arrangement of the room, and the visitor’s movement through the space. The ambiguity of the exhibition arrangement and soundscape also emerged in the visitor’s encounter: meandering through the room, listening to the voices, looking through viewfinders, reading book titles, and peering into the black pool, gather clues from the objects and books, all instinctive attempts to piece together the fragmented dialogue, stories of the black pool. Puzzlement soon superseded any air of clarity contained within. Like Tuymans’s “twilight” that proffered a sense of clarity just before the point of disappearance, the sensory overload of the dense space in *The Dark Pool* formed a peculiar milieu.

The vague quasi-storylines also denied the visitor an opportunity to “escape” or become “lost” in the experience. As they walked around the room, they were continuously reminded of their bodily presence as they activated the sensors. Indeed, the vocal recordings were intended to give the audience the *impression* that there was a plot to decipher. As they walked around the room triggering the sensors, Cardiff anticipated that the audience would “feel as if they’re going to unravel a story.” Cardiff explained that she was “not interested in a sense of completion at the end.”¹²⁷ Rather than using a narrative plot to unravel the artwork, she relied on continuity and social conditioning.

It should be noted that Cardiff’s interest in conditioning grew from Cardiff and Miller’s interest in science fiction and associated narratives about technology and

¹²⁵ Miller in Blazer, “Janet Cardiff & George Bures Miller.”

¹²⁶ Cardiff also explained that the *Forty Part Motet* (2001) changed depending on the space it was exhibited in. The work as with *Murder of Crows* (2008) and *Forest (for a Thousand Years)* (2014) was made so it can be reconfigured. Cardiff, “Inexplicable Symbiosis,” 54.

¹²⁷ Cardiff in Walsh, “Pleasure Principals.”

society.¹²⁸ The adoption of science fiction narrative devices was evident in her reference to Jorge Luis Borges *Labyrinths* (1962) as an influence for the pace of *The Dark Pool*.¹²⁹ Cardiff and Miller provoked human behaviours that instinctively search for meaning or resolution. However, the forensically-inclined art audience of *The Dark Pool* may or may not have realised that there was no “story.” There was no “sense of completion” at the end as meaning was contingent on the physical encounter. Indeed, Cardiff explained that she was a “terrible storyteller. One of the worst.” She found it difficult to keep pace or tell a logical or linear story:

I don't know about pacing. I don't have a talent in storytelling. I've never been able to tell stories really well. My mind skips around too much. I don't know how to tell it in a logical, linear way.¹³⁰

Cardiff's admission that she was a bad storyteller is a significant point: that she and Miller set out to create installations as physical spaces to be understood spatially. This was a task that they continued to undertake in all their collaborative works that followed. Cardiff explained that although *The Dark Pool* was a dense bricolage of objects, sounds, and fragmented vocal narratives, *The Dark Pool* was, above all, a space.¹³¹ As a space that was conditioned by, but not contingent on, the rigid, four-walled gallery shell that housed the installation, Cardiff and Miller meticulously covered every inch of the white cube so that no remnants of the original space remained. The installation was conditioned by the “feeling” that was uniquely *The Dark Pool*.

¹²⁸ Cardiff and Miller refer to their interest in science fiction and cyber punk novels in many interviews. Cardiff also referred to the cyberpunk concept of the cyborg (as part human, part machine) rather than other theorizations of the cyborg. Cardiff, “Inexplicable Symbiosis,” 54. They referred to narratives such as those in Aldous Huxley's *Brave New World* (1932) and Neal Stephenson's *Snow Crash* (1992).

¹²⁹ Cardiff, “Inexplicable Symbiosis,” 54.

¹³⁰ Cardiff in, Typescript of Janet Cardiff Interview with Carolyn Christov-Barkargiev, 2001, 7.

¹³¹ Cardiff in, Typescript of Janet Cardiff Interview with Carolyn Christov-Barkargiev, 2001, 7.

3.5 Conclusion

Cardiff and Miller were exemplars of a very specific moment in the history of installation art as they emerged as part of a generation of artists focused on creating “environments” and “ambiences.” These environments were developed through their spatial sound using tape loops, sensors, and loudspeakers. As this chapter has explained, *To Touch* and *The Dark Pool* were the two artworks that launched Cardiff and Miller’s combination of spatial sound, kinetics, and installation into mainstream contemporary art. In particular, *To Touch* spearheaded Cardiff into the European art scene when it was included in *A Night at the Show* (1995).

My point goes deeper. This chapter also demonstrated that Cardiff and Miller’s adaptations of sound, magnetic tape, kinetics, and installation were part of the same evolution as electronic musicians who used experimental composition methods of new media and sound pioneers. Specifically, I outlined how Cardiff and Miller *layered* and *looped* voices on analogue cassette tape. In *To Touch*, Cardiff continued to experiment with multitape-recorded sound and loudspeakers that she began using in the early 1990s. In *The Dark Pool*, this process was aligned with Miller’s idea to construct a dense spatial bricolage of voices, sounds, objects, and lights powered by kinetics, sensors, and electronics. Accordingly, the consolidation of Cardiff and Miller’s ideas and styles initiated a new trajectory of room-sized installation works that they co-authored as Cardiff and Miller. *To Touch* and *The Dark Pool* signalled Cardiff and Miller’s attempt to reconfigure the gallery space into a “physical and spatial environment.” Within this space, the “feel” or the ambience of the space was paramount.

Following *The Dark Pool*, and as a collaborative duo, Cardiff and Miller continued to make room-sized installations, miniature dioramas, and they developed the audio walk into video walks. The next phase in their installation practice would be streamlining the aesthetic and visual complexity of the work. They began to use audio speakers alone to make sound installations. The first in this series was *Forty Part Motet* (2001) in which little more than black standalone speakers and

over 360 meters of electrical wire were arranged in the gallery space. The speaker series was developed further in *Berlin Files* (2003) and *The Murder of Crows* (2008). Cardiff and Miller traded-in audio tape loops and two-channel speakers for surround sound and ambisonics. Through these advanced forms of speaker technologies, a more dynamic and textured spatial sound environment was conceivable.



Figure 27: *The Dark Pool*, 1995, materials: Mixed media, audio-video-installation, dimensions: approx. 10m x 7m, installation view *Lost in the Memory Palace*, 2014, Vancouver Art Gallery, Vancouver, Canada, photograph by author, 2014.



Figure 28: *The Dark Pool*, 1995, materials: Mixed media, audio-video-installation, dimensions: approx. 10m x 7m, installation view
Lost in the Memory Palace, 2014, Vancouver Art Gallery, Vancouver, Canada, photograph by author, 2014.



Figure 29: *The Dark Pool*, 1995, materials: Mixed media, audio-video-installation, dimensions: approx. 10m x 7m, installation view Lost in the Memory Palace, 2014, Vancouver Art Gallery, Vancouver, Canada, photograph by author, 2014.

Chapter 4:

Spatial Environments: *Berlin Files* (2003) and *The Murder of Crows* (2008)

4.1 Introduction

In 2003, a crucial shift occurred in how Janet Cardiff and George Bures Miller made their artworks: the adoption of ambisonic sound in their installation *Berlin Files* (2003). They began using ambisonics so they could create spatial soundscapes comparable to the binaural sound of their audio walks, video walks, and installations such as *The Paradise Institute* (2001). Using ambisonics removed the need for the audience to don headphones in order to experience three-dimensional sound. Ambisonics situated the audience within a shifting field of sound across a suite of loudspeakers precisely arranged within each exhibition space.

This chapter proceeds from the carefully chosen words with which Cardiff and Miller described *Berlin Files*, where they referred to *Berlin Files* as a “spatial environment.”¹ This concept of the spatial environment was to be expanded in *The Murder of Crows* (2008). The artists saw *Berlin Files* as a break in their work. Ambisonics allowed them to introduce a very different spatial dimension that contrasted sharply with their earlier works.² *Berlin Files* and *The Murder of Crows* defined their next phase, one that they would refer to as “speaker works.” This chapter explores how Cardiff and Miller implemented their new, spatial sound,

¹ Janet Cardiff and George Bures Miller, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia, Head of Exhibitions and Projects, Whitechapel Art Gallery. May 2003,” interview by Andrea Tarsia, *Whitechapel*, 2003, accessed July 2, 2015, originally on the Whitechapel website but now archived here: http://white.cyberporte.net/content.php?page_id=426

² The term *spatial environment* recalls many precedents in art history. For example, Lucio Fontana’s *Spatial Environments* (1949) created from papier mâché, florescent paint, and ultraviolet light, and Allan Kaprow’s concept of *total art*, Allan Kaprow, *Notes on the Creation of a Total Art* (1958).

and their self-proclaimed task of creating shifts in “different types of space.”³ I locate this task within composition and editing, architecture and space, and the audience’s spatial orientation. Last, I will explain that these “shifts” or movements in sound space were consistent with the exploration that I have traced through the previous three chapters. Specifically, these shifts amount to a new formation in the art history of sonic effects and sound environments. I will underscore the specificity of their spatial constructions achieved through the new ambisonic sound and editing.

4.1.1 From binaural audio to ambisonics

Following their first collaborative work, *The Dark Pool* (1995), Cardiff and Miller continued constructing assemblages of found objects, electronics, sensors, cassette tape, digital audio recordings, and binaural sound.⁴ The works that followed *The Dark Pool—The Empty Room* (1997) and *La Tour* (1997)—incorporated binaural sound played over headphones. Their diorama works—*Playhouses* (1997), *The Muriel Lake Incident* (1999) and *The Paradise Institute* (2001)—also integrated binaural audio and headphones. However, it was not until the early 2000s that Cardiff and Miller were to experiment with programming spatialised sound over loudspeaker arrangements within an exhibition space.⁵

For Cardiff, in particular, the breakthrough work was *Forty Part Motet* (2001).⁶ The installation included forty black speakers on stands that were arranged in an elliptical formation. For the piece, she recorded a reworking of Thomas Tallis’s polyphonic choral piece *Spem in Alium* (1573).⁷ “Originally, [Tallis] wrote the

³ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

⁴ Cardiff and Miller also produced more than seventeen audio and video walks following Cardiff’s first international commission for the Louisiana Museum in Denmark, *Louisiana Walk* (1996).

⁵ Loudspeakers were used in *Whispering Room* (1991), *To Touch* (1993) and *The Dark Pool* (1995) to spatialise sound, and they returned to using binaural sound in *The Empty Room* (1997) and *La Tour* (1997).

⁶ *Forty Part Motet* is Cardiff’s single most exhibited piece; she refers to it as her “Energizer Bunny.”

⁷ *Spem in Alium* was one of the first compositions to use a polyphonic arrangement of voices.

piece for a chapel that had eight different alcoves, so he had eight different choirs of five voices each,” Cardiff explained.⁸ Tallis layered the voices of the choirs to produce a call-and-response vocal effect. As the choir sang, waves of sound built and dispersed throughout the chapel.⁹ In Cardiff’s rendition, she worked with the Salisbury Cathedral Choir. Four conductors coordinated the choirs, and each singer was individually wired with a close-microphone and recorded onto an individual track. Each track was programmed to play through a separate speaker. The audience could walk around the arrangement to hear forty different vocal harmonies or stand in the middle to hear the motet. With the highly defined and realistic recordings of the voices, each speaker in the oval formation assumed the guise of a choir member.¹⁰ The experience of listening to the choir in the round differed from a conventional concert listening experience. “While listening to a concert you are normally seated in front of the choir, in traditional audience position,” Cardiff explained. “With this piece I want the audience to be able to experience a piece of music from the viewpoint of the singers.”¹¹ *Forty Part Motet* was a space where the audience experienced harmonies from the viewpoint (or sound-point) of the singers. Cardiff wanted to “climb inside the music” and

⁸ Janet Cardiff in Robert Enright, Meeka Walsh, “Pleasure Principals: The Art of Janet Cardiff and George Bures Miller,” *Border Crossings*, May, no. 78 (2001).
<http://bordercrossingsmag.com/article/pleasure-principals-the-art-of-janet-cardiff-and-george-bures-miller>

⁹ Cardiff, “Pleasure Principals.”

¹⁰ The idea of anthropomorphized voices ran through their works. In *Road Trip* (2004), an installation of a slide projector and chairs, the voices that sound from the two speakers positioned at the front of the room seem to control a slide show as the voices talk about the slides that appear on screen. In an interview with Peter Traub (2007), Cardiff noted that the work is “very robotic but after a while you just accept that these voices are running the show. It also connects to *The Forty Part Motet* in how the music and speakers become very human and create an intimacy with the viewer.” Cardiff noted that this was a comment on our relationship to technology today. In an interview with Michael Juul Holm (2006), Cardiff explained that they were interested in “the idea of how you can take the understanding of how media functions and screw with that.” See Peter Traub, “Interview: Cardiff + Miller,” *Networked Music Review*, September 20, 2007, Accessed, July 4, 2013,
http://turbulence.org/networked_music_review/2007/09/20/interview-janet-cardiff-and-george-bures-miller; Michael Juul Holm, “Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm,” in *Louisiana Contemporary: Janet Cardiff and George Bures Miller*, ed. Michael Juul Holm and Mette Marcus. Humlebaek: Louisiana Museum of Modern Art, 2006.

¹¹ Cardiff, “Forty Part Motet,” Cardiff and Miller website, accessed May 30, 2017,
http://www.cardiffmiller.com/artworks/inst/motet_video.html

isolate each voice to a single channel—a task that was unattainable through stereo, binaural, or two-channel speaker arrangements alone.¹² “I wanted to show the complexity of the composition,” Cardiff recalled.¹³ In doing so, the sound of harmonies constructed space: “I am interested in how sound may physically construct a space in a sculptural way.”¹⁴ By isolating the voices, Cardiff could produce a spatial effect comparable to the experience of listening to binaural audio.¹⁵

Replicating binaural sound’s spatial effect, Cardiff discovered that the fidelity and sound quality that she achieved with 24-bit sound was far greater than binaural recording and of CD quality:

The fidelity of the music, however, is most important: playing from two 24-track hard drives that have 24-bit sound, a higher quality than CD. It is closer to the human voice. I tried to document it by taking my binaural head, my three-dimensional head, thinking there would be some way to document this experience. But it sounded like crap. Once you bring in only two speakers, it gets lost. It is finally about the reverberations and sound waves hitting you from many directions.¹⁶

The fidelity of the 40-speaker 24-bit sound was much closer to the quality of the human voice than a recorded one. There was something particularly unique about playing the piece over 40 speakers that enabled the reverberations and

¹² Cardiff, “Pleasure Principals.” This lack of spatiality is also recalled in Miller’s comments in the previous chapter, of how he wanted to “climb inside the painting.” Cardiff expressed her frustration with the lack of localisation offered by stereo playback: “When you listen on your stereo it’s so frustrating because you know all these people are there, but you can’t hear them.”

¹³ Cardiff, “Cardiff and Miller—Something Strange This Way,” ARoS Aarhus Art Museum, YouTube video, 16:48min, December 4, 2015, accessed February 2, 2018, <https://www.youtube.com/watch?v=VyCzj5bXTzY>

¹⁴ Cardiff, “Forty Part Motet.”

¹⁵ In a conversation I had with Cardiff and Miller, they mentioned how difficult it was to make *Forty Part Motet* at that time and they were limited by the technology available. Cardiff and Miller, interview by author, Grindrod, Canada, July 24, 2014.

¹⁶ Cardiff in Carolee Thea, “Inexplicable Symbiosis: A Conversation with Janet Cardiff,” *Sculpture Magazine* 22, January/February (2003): 52-57.

soundwaves to be experienced in many directions. The spatial effect of 40 speakers in the round was an aspect that binaural recording could not document.

The precision that was required in editing proved that there was more to creating *Forty Part Motet* than simply recording the choir and playing the recording through speakers. Extensive post-production was needed, along with intensive modifications and troubleshooting in order to bring Cardiff's idea of "climbing inside the choir" to fruition. The innovation was Cardiff's compositional treatment of voices, using speakers and recording technology to isolate each voice.¹⁷ This insight involved trial and error during the initial install of the work in Ottawa. "It wasn't until it was shown in Ottawa at the National Gallery that I finally heard it on forty speakers," Cardiff recalled.

"At first it didn't work because there was crosstalk; the echo from the singers on the left could be heard on the right, and it didn't have the three-dimensional effect I'd hoped for. . . . Then George edited out the background noise from the tracks when they were not singing and voila! it became exactly as I'd envisioned."¹⁸

Initially, the spatialisation did not work because of the echo and crosstalk between the speakers. The effect could only be achieved once the background noise was edited out of each track.

Following *Forty Part Motet*, Cardiff and Miller explored other speaker technologies and methods of spatialising sound—specifically ambisonic surround

¹⁷ Cardiff, "Inexplicable Symbiosis." Cardiff explained that she made the work without actually being able to hear it until it was installed: "We spent \$70,000 in equipment plus engineers, editing and such without even hearing it."

¹⁸ Cardiff, "Inexplicable Symbiosis."

sound.¹⁹ In 2001 they started working on *Berlin Files* (2003), which began a new trajectory in their adoption of sound as the “driving force.”²⁰

4.1.2 Berlin calling

For Cardiff and Miller, 2001 marked a dramatic shift in the pace of their exhibiting career. They gained major international celebrity with two key exhibitions: Cardiff’s first major survey of works at PS1 MoMA Contemporary Art Centre in Queens, New York, and Cardiff and Miller representing Canada at 49th Venice Biennale, 2001, with *The Paradise Institute* (2001).²¹ After Venice, Cardiff and Miller began developing *Berlin Files* following an invitation by curator Jochen Volz to produce an installation for Portikus gallery in Frankfurt.²² *Berlin Files* signalled a turn in how they realised their co-authored installations.

Cardiff and Miller arrived in Berlin in 2000, Cardiff attended the Berliner Künstlerprogramm des DAAD (Artist-in-Berlin Program) while she and Miller lived in Charlottenburg, Berlin. “We decided it would be exciting and important to work with Janet,” Volz recalled, “she was in residence at the DAAD at the time.”²³ Following the residency, Cardiff and Miller decided to locate themselves in Berlin for six months each year, and live in Grindrod, Canada for the remainder of the year. In 1997, Cardiff pinpointed why they had decided to stay in

¹⁹ Miller, interview by author, Grindrod, July 2014. Ambisonics was becoming more accessible due to the advancement of computer technology. Software that ran the system enabled composers to digitally control and run the speaker systems.

²⁰ Cardiff, “Pleasure Principals.”

²¹ The PSI exhibition was titled as a survey of Janet Cardiff’s works along with “collaborations with George Bures Miller.” Miller’s contribution to their collaborative practice was scantily acknowledged in the catalogue and in discussions of their work overall. This absence seemed to be exacerbated by the fact that Cardiff and Miller maintained solo careers for a decade until 1995 and then continued to author their own solo works while they made collaborative pieces. To complicate things further, Miller did not co-author *Forty Part Motet*. But he did assist Cardiff with the recording and arranging of the piece. Cardiff, interview by author, Grindrod, July, 2014.

²² Jochen Volz, interview by author, Skype, February 16, 2016. Their presentation at the Venice Biennale coincided directly with their success and commissions in the years that followed. Cardiff and Miller were awarded both the La Biennale di Venezia Special Award and the Benesse Prize for *The Paradise Institute*. As a result, they were approached by galleries and institutions worldwide for commissions. According to Jochen Volz, “most of them wanted to commission audio walks.”

²³ Volz, interview.

the German capital: “In Germany,” she pointed out, “there’s a real openness to the idea of the artist. They don’t question a format that’s not in the traditions of what we perceive as art. It’s not unusual for 600,000 people to see a show over a four-month period.”²⁴ In Berlin, they collaborated with dancers, actors, musicians, and composers who contributed to their works. They were inspired by the buzz of the Berlin art scene: “Everyone goes to art events here,” Cardiff said in an interview for *Canadian Art Magazine* in 2006.²⁵ Cardiff and Miller were “really into Berlin” Volz recalled, “it [the city] was top of mind.”²⁶ They visited the theatre, watched cult films such as Heiner Carow’s *Die Legende von Paul und Paula* (1972), and researched David Bowie’s time in Berlin.²⁷ The legendary music icon had himself moved to Berlin in 1976, where he shared a flat with Iggy Pop in Schöneberg. Bowie had moved to Berlin not only because it was an inexpensive place to live, but also to escape Los Angeles; he remembered that Berlin was “a city that’s so easy to ‘get lost’ in – and to ‘find’ oneself too.”²⁸

Just as the city was the muse for *Berlin Files*, its sense of reinvention and rebuilding saturated Cardiff and Miller’s time in Berlin.²⁹ Like *Forty Part Motet*, *Berlin Files*’s simplicity presented a stripped back void, far from the bricolage of their earlier works like *The Dark Pool* (1995). The new installation was simply constructed: speakers, a projection screen, plywood walls, fabric baffles, and

²⁴ Cardiff in, Michael Posner, “Artworld snowbirds nest in New York: Expatriate Artists,” *The Globe and Mail (Canada)*, November 29, 1997, C13.

²⁵ Janet Cardiff, in Sascha Hastings, “Postmark Berlin,” *Canadian Art* (Spring 2006): 62-67.

²⁶ Volz, interview.

²⁷ Volz, interview. Volz continued: “They were excited about Berlin and had obviously done research on David Bowie’s time in Berlin, and other artists time in Berlin. And they were going to plays in Berlin and watching movies from Berlin. This is all very present in *Berlin Files*.”

²⁸ David Bowie quoted in Rory MacLean, “David Bowie and Heroes,” in *Berlin: Imagine a City*, (London: Weidenfeld & Nicolson, 2014), 340. Over the next few years in Berlin, Bowie recorded the Berlin trilogy albums *Low* and *Heroes* and (what I and many others considered to be the most stripped back, ambient and progressive Bowie albums) in Berlin. MacLean also noted that Bowie was able to maintain a sense of anonymity in Berlin as no one knew who he was: “In Berlin ... One night, on a whim, he [Bowie] climbed on to a cabaret stage to perform a few Sinatra songs. The local audience, with their infamous terseness, shrugged and asked him to step down.” Rory MacLean, “The Berlin Landmarks That Inspired Bowie,” *Financial Times*, February 1, 2014.

²⁹ Cardiff, artist notebook, Cardiff and Miller Grindrod studio archive, Canada, July 15, 2014.

wooden bench seats. Its presentation was a direct and more austere focus on what Cardiff referred to as spatial environments.³⁰

4.2 *Berlin Files*: Not films. More like spatial environments.

Cardiff and Miller altered their approach to sound in *Berlin Files*. While incorporating both audio and video, they emphasised that the physical aspect of sound was the impetus: “One of the main things about my work is the physical aspect of the sound, Cardiff explained. “A lot of people think it’s the narrative quality, but it’s much more about how our bodies are affected by sound. That’s really the driving force.”³¹ While the physical and spatial aspect of the work was paramount, Cardiff explained that it was usually assumed that it was the narrative quality that was most important. This assumption is evident in writing on *Berlin Files*, which focused on the narrative action on screen and the “cinematic” qualities of the sound used—rather than their innovative speaker arrangement or how the work challenged usual presentations of video art.³² In these efforts to prioritise sight, what was overlooked was now at the core of Cardiff and Miller’s installations: their development of spatial sound.

Interestingly, this oversight was not symptomatic of an absence of familiarity with Cardiff and Miller’s art.³³ Instead, it was the default position of calling on

³⁰ Previous chapters have referred to Cardiff and Miller’s works as physical environments, this chapter explores the specific reference that Cardiff made to *Berlin Files* being a “spatial environment” as a very specific adoption of ambisonic sound.

³¹ Cardiff, “Pleasure Principals.”

³² For example, the following description of the *Berlin Files* is typical of the narrative used in discussions of Cardiff and Miller’s works: “The film noir nature of the city inspired elements of the illusory and stunning video installation *The Berlin Files* by Janet Cardiff and George Bures Miller. A non-linear film montage with surround sound, the piece has been acclaimed for its emotional range and abstract beauty.” *Constructing New Berlin*, Phoenix Art Museum, 2006, accessed February 2, 2018, <http://www.phxart.org/exhibitions/6eblaa9f-0d61-47bb-ledb-5abf8a2aad4c>

³³ For example, see Anamarija Batista & Carina Lesky, “Sidewalk stories: Janet Cardiff’s audio-visual excursions,” *Word & Image*, 31:4 (2015): 515-523. The authors rely on film theory to describe how Cardiff used sound and space in *Her Long Black Hair* (2004). Carolyn Christov-Bakargiev often described the “filmic” qualities of the works and the associations to collective memory or fictive narratives. See Carolyn Christov-Bakargiev, *Janet Cardiff: A Survey of Works Including Collaborations with George Bures Miller* (Long Island City, NY: P.S.1 Contemporary Art Centre, 2002).

conventional narratives adopted in discussions of sound and video presentations where sound became subordinate to the image. For example, in an interview with Cardiff and Miller in 2003, Whitechapel Gallery curator Andrea Tarsia referred to *Berlin Files* as a “film” symbolised by its “in-betweenness” and “disjointed” character. “The *Berlin Files*,” Tarsia observed, “flickers between light and darkness, between image and its absence. There's a feeling of drifting in and out of consciousness, and the series of scenes that make up the film share the disjointed quality of dreams.” She then asked Cardiff, “are these notions important to you?”³⁴ In response, Cardiff explained that in line with their previous work, the *Berlin Files* was not a film in the conventional sense. “I would hesitate to call them films,” she said, “more like spatial environments ... it's hard to explain.”³⁵ Although Cardiff did not clarify what she meant by “spatial environment,” we will unpack Cardiff's statement.

First, we must clarify what Cardiff meant by “spatial environment.” As I have emphasised throughout this thesis, the sound composition, spatial distribution, and visuals in their works were shaped to produce spatial *contrasts* and tensions that the audience could experience as an artwork. Before we can begin this discussion, it is important to emphasise that Cardiff's correction was not an objection to Tarsia's observations. Cardiff and Miller's artworks were often suggestive of dream narratives, the flow of consciousness, memory, and states of “in-betweenness.”³⁶ However, to rely on such well-rehearsed observations would be to reify the most obvious conclusions about Cardiff and Miller's oeuvre. Instead, if we probe Cardiff's characterisation of the “spatial environment,” the

³⁴ Tarsia, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

³⁵ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

³⁶ The Portikus website also described *Berlin Files* a film: “Their films allude to narrative motifs, while the three-dimensional soundtrack, until now heard via headphones, not only involves the viewer in the events of the film, but also makes him a part of the simulated opera-house or movie-theatre.” Portikus, “Exhibitions: Janet Cardiff and George Bures Miller, The Berlin Files,” *Portikus* (website), 2002, accessed May 3, 2015, http://www.portikus.de/en/exhibitions/116_the_berlin_files?9527e7785ab877926b6001b684d03fc4=5dc9bc04049a322ae5e308937fd77d9d

attention shifts to a far more pertinent aspect of their production—the formation of these spatial environments. The scope of this investigation can be established by describing the structure they designed for the piece, while also analysing the spatial and sculptural attributes of the installation.

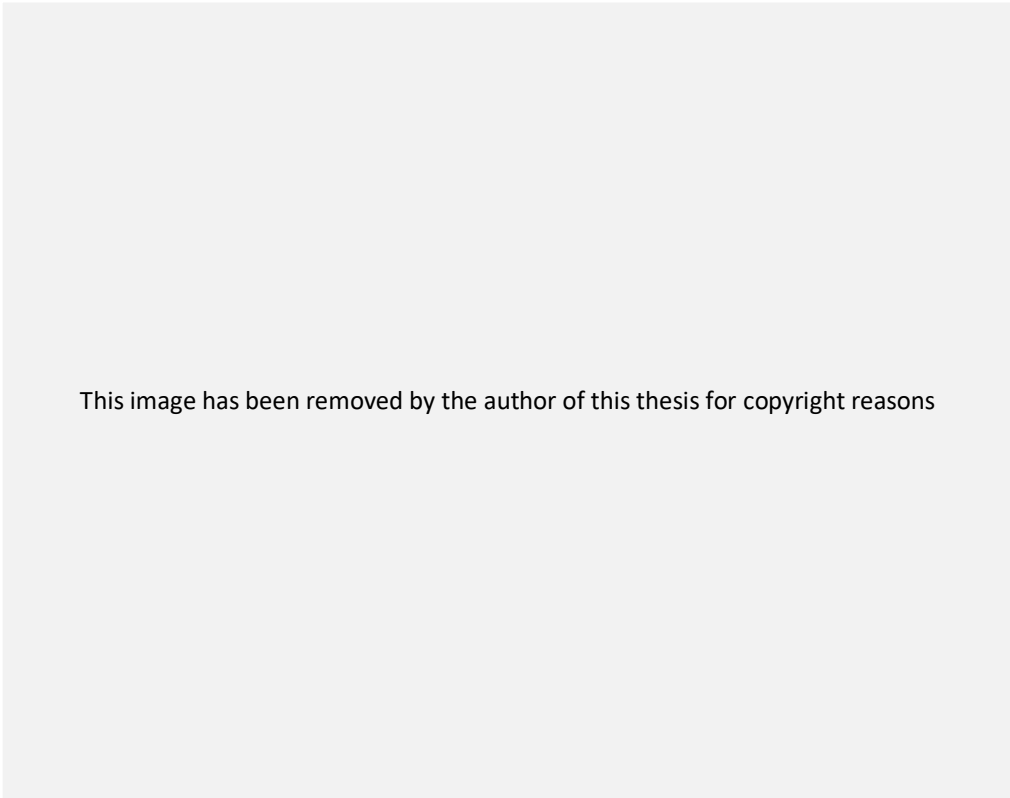
4.2.1 The break: substituting the “cinema situation” for a “spatial environment.”

We can start to understand the significance of Cardiff and Miller’s *spatial environment* by determining how *Berlin Files* differed from their earlier installations. Initially, however, the path to understanding their works as spatial environments rather than films becomes more convoluted. The reason for this is because many of Cardiff and Miller’s artworks use tropes from the entertainment industry and stagecraft.³⁷ It would, therefore, be natural to assume that their works were *about* cinema and literature. Furthermore, comparable artworks like *The Muriel Lake Incident* (1999) and *The Paradise Institute* (2001) not only adopted these filmic and literary devices but also mimicked the conditions of cinema viewing or the “cinema situation.”

In the mid-1990s and early 2000s, Cardiff and Miller created a series of dioramas that replicating early twentieth-century movie-theatre architecture. These dioramas were reminiscent of Hiroshi Sugimoto’s famous black and white, long time-exposures, *Theatres* (1978). What made the diorama works unique, as compared to *To Touch* or *The Dark Pool* (discussed in the previous chapter) is that these diorama works like *The Muriel Lake Incident* and *The Paradise Institute* simulated the experience and architecture of a theatre-space—something they only began doing since they made *Playhouses* in 1997. *The Muriel Lake Incident* was, for example, a miniaturised movie-theatre constructed from plywood. Up to three people could stand outside the structure and peer through a window to watch a video screen while listening to the binaural soundtrack through headphones. The inside of the structure was fitted with red curtains, a screen,

³⁷ Cardiff, “Cardiff and Miller—Something Strange This Way.”

and fan shaped amphitheatre. Alternatively, *The Paradise Institute* was a human-sized diorama that visitors entered. The exterior resembled a large, freestanding packing-crate fabricated from plywood. The inside was soundproofed, airconditioned, fitted with plush red velour theatre seating, and burgundy carpet. At the front of the space, a seemingly distant cinema screen was installed amongst a miniaturised diorama of theatre, and tiered seats lined the balcony and floor.³⁸ The “blinding white nothing” of the screen space in Sugimoto’s photographs was replaced with a film noir-esque sequence of scenes as the binaural soundtrack played over headphones.³⁹



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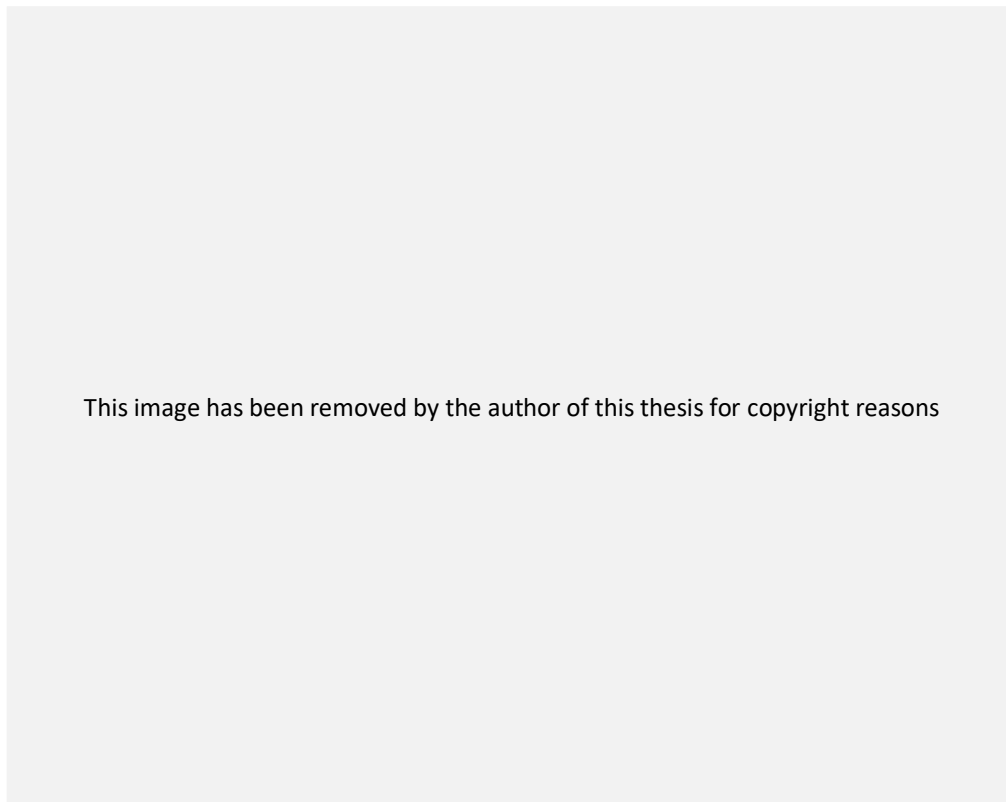
Figure 30: Cardiff and Miller, *The Paradise Institute*, 2001, Interior view, Materials: Mixed Media, 13 min. 5.1m x 11m x 3m high. © Cardiff and Miller. Photo: Markus Tretter.

³⁸ See Noam Elcott’s chapter “Dark Theatres” for a fascinating history of the Diorama and Wagner’s commercialization of the concept with his theatre, Festspielhaus, in Bayreuth. Elcott, “Dark Theatres,” in *Artificial Darkness: An Obscure History of Modern Art and Media* (Chicago; London: University of Chicago Press, 2016), 47-76.

³⁹ Hans Belting used the term “blinding white nothing” to describe the white screen space in Sugimoto’s photographs that he created using long exposures. Belting, “Theatres of Illusion,” in *Theatres: Hiroshi Sugimoto* (New York: Sonnabend Sundell Editions, 2000).



Figure 31: Cardiff and Miller, *The Muriel Lake Incident*, 1999, multimedia construction with video projection and binaural audio, 5 min, 231,14 cm x 157, 5 cm x 185 cm, photograph by author, 2014.



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Figure 32: Cardiff and Miller, *The Paradise Institute*, 2001, Installation view, © Cardiff and Miller. Photo: Markus Tretter.

The Paradise Institute presented visitors with the allusion of a cinema experience.⁴⁰ At the showing of *The Paradise Institute* at the Venice Biennale, visitors collected a ticket and formed a queue outside the structure.⁴¹ Upon entry, they were instructed to sit down on the velour seats, put on a pair of headphones, and wait for the “film” to begin. While seated, the binaural audio played a soundtrack that began with the sound of imaginary patrons entering the room, chatting, rustling packets of snacks, and clearing their throats, all the while Cardiff’s voice whispered in the visitor’s right ear asking if they had remembered to turn off the stove at home. Cardiff explained that they were trying to simulate a cinema experience: “We wanted to do a three-dimensional version of how people see movies. You’re physically here, but you’re also in the movie, and then the movie comes in and mixes with your thoughts about, ‘Oh, did I leave the stove on?’”⁴² Once the “film” on the screen started, a sequence of abstract scenes played over the audio and video—a house burning, a cabaret performer singer, a woman running, a hospital scene—and when it finished the visitors were asked to exit. “George once joked that we were making a ‘cinema simulator,’” Cardiff explained.⁴³ The design of the structure and video sequence produced what Miller called a “cinema situation.”⁴⁴ Miller was referencing Roland Barthes’s concept of the cinema situation: “the texture of the sound, the hall, the darkness, the obscure mass of the other bodies, the rays of light, entering the theatre,

⁴⁰ Also see Wayne Baerwaldt’s fantastic introduction essay to the *Paradise Institute* catalogue, Wayne Baerwaldt, “Phantoms of the Paradise,” Janet Cardiff and George Bures Miller, *The Paradise Institute*, (Winnipeg: Plug In Editions, 2001), 3.

⁴¹ *The Paradise Institute* is a self-standing structure, 5.1-meter-wide by 11 meters long and 3 meters high.

⁴² Janet Cardiff in Andrew Maerkele, “The Rings of Saturn: Janet Cardiff & George Bures Miller: Pt II,” *Art iT*, September 27, 2013, http://www.art-it.asia/u/admin_ed_itv_e/k15N0UpRnFSy6i3caPT9

⁴³ Cardiff in Atom Egoyan, “Janet Cardiff: Artists in Conversation,” *BOMB Magazine*, 79 (Spring 2002), <http://bombmagazine.org/article/2463/janet-cardiff>

⁴⁴ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

leaving the hall ... I complicate a 'relation' by a 'situation'."⁴⁵ This situation involved more than what was playing out on the screen.

In cinema, the purpose of sound was to enhance the viewer's "absorption" in the film. What was at stake in *The Paradise Institute* was not only the activity or relations happening on screen, or the sound's enhancement of the film experience, but rather the *total environment* of the installation—including the institutional structures, the conditions of the audience, and viewing behaviours.⁴⁶ "When you enter you should feel this kind of disjunction between moving away from a gallery space or a museum space to something other than that," Miller explained.⁴⁷ Cardiff and Miller used binaural sound to accentuate these conditions.

Consequently, *The Paradise Institute* simultaneously interrogated and articulated the total space of the installation. Hans Belting referred to this space as the room that we "usually occupy with our bodies but which we tend to forget while traveling with our imagination to the sites we are shown in the movie."⁴⁸ However, in *The Paradise Institute*, the binaural sound did not enhance the viewer's absorption in the "film" but rather made the viewer more aware of their physical space as they sat in the diorama theatre. The spatial sound denied the visitor a conventional cinema experience as their attention was directed toward

⁴⁵ Roland Barthes, "Leaving the Movie Theatre," in *The Rustle of Languages*, trans. Richard Howard (Hill and Wang: New York 1986), 345, 349. I do not intend to engage in an in-depth discussion on the concept of the "situation" in cinema—either following Barthes, the "cinematic situation" as referenced in apparatus theory, and psychoanalysis of the relationship between the cinema screen and the viewer. For a detailed discussion see Gregor Stemmerich, "Dan Graham's Cinema and Film Theory," *Media Art Net*, http://www.medienkunstnetz.de/themes/art_and_cinematography/graham/scroll/#ftn19

⁴⁶ See Lewis Kaye, "The Silenced Listener: Architectural Acoustics, the Concert Hall and the conditions of audience." *Leonardo Music Journal*, vol. 22 (2012): 63-65. Kaye discussed the relationship between architecture, acoustics, and audience and proposed that we need to think of the audience in more active sense. Also, see Jonathan Crary, "Techniques of the Observer," *October*, vol. 45 (Summer, 1988): 3-35.

⁴⁷ Miller, "I Wanted to Get Inside the Painting,' Bridgette Kalle in conversation with Janet Cardiff and George Bures Miller," in Janet Cardiff and George Bures Miller, *The Paradise Institute*, (Winnipeg: Plug In Editions, 2001), II.

⁴⁸ Belting, "The Theatre of Illusion."

the entire installation space and not only the action on screen. Miller explained that they sought to “confuse the viewer in a way that for at least a moment they are unsure of what is real and what is fiction. In that piece [*The Paradise Institute*] the actual film isn’t as important.”⁴⁹ This momentary confusion collapsed the boundary between the binaural recording and the physical experience. “At several points,” Cardiff wrote, “the filmic aspect overlayers with the sense of spectator space destroying the boundary between the two.”⁵⁰ As the two spaces merged, what became crucial, as Miller pointed out, was the fleeting moment of confusion and not the actual film.

In addition to denying the audience a conventional cinema experience, *The Paradise Institute* also challenged the conditions of viewing an artwork in an art gallery. We can trace this narrative through the previous chapters in relation to how the artists worked with human nature’s habitual inclination to follow directions or unpack a narrative.⁵¹ This understanding also informed their making of *The Paradise Institute*. Reviews of *The Paradise Institute*’s presentation at the Venice Biennale noted that Biennale visitors grew increasingly frustrated because the installation was unable to accommodate large biennial crowds. Only seventeen visitors were permitted to enter at a time, and they were required to stay for the 13-minute duration of the work.⁵² Over the course of the Biennale, the line of waiting patrons grew longer as the attendants were unable to satisfy the demand of frantic Biennale visitors who were accustomed to swiftly scanning pavilions and moving on. “We knew there would be lines at Venice although we never imagined it would be so extreme,” said Cardiff, “we really couldn’t predict how the piece would be viewed in a major art context like Venice.”⁵³ Cardiff and

⁴⁹ Miller, “Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm.”

⁵⁰ Cardiff, artist notebook, c2000, Grindrod Studio archive, accessed July 16, 2014.

⁵¹ Cardiff, “Pleasure Principals.”

⁵² The installation notes suggested that there be a ticketing and booking system in place if *Paradise Institute* was to be shown at a “busy” museum. *Paradise Institute Installation Instructions*, Cardiff and Miller Grindrod Studio Archives, accessed July, 2014.

⁵³ Cardiff, “Janet Cardiff: Artists in Conversation.” Cardiff continued, “We did want to minimize the chaos involved in getting as many people through as fast as possible so one of the things that

Miller denied the visitor their typical cinema experience.⁵⁴ And even more to the point, by insisting that visitors wait in line, the audience was denied a “typical” biennale encounter.⁵⁵

On the other hand, *Berlin Files* marked the “break” with Cardiff and Miller’s preceding reliance on the cinematic in their artworks. *Berlin Files* was “the first time that the ‘film’ exists on its own outside of the cinema situation which both *The Paradise Institute* and *The Muriel Lake Incident* use.”⁵⁶ Rather than borrowing from the conventions of cinema, they envisioned their “spatial environment” through different circumstances. *Berlin Files* substituted binaural sound for ambisonic sound, used the gallery architecture, and the editing of the audiovisuals to create its “spatial environment.”

Loudspeakers in *Berlin Files* replaced the headphones used for the binaural sound in *The Paradise Institute*. Although *The Paradise Institute* simulated a movie-theatre, the headphones—as a device worn over the ears—confined the

George and I thought about was the Disney World model of handling lines. If you’ve ever been there you know how some of the rides, like the outer space or flight simulator rides, have people enter into a structure into several rows from one side and then exit from the other side. That’s the most efficient way so that’s how we planned the main structure of the piece and how it would fit into the pavilion. We also thought about how when you’re in a Disney line you think you’ve almost made it through the line and then all of a sudden, you’re into yet another, different section of the line. They are really grand masters of the line-up.”

⁵⁴ Also see Andrew Uroskie, “Introduction: From Medium to Site,” in *Between the Black Box and the White Cube, Expanded Cinema and Postwar Art* (Chicago: University of Chicago Press, 2014), 4. Uroskie, however, does not discuss the binaural or spatial audio aspect of *The Paradise Institute* in any detail.

⁵⁵ In a conversation I had with Cardiff, she noted that a museum who expressed interest in purchasing *Playhouse* (1997) did not purchase it because they were concerned that the piece only allowed for one person to view the work at a time. Cardiff, interview by author, Grindrod, July, 2014. Also, see a review by John McDonald in the *Sydney Morning Herald* on Anne Imhof’s installation *Faust* (2017) in the German Pavilion at the Venice Biennale 2017. He was outraged by the queues to enter the pavilion and likened the installation to being treated like a lab rat: “For most of the time the majority of the audience could see nothing at all. I’m sure I wasn’t the only one who resented being treated like a laboratory rat, but the psychology of the queue ensures that after having waited for hours to get into the pavilion, viewers will linger in order to justify the time they wasted.” John McDonald, “Venice Biennale review: mediocrity suspended between poles of earnestness and silliness,” *Sydney Morning Herald*, May 20, 2017.

⁵⁶ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

experience of the three-dimensional sound to the listener's head. In *Berlin Files*, the amplification of sound via loudspeakers implicated the listener's body within the physical space of the installation. Rather than a regular stereo set up that produced a blanket or wall of sound with little spatial variation, they designed a 12-channel speaker arrangement that reproduced sound with the accuracy and believability as the human ear would hear it. Therefore, the spatial dimension of the sound implicated the listener's body within the physical space of the gallery. The "cinema situation" was replaced with the "spatial environment" as the highly spatialised soundscape negated any predisposition for the visitor to "get lost" in the experience.

4.2.2 The architecture

The sound system was presented within a custom-built structure for the Portikus gallery in Frankfurt am Main. The dodecagon structure was six-meters-wide and positioned at the centre of the gallery and was designed to maximize the spatialisation of the 12-speaker surround sound system. The twelve speakers were embedded within the twelve felt-covered wall panels, and a small 150-by-83-centimeter single projection video screen was installed on one wall. Unlike a typically large cinema screen used in commercial theatres, the screen in *Berlin Files* was modest in size and restricted by the narrow width of the plywood panels. Jochen Volz, the curator of the show, also observed that the screen was "very small compared to the [size of the] piece," suggesting that the video was only part of the equation.⁵⁷ It was the room's construction and the speaker arrangement that was more revealing in *Berlin Files*. The final 12-sided structure was devised after Miller sketched many drafts in his notebooks, testing the feasibility of various panel dimensions and combinations. To spatialise the sound most effectively, Volz and the Portikus exhibition team helped Miller with the specifications.⁵⁸ The speakers were positioned at various heights and angled to project sound toward the centre of the space accurately. The detail and effort

⁵⁷ Volz, interview.

⁵⁸ Volz, interview.

assigned to the design of the room, the positioning of the speakers, and the size of the screen indicated that there was more at stake in *Berlin Files* than recreating a cinema experience.

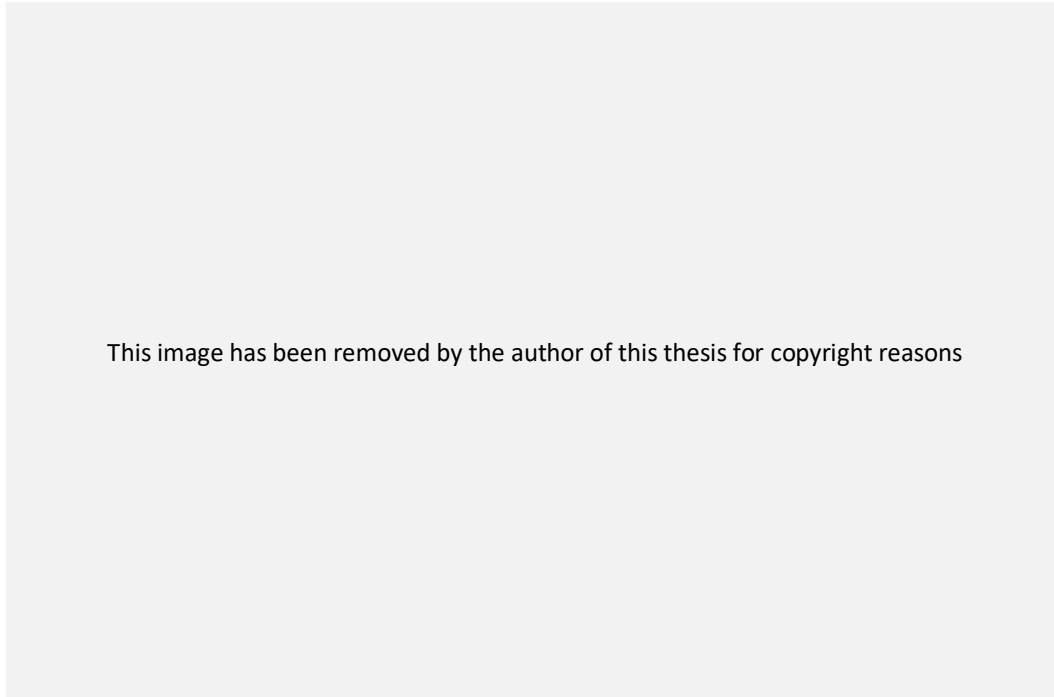


Figure 33: Cardiff and Miller, *Berlin Files*, 2003, installation view, Duration: 13 min, 9m x 7.5m with a height of 3.5m, wooden panels, video loop with 12 channel surround sound audio, Portikus, 2003, accessed November 3, 2018, http://www.portikus.de/en/exhibitions/116_the_berlin_files

4.2.3 Editing and sound composition

Rather than simulating a cinema experience like *The Paradise Institute*, Cardiff and Miller set out to create a moving sphere of sound where the combination of the video and surround sound moved and shifted “different type of space.” We can unpack what this means by closely analysing how the audio and video were composed and edited.

Berlin Files was a 13-minute sound and video composition of five short video scenes shot across locations in Berlin and Canada. The audio and video were edited to evoke a “similar experience to leafing through a filing cabinet, shifting

from one file to another.”⁵⁹ The effect of shifting from one file to another also translated to how Cardiff and Miller created transitions within the audio and video. Indeed, the emphasis placed on creating a highly spatialised environment was articulated in the closing two-minute scene of *Berlin Files*.⁶⁰

In the lead-up to the scene, the following sequence played out on the screen: a woman crosses a street at night, a car drives through a snow-covered Canadian winter field, a camera pans through an apartment in which a pianist is playing, and a blonde woman in a white coat walks down a dark U-Bahn corridor. What connected these scenes were long, blank-screen pauses that transitioned one scene to the next. These blank-screen moments were synced to coincide with other sounds unrelated to the images show—such as an orchestral composition, a helicopter, and a train passing overhead. The recording played out in “incredibly precise multichannel sound” as it resonated across the twelve speakers.⁶¹

The closing two-minute scene began with the sound of Cardiff’s whispering voice singing the opening lines of David Bowie’s *Rock ‘n’ Roll Suicide* (1972). As she sang, a blank screen transitioned her voice to a scene inside the former *White Trash Fast Food* bar on Torstraße in Mitte, Berlin. A karaoke singer (played by Berlin performance artist John Jones) stood by the bar in a glistening silver blazer, microphone in hand, singing the chorus of the Bowie classic to an empty bar. As the camera panned through the adjacent rooms, distinct variations and contrast in the sound—its texture, direction, volume, distance, and spatial qualities—emerged. The aural experience of the soundscape shifted from the impression of physically being in the bar and hearing the performance through the loudspeakers and hearing the performance from the room next to the bar. In

⁵⁹ Cardiff and Miller, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

⁶⁰ I recommend viewing the scene on the link below and return to the discussion. “Berlin Files - Cardiff Miller,” YouTube video, John JJ Jones, March 5, 2010, https://www.youtube.com/watch?v=hYbul_IH54

⁶¹ Brian Sholis, “Critic Picks: Janet Cardiff and George Bures Miller, Luhring Augistine, Chelsea,” *Artforum*, 2004, accessed February 12, 2015, <https://www.artforum.com/index.php?pn=picks&id=6416&view=print>

this scene, rather than using sound like as cinematic support, the soundscape was driving the piece. Cardiff and Miller wanted their audience to notice were the nuances of the soundscape accentuated by audio editing and the blank screen interludes.

What this means is that sound as protagonist derailed the established notions of the “audio-visual,” (as sound reinforcing the image) that emerged out of cinema discourse.⁶² Cardiff explained that when the visuals in the film were “enhanced by big sound” the audience was transported into a “virtual world.” This “virtual world” evoked by the cinema experience was what Hollis Frampton described as the “null space” in which the body of the cinema goer was “suspended.”⁶³ This space too became the default of what Noam Elcott called the “artificial cinematic darkness” where all but the luminous screen was obscured from view.⁶⁴

⁶² Discourse on sound in cinema has also downplayed the significance of sound. Gilles Deleuze, for example, considered sound and image as embedded within film. Gilles Deleuze, *Cinema 2: The Time-Image* (Minneapolis: University of Minnesota Press, 1989), 234. In *Audio-Vision* (1981) Michel Chion considered sound not as subordinate or in juxtaposition to the image but in “synchresis” to it. Michel Chion, *Audio-Vision: Sound on Screen* (New York: Columbia University Press, 1994). In both these accounts, rather than taking the lead, sound reinforced and remained subordinate to the visual. There were also a few brief notes on Chion in Cardiff’s artist notebooks. Authors research, Cardiff and Miller archives, Grindrod Studio, July 2014.


⁶³ Hollis Frampton, *A Lecture*, Hunter College, New York, October 30, 1968.

⁶⁴ Elcott, “Dark Theatres,” *Artificial Darkness*, 47.



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Figure 34: Cardiff and Miller, *Berlin Files*, 2003, Selected Film Still, © Cardiff and Miller



This image has been removed by the author of this thesis for
copyright reasons

Figure 35: Miller's *Berlin Files* sketch, 2003, Cardiff and Miller studio Grindrod, © Cardiff and Miller, photograph by author, 2014.

However, unlike these accounts, the sound's task in *Berlin Files* was not to enhance the video edit or teleport the audience into a virtual world. I emphasise that sound was the driver in *Berlin Files* where the variations and contrasts were precisely edited to form a spatial environment. Cardiff described this process: "when you edit to a new scene, you are shifted into a different type of space."⁶⁵ These varying spaces were formed by the intersecting sound and blank screen moments as they transitioned one soundscape to the next. As emphasised throughout this thesis, it was their *editing*—the manipulation and formation of spatial sound that was central to the success of the work.⁶⁶ However, it was not only their ability to create a plausible soundscape but also the way the works revealed its artifice. This device was also apparent in *Berlin Files*.

4.2.4 Shifting spaces

Miller explained that using spatial sound to transition *Berlin Files* from one scene to the next created "a scenario where we try to suspend your disbelief, so that you're within the reality of our piece, and then somehow we will pull the rug out from under you by saying something or having a sound that destroys that reality."⁶⁷ This effect went hand-in-hand with the moment of confusion between the binaural soundscape, and "reality" described earlier—as a dual effect.⁶⁸ In 2013, interviewer David Blazer noted that Cardiff and Miller's works often drew attention to viewership. In this interview, Cardiff explained that there was a balance that they needed to create between what Blazer referred to as "mystification" and "demystification" (or certainty and ambiguity as I describe it later in this chapter.) Cardiff explained, "usually there's some point at which we

⁶⁵ Cardiff and Miller, "Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia."

⁶⁶ Kitty Scott also observed this feature somewhat less directly by noting that Cardiff was a "novelist, radio producer, composer, and recording engineer." Kitty Scott, "I want you to Walk With Me," Kitty Scott and Artangel, *Janet Cardiff: The Missing Voice: (Case Study B)*, (London, New York: Artangel; Distribution in USA and South America via D.A.P., 1999): 4.

⁶⁷ Miller, *Janet Cardiff & George Bures Miller: Something Strange This Way*, ARoS Aarhus Kunstmuseum, (Ostfildern: Hatje Cantz, 2015), 115.

⁶⁸ Miller, "Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm."

show the technology.” Miller followed up: “or pull the rug out from under the illusion.” But Cardiff and Miller both agreed that the level of this “reveal” changed depending on the work.⁶⁹ For example, the *Storm Room* (2009) was a work set up much like *The Paradise Institute*. It was a self-contained plywood structure, where the technology—large mac computer, cables, lights, water pipes, packing crates, amplifiers, and speakers—were visible from outside the structure. Cardiff and Miller do not attempt to hide the technology from view. Upon entering the gallery, the viewer was deliberately led to walk around the outside of the structure. As they walk around, they observed all the cables, wire and working of the installation. Once they entered the room, the space was a replica of a home in Doichi, Japan in which a simulation of a thunderstorm played out as water leaked through the ceiling and water gushed across the windows. Likewise, in *Forty Part Motet*, Cardiff explained that they did not hide the speakers because people see speakers as “invisible anyway.”⁷⁰ However, let’s be clear. The sculptural characteristic of the equipment cannot be denied as it is so explicit. What Cardiff’s statement suggested was that by situating the technology on view in the gallery, the audience could not be consumed by the illusion of the spatial sound as its artifice (or inner workings) was laid bare.

The situation varied in *Berlin Files* as the speakers were embedded into the walls of the structure. For the visitor situated at the centre of the *Berlin Files*, the darkness of the space and the presence of a screen conjured certain viewing behaviours—such as a gallery space or cinema. However, before the visitor could become consumed by the experience, they were presented with the unfamiliar sensation of hearing spatial, realistic, recorded sound.

⁶⁹ Cardiff, Miller and David Blazer, “Interviews: Janet Cardiff & George Bures Miller Chat About Their New Ago Survey,” *Canadian Art*, April 3 (2013).

⁷⁰ Cardiff, “Interviews: Janet Cardiff & George Bures Miller Chat About Their New Ago Survey.”



Figure 36: Cardiff and Miller, *Storm Room*, 2009, Installation view of computer equipment. Materials: Mixed media installation, Duration: 10:00, Dimension: Variable. Vancouver Art Gallery, 2014. © Cardiff and Miller, photograph by author, 2014.



Figure 37: Cardiff and Miller, *Storm Room*, 2009, Installation view of the outside structure. Materials: Mixed media installation, Duration: 10:00, Dimension: Variable. Vancouver Art Gallery, 2014. © Cardiff and Miller, photograph by author, 2014.

Working in conjunction with the highly spatialised sound, Cardiff and Miller used continuity devices to suggest that there was a narrative to be followed in *Berlin Files*. As Cardiff described, these methods were used in both the images that appeared on the screen and the spoken fragments over the audio of the work: “our voices talking to each other in the studio and the blonde actress reappearing.”⁷¹ As each chapter has demonstrated, this device was continually present in their work. In the walks, for example, Cardiff explained that “the narrative is a strategy to get people to walk.” Rather than narrative as text, “the subtext of the piece is really the text.”⁷² These strategic ploys satisfied the habitual behaviours of the audience by luring them to try to construct a plot. *Berlin Files* was also composed with these psychological manoeuvres in mind. While the use of these devices should not override the discussion on *Berlin Files*, it is important to acknowledge their place as these strategies captured the audience’s attention, so they could experience what was really at stake in their installations: the development and experience of the spatial environments—or as Cardiff described, the physical quality of sound.

In place of a structured plot, Cardiff explained that they used sound to “pull” and “shift” space and progress the scenes. I explained how they achieved this in the closing scene in *Berlin Files*. Cardiff explained the mechanics behind the technique:

Our bodies respond immediately when the room becomes dark and there is just a voice or sound. Because of this we can work with the narrative in a different way than a regular film because rather than story structure we can concentrate on the different type of space being pulled and shifted.⁷³

⁷¹ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

⁷² Cardiff, “Pleasure Principals.”

⁷³ Cardiff, “Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia.”

Instead of a storyline, the sound set the pace for the piece's unfolding. The mention of the "room becoming dark" and that there was "just a voice or sound," that could be heard described the blank screen moments between each of the brief video scenes I identified earlier. As explained, these occasions of audio exclusive of supporting visuals, functioned as transitional junctures between the scenes that were composed, so the sound played out around the audience spatially, sculpting movement and variation in the acoustic space.

The linear progression that was usually afforded by a narrative plot was substituted with the clever manipulation of spatial sound that emphasised the sound's direction, fidelity, loudness, and texture. Indeed, providing sufficient texture and contrast between darkness and lightness was as integral to the unfolding of installations like *Berlin Files* as it was in the audio walks.⁷⁴ As a compositional approach, it ensured that there was enough variation to play with the expectations upon entering a darkened gallery space, where the sensation of such high-fidelity sound in a darkened room was a novel experience.

Experiencing spatially recorded sound was, for the most part, an unfamiliar experience to the everyday individual but we are accustomed to hearing "real" sounds spatially. Initiating an unaccustomed experience within a confined structure in a gallery space, Cardiff and Miller used ambisonic sound to mobilise sound and sculpturally construct space. The piece played out around the audience spatially, sculpting movement and variation as the sound transitioned from one acoustic space to the next. Within these shifting of priorities, stripping the installation of objects, kinetics, and theatrics that were present in their previous works, *Berlin Files* conveyed a restraint and constraint on Cardiff and Miller's part.

The austerity of the artworks that Cardiff and Miller produced in Berlin in the 2000's (*Berlin Files* and *Forty Part Motet*) echoed what had emerged in Bowie's

⁷⁴ Cardiff, interview by author, Sydney, February, 2014. Cardiff explained the importance of maintaining balance between light and shade.

music almost twenty years before in Berlin. Author Rory MacLean noted that Bowie “realised that his goal was not simply to find a new way of making music,” but to, “reinvent—or to come back to—himself. He no longer needed to assume character guises to sing his songs. He found the courage to throw away the props, costumes and stage sets.”⁷⁵ Bowie traded traditional rock riffs and alter-egos for the stripped back ambient tones of the so-called *Berlin Trilogy* albums, *Low* and *Heroes* (1977) and *Lodger* (1979).⁷⁶

Similarly, *Berlin Files* also signified a new simplicity that Cardiff and Miller pursued in their series of “speaker works.”⁷⁷ In the closing scene of *Berlin Files*, the cabaret singer stands alone at the bar, microphone in hand, singing Bowie’s *Rock ‘n’ Roll Suicide*. He sings along unnoticed by the fellow punters and the barman. However, the surround sound that resonated through the dodecagon structure implied that sound alone could be more compelling than “the props, stage sets, and gimmicks” of the artworks that defined Cardiff and Miller since the mid-1990s. They reacquainted themselves with the restraint and confidence to allow sound to define the spatial environment as it did in *Whispering Room* (1991) and *To Touch* (1993). As a follow-on, *The Murder of Crows* (2008) expanded their concept of the “spatial environment” as it tried to challenge the physical dimension of the work and the possibilities of ambisonic sound by forming a much larger room sized installation of freestanding speakers.⁷⁸

⁷⁵ Rory MacLean, “David Bowie and Heroes,” in *Berlin: Imagine a City*, [in English] (London: Weidenfeld & Nicolson, 2014), 340.

⁷⁶ The album *Low* was co-produced with Brian Eno who created the ambient effects on the record with a portable *EMS Synthi A* synthesizer.

⁷⁷ Cardiff referred to the works that use only speakers, such as *Berlin Files*, *Forty Part Motet*, *The Murder of Crows*, and *Forest (For a Thousand Years)* (2012) as the “speaker works.”

⁷⁸ In saying this, Cardiff and Miller continued to pursue their “theatrical” stand-alone pieces, like *Opera for a Small Room* (2005), *Killing Machine* (2007), and *The Carnie* (2010). What *Berlin Files* signified was a new trajectory in their incredibly diverse art practice.

4.3 *The Murder of Crows* (2008)

We noted before that between 2000 and 2005, Cardiff and Miller lived between Berlin and Grindrod. In 2005, they contemplated a move back to Canada.⁷⁹ “Do we need to get out of Berlin? There's so much partying there, too much business,” wrote Cardiff.⁸⁰ They now wondered if Berlin was still the right place for them; the city that had inspired them five years before now lost its appeal.⁸¹ In November 2005, Cardiff was on her way to New York for an artist talk on the occasion of *Forty Part Motet*'s exhibition and acquisition by the Museum of Modern Art (MoMA). She wrote in her notebook: “*Motet* is at MoMA. What more do I want now?” *Forty Part Motet* at MoMA signified acceptance into the canon of contemporary art.⁸² Despite the success, Cardiff (49 years of age at the time) felt that she had hit a wall creatively. She continued to write: “I don't make anything anymore—I just do business and write and record. [There is] no intimacy anymore. [Should I] make smaller models or [a] big music piece?”⁸³ The opportunity to make a “big music piece” came after they were commissioned to make a work for the 2008 Biennale of Sydney.

In 2005, Cardiff and Miller began working on their largest installation in two-decades, *The Murder of Crows* (2008).⁸⁴ Commissioned for Carolyn Christov-

⁷⁹ Miller recalled their time in Berlin in 2005: “it was a bleak, bleak, winter. It felt like everything was going bad.” Miller, “Cardiff and Miller—Something Strange This Way.” Miller, “Cardiff & Miller - Something Strange This Way,” ARos, (youtube), accessed December 4, 2014, <https://www.youtube.com/watch?v=VyCzj5bXTzY>

⁸⁰ Cardiff, artist notebook, 2005, Grindrod studio archive, accessed July, 2014.

⁸¹ Cardiff and Miller moved back to Grindrod Canada in May 2006.

⁸² See Paulina Pobocha's essay on *Forty Part Motet* (2001) in *Modern Women: Women Artists at The Museum of Modern Art*, (New York: MoMA, 2010), 408-410.

⁸³ Cardiff, artist notebook, 2005.

⁸⁴ A “murder of crows” is a poetic term and the collective noun of a group of crows. It also refers to old folklore which told a story of a group of crows holding a crow's court. A large group of the birds gather in a flat open space and after a while they move apart to leave a clear circle in the middle, into which one crow walks with its head bowed submissively. A “murder of crows,” also refers to the strange occurrence known as a “crow funeral”—when a crow dies, many other crows converge around the body and caw, in lament, for over 24 hours. See Hamburger Bahnhof, press release, “Janet Cardiff & George Bures Miller ‘The Murder of Crows,’” Staatliche Museen zu Berlin,

Bakargiev's Sixteenth Biennale of Sydney (2008), the installation comprised of ninety-eight loud speakers, twenty-one amplifiers, a computer, a red card table, an antique gramophone speaker, cables, and fifty-five wooden chairs arranged in a loose circular formation.⁸⁵ Their experimentation with spatial sound and loudspeakers in *The Murder of Crows* had started a challenge that they had set themselves to see how "big" an installation was possible with the available technology.⁸⁶ Unlike the loudspeakers embedded within the walls of *Berlin Files*, the loudspeakers in *The Murder of Crows* were mounted on chairs, stands, and suspended from the ceiling. The concept of the "spatial environment" established in *Berlin Files* was developed further in *The Murder of Crows*. The installation amplified the different type of space being pulled and shifted, as Cardiff described, by increasing the number of speakers used in its ambisonic system.⁸⁷ So now Cardiff and Miller were focusing on the sculptural possibilities of ambisonic sound.⁸⁸ They were to dedicate three years to trial and test how many 28 ambisonic speaker systems they could run simultaneously so that *The Murder of Crows* would become a movable sphere of sound.⁸⁹

Like *Berlin Files*, *The Murder of Crows* did not incorporate sensors, kinetics, or the computerised lighting systems that had featured in their "theatrically based" works made between 2003-2007—*The Dark Pool* (1995), *Opera for a Small Room* (2005), and *Killing Machine* (2007). Rather, *The Murder of Crows* expanded the technical process adopted in *Whispering Room* (1991), *To Touch* (1993), *Forty Part*

2009, <https://www.smb.museum/en/museums-institutions/hamburger-bahnhof/exhibitions/detail/janet-cardiff-und-george-bures-miller-the-murder-of-crows.html>

⁸⁵ The Sixteenth Biennale of Sydney (2008) was curated by Carolyn Christov-Bakargiev who had worked with Cardiff and Miller since the mid-1990s. She curated them into many biennales including Documenta 13, Istanbul Biennial, and a survey show and major catalogue at PSI MoMA in 2002. *The Murder of Crows* was commissioned by Thyssen-Bornemisza Art Contemporary, Vienna.

⁸⁶ Miller, interview by author, Grindrod, July, 2014.

⁸⁷ Cardiff and Miller, "Interview with the artists: Janet Cardiff and George Bures Miller Discuss Their Work with Whitechapel Curator Andrea Tarsia." *The Murder of Crows* was commissioned by Thyssen-Bornemisza Art Contemporary, Vienna.

⁸⁸ Cardiff, "Pleasure Principals."

⁸⁹ Miller, "The Rings of Saturn."

Motet, *Berlin Files*, and *Pandemonium* (2005). New programming software enabled Cardiff and Miller to expand how many speakers they could program.⁹⁰ “When we did the piece in 2007 the technology we used was just on the edge of being over-stretched, it almost couldn’t work,” Miller explained.⁹¹ With ambisonics, they “pushed the limits of what technology can do.”⁹² By constructing a new system and software, they could effectively run *four* ambisonic configurations and two additional mono speakers—98 speakers in total.⁹³ By harnessing these advancements in technology, Cardiff and Miller could completely reconsider how they approached the composition, architecture, and conditions of audience experience.

4.3.1 “A very fine line between connection and abstraction.”

Initially, Cardiff and Miller envisioned *The Murder of Crows* as a “sound environment” or musical piece (like *Forty Part Motet*), void of plot and without Cardiff’s narrator voice guiding the piece along.⁹⁴ “We thought of a sound-field piece that would create emotion through the movement of abstract sound.”⁹⁵ However, soon after they started making the work, they realised that the piece

⁹⁰ Miller in Paul David Young, “Theatrical Sound: Q+A with Janet Cardiff and George Bures Miller,” *Art in America*, August 23 (2012).

⁹¹ Miller in, Catherine Crowston, “Janet Cardiff and George Bures Miller Interviewed by Catherine Crowston,” in *Janet Cardiff and George Bures Miller: The Murder of Crows*, ed. Catherine Crowston, (Ostfildern, Germany, Alberta, Canada: Hatje Cantz; Art Gallery of Alberta, 2011), 50.

⁹² Miller in, John Wray, “Janet Cardiff, George Bures Miller and the Power of Sound,” *The New York Times Magazine*, July 26 (2012).

⁹³ Miller explained how they arrived at 98 speakers in total: “we use a device that has 24 outputs, so it’s easy for us to work in divisions of 24, so that gives us 96. But then when we were in Australia, Janet wasn’t there, and Titus Maderlechner and I were there and were like, “We need two more speakers!” I don’t know what we were thinking, but we had to have two more speakers! So we went out to buy some little device to have two more outputs. It just seems ludicrous now. Why did we need it? But it just seemed like the most important thing to have those two speakers at the last moment.” Miller’s explanation also shows how they were constantly pushing what they could do with available technology. Miller in Alexander Forbes, “Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory,” *Blouin Art Info*, July 2 (2012), accessed November 16, 2013, <http://www.blouinartinfo.com/news/story/811573/janet-cardiff-and-george-bures-miller-on-bringing-their-epic-1000-track-sound-environment-to-the-park-avenue-armory>

⁹⁴ Cardiff “Janet Cardiff and George Bures Miller. Interviewed by Catherine Crowston,” 72.

⁹⁵ Cardiff, “Janet Cardiff and George Bures Miller. Interviewed by Catherine Crowston,” 50.

was not working out as they had envisioned. “We set out with no vocal narrative and then—we’d been building all these seeds with the music and sound effects,” Miller explained, “but the piece was not working, we needed to add something else.”⁹⁶ The something else was a defined structure.

As much as they had wished to use music and sound alone, the composition required Cardiff’s vocal narratives to move the work from one scene to the next. “We wanted to use only music,” Miller said. “However, we found that we needed a narrative to maintain the attention of the audience through the long duration of the work.”⁹⁷ Consequently, the piece was structured to include a three-part dream sequence (narrated by Cardiff). “The final piece then shifted quite dramatically. There is still that sense of movement of sound, but the content is not abstract,” explained Cardiff. The dream sequence proffered a structure that people could follow: “to give people a more coherent image in their minds.”⁹⁸ Although the narrative was introduced to give the audience a storyline to follow, Cardiff warned that there was a tenuous balance to maintain: “[there is a] very fine line between connection and abstraction.”⁹⁹ Accordingly, to maintain this balance, they realised that the piece needed two things: a *hook*, and visual supports.

While they reverted to including the dream sequences, these narratives functioned (as the video scenes did in *Berlin Files*) as hooks to maintain the audience’s attention while moving the piece along from one act to the next.¹⁰⁰ The composition was structured like a musical piece with an opening, three acts, and a close. Cardiff explained that these manoeuvres were intended to make the

⁹⁶ Miller, interview by author, Grindrod, July, 2014.

⁹⁷ Miller, interview by author, Grindrod, July, 2014.

⁹⁸ Miller “Theatrical Sound.”

⁹⁹ Cardiff, “Pleasure Principals.”

¹⁰⁰ Cardiff, “Theatrical Sound.” The fact that Cardiff and Miller felt that *The Murder of Crows* needed vocal sequence is interesting because the follow up piece they made for Documenta 13, *Forest (for a thousand years)* (2012), had no vocal narrative. Cardiff explained that because the installation was situated within an outdoor forested area, it did not need vocals: “But it also has the beautiful forest to sit in so it has the visuals.”

audience feel as though there was a story to decode.¹⁰¹ Within the dream sequences, writing her real dreams in the script was very imperative: “I would have to get a certain amount of reality in their otherwise it just didn’t work,” Cardiff explained, “people want to know that the voice of the artists is somehow authentic.”¹⁰² Cardiff specified that the authenticity of her voice and the stories enabled her to maintain the audience’s attention over the 30 minute duration of the work—this was the same method that she used to maintain the walker’s attention in the walks.

In the recording of *The Murder of Crows*, ambisonic sounds were overlapped with direction sounds that panned from speaker to speaker and intersected with other sound effects. The gramophone positioned at the centre of the installation sounded the voice of the protagonist *Janet*, narrated by Cardiff.¹⁰³ As her lethargic voice murmured monologues from recounted dreams that she had in Kathmandu, interludes woven amongst music and sound—such as footsteps, machines, dripping water, crows flying overhead, wind, waves, seagulls, and oscillating electronic noises—phased in and out of the composition.¹⁰⁴ The sounds filled the vast exhibition hall, triggering the systematic vibration of the chairs, floor, air, and the listener’s body. The piece began with the loud sound of a door opening on one side of the room, footsteps walking into and moving around the space, followed by the creaking door slamming shut. As the piece unfolded, the sphere of sound emerged from multiple directions where the fidelity and loudness sculpted the space around the audience.¹⁰⁵ Cardiff

¹⁰¹ Cardiff, “Pleasure Principals.”

¹⁰² Cardiff, “Janet Cardiff and George Bures Miller. Interviewed by Catherine Crowston,” 60.

¹⁰³ The way the gramophone was positioned on the card table, resembled Francis Barraud’s painting *His Masters Voice* (1899).

¹⁰⁴ Miller explained that the structure of the piece was based on “three horrific dreams that Janet had in Kathmandu, where we spent six months.” Miller, “Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory.”

¹⁰⁵ Miller pointed out that ambisonic technology created a “sphere of sound” as opposed to a circle. Miller, in, Crowston, “Janet Cardiff and George Bures Miller Interviewed by Catherine Crowston,” 54.

explained, “we wanted to ... create a sculpture that has a virtual presence, but also a kind of physical presence.”¹⁰⁶

The dynamism of the sound was continuously offset by the monophonic tone of Cardiff's voice as it systematically reawakened from the gramophone speaker at the centre of the installation.¹⁰⁷ The juxtaposition between mono and dynamic sound proffered contrast and texture that was instrumental to the movement and unfolding of the piece. Cardiff and Miller were seeking to provide ample contrast or “shifts” amongst the spatialised sounds of the ambisonics, the localised sound through panning, and the systematic resounding of Cardiff's monotone voice from the gramophone at the centre of the space.¹⁰⁸ Cardiff's voice contrasted the music and soundscape. For example, discussing Cardiff's walk works, Mirjam Schaub observed the recording effect that Cardiff used on her voice in the audio walks: “This flat, tinny recording contrasts with the precise, three-dimensional sound of the binaural recording.” Using her handheld recorder, “Cardiff brings out distant sounds and thus makes the other voices seem all the more real and natural.”¹⁰⁹ Schaub noticed how flat Cardiff's voice sounded and how it contrasted with what she referred to as the real and “natural” sound of the three-dimensional recording. The distinct treatment of Cardiff's recorded voice in comparison to the surround sound was also apparent in *The Murder of Crows*. The dynamic scale of sound transitioned from the sound of *Janet's* grainy and processed voice, the ambisonic panning of the crows flying overhead, directional

¹⁰⁶ Cardiff “Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory.”

¹⁰⁷ Charles Stankiech stated that there was a contrast between Cardiff's voice (recorded in mono and proximity to the microphone) and the binaural recording of the soundscape. Charles Stankiech, “From Stethoscopes to Headphones: An Acoustic Spatialisation of Subjectivity,” *Leonardo Music Journal*, 17 (2007): 58.

¹⁰⁸ The spatiality of this sound differentiated the composition from established norms in radio drama. As will be covered in detail in Chapter Five, radio dramas were listened to from a single or a pair of speakers. However, in *The Murder of Crows* the experience altered because it played from 98 speakers. “Their spatial dramatization of the acoustic material goes far beyond the scope of classical radio play.” Hamburger Bahnhof, press release.

¹⁰⁹ Mirjam Schaub, *Janet Cardiff: The Walk Book* (Vienna: Thyssen-Bornemisza Art Contemporary; New York: Public Art Fund, 2005), 171.

sound of the footsteps moving through the space, to the expansive reverberation of the Buddhist chant and marching song.

What made these sounds plausible was the ambisonic speaker playback technology. As outlined above, the installation pushed the boundaries of what was possible with the available equipment. Programmed to play in ambisonic surround sound and panned directional audio, the piece contained seven hundred separate soundtracks mixed down to ninety-eight channels.¹¹⁰ A three-dimensional sphere of sound was created by controlling the height information and playback of the recordings. The level of command proffered enabled the sculptural movement of the sound as it “shifted from one place to another.”¹¹¹ Consequently, the ambisonic matrix formed a precisely defined soundscape where the listener could locate the sounds within their physical space as it moved from speaker to speaker. It was the ambisonic’s ability to create movement with sound that was most appealing to Cardiff and Miller.

For most people, the experience of recorded spatial sound (and being able to pinpoint a recorded sound in space specifically) was a highly unusual experience. More specifically, people were unaccustomed to hearing three-dimensional, recorded sound in an art gallery. Cardiff and Miller were aware of the fact that it was not widespread practice to sit in a gallery and listen to a 30 minute artwork. But as the movement of the sound in *The Murder of Crows* compelled the audience to sit and listen; the audience wanted to discover “what happens.”¹¹² However, as I have explained, the narrative dream sequences were written and

¹¹⁰ Forbes, “Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory.”

¹¹¹ Cardiff, artist notebook, 2005, Grindrod studio archives, accessed July 23, 2014.

¹¹² This is also evident in documentation footage of *The Murder of Crows*. The audience is mostly facing the gramophone, sitting, standing or lying on the floor. See Cardiff and Miller, “The Murder of Crows, YouTube video, Cardiff Miller, September 27, 2010, <https://www.youtube.com/watch?v=CKBxLX7bZZQ>

composed in a way that did not keep any linear flow.¹¹³ But the work was composed with the anticipation that there was a story.

It was not only how the piece sounded, but how it looked that was important. The placement of the speakers and programming of sound was largely determined through extensive prototyping in Cardiff and Miller's studio, but the architecture and scope of each exhibition space commanded the circumstances of each arrangement. For example, the specifications of each location (its dimensions, its construction, materials, and the acoustics of the space) dictated how the piece would sound and what adjustments were necessary. Every location presented a distinctive atmosphere, or "feel" as Miller described it.

The arrangement of the installation thus altered depending on the location. For the Biennale of Sydney, the piece was installed in Pier Wharf 2/3 in Walsh Bay. Built in the early 1900's, Wharf 2/3 was a large rustic wharf shed entirely constructed from wood—a wooden floor, three rows of wooden support beams, a beamed roof, and weatherboard walls lined with small windows. Sounds of crashing waves, circling seagulls, helicopters, and boats could also be heard within the building. In contrast, the installation at the Nationalgalerie im Hamburger Bahnhof, in Berlin, 2009, occupied the large light filled main gallery space. The grey tiled floor, glass ceiling, and arched metal beams framed the space. The hall's highly reflective surface made it difficult to control the reflection of sound, and hence the installation needed adjusting to suit the space. A crimson velvet curtain was draped along one of the walls to function both as a dramatic backdrop and as sound baffling to improve the acoustics of the space. The abundance of natural light that flooded the gallery contrast with the arrangement of black speakers and brown wooden chairs at the centre of the space. The 2012 presentation at The Wade Thompson Drill Hall, Park Avenue Armory, New York, proffered entirely new conditions. While most of the hall

¹¹³ Cardiff "Theatrical Sound." "It's a kind of three-dimensional writing, triggering people's ideas and memories rather than creating full scenes, and we're able to complement the writing with sound effects, and in the case of the video walks with visuals," explained Cardiff.

remained empty, the speakers and chairs were arranged in a circular formation to face the centre of the vast 55,000-square-foot drill hall space. The enormity of the dark space acted as a vacuum spatially and sonically upon entering the hall, and there was quite a distance from the entrance to the centre of the space. Miller explained that what he liked about the installation in New York was that he could “control the lights” and the atmosphere in the exhibition hall and maintain the darkness of the space.¹¹⁴ Spotlights illuminated the arrangement while the surrounding hall remained dark.

In each install, Cardiff and Miller were presented with the challenge of exhibiting recorded sound to a large art museum and biennial audience that was accustomed to looking at art and not listening to it. Along with the narrative hooks to keep the audience’s attention, Cardiff and Miller were presented with the problem of what composer Pierre Boulez called the “absence of action.”¹¹⁵ In his presentation of taped music compositions, Boulez was apprehensive about replacing an orchestra with speakers because he thought that the “absence of action” on the stage hindered the ability to hold the audience’s attention. In *Poésie pour pouvoir* (1958), his composition for five-track tape and three orchestra groups, the orchestra formed a circular arrangement on three platforms that mounted into a spiral. The recorded sounds on tape were presented over five channels through loudspeakers placed behind the audience. The visible orchestra resolved the “rehibitory vice” of the visually unappealing loudspeakers.¹¹⁶ Placing the loudspeakers out of sight refocused the audience’s attention on the orchestra. Writer Jonathan Tee explained that Boulez’s combination of recorded and orchestral music was claiming the importance of the visual aspect. “To place loudspeakers out of sight while using them to project sound from areas of the

¹¹⁴ Miller, interview by author, Grindrod, July, 2014.

¹¹⁵ Pierre Boulez, “An Interview with Dominique Jameux,” in Boulez and Jean-Jacques Nattiez, *Orientations: Collected Writings*, (Boston: Faber and Faber, 1986) 201. Boulez explained: “I have never been much of a believer in taped music played in a concert hall. I have always been painfully embarrassed by the resemblance to a crematorium ceremony and found the absence of *action* a redhibitory vice.”

¹¹⁶ Boulez, “An Interview,” 201.

concert hall,” Tee explained, “was to claim the importance of the spectacular visual aspect of an orchestra performance.”¹¹⁷ Cardiff and Miller encountered some similar issues in the presentation of *The Murder of Crows*.

The focal point and visual anchor in *The Murder of Crows* was the card table and gramophone positioned at the centre of the installation. Miller emphasised the positioning of the gramophone, explaining that there were “all kinds of things that happen in different spatial areas, but the focus definitely is on the horn that sits on the main table where Janet’s voice comes out.”¹¹⁸ The red card table was encircled by four rows of dark timber fold-out chairs, and ninety-eight rectangular black-box *Bowers & Wilkins* speakers were sprawling out from the centre of the space.¹¹⁹ Unlike *Berlin Files*, the speakers were not concealed but were sculptural and anthropomorphic markers in the installation. The visually striking sculptural arrangement of the speakers and chairs invited the audience to sit or walk amongst the arrangement. The speakers arranged in full view with the gramophone at the centre did not necessarily resolve Boulez’s “absence of action.” It did however determine the “rehibitory vice” by situating the speakers in a spiral formation, with the gramophone as the centrepiece. Traditionally, the concert hall situated the audience in a fixed frontal position, facing a stage, with a clear division between stage and audience. *The Murder of Crows* challenged this position by collapsing the distance between the audience and the source of the sound.

¹¹⁷ Jonathan Tee, “Looking Past the Stereo Loudspeakers: From the Home to the Amplified Concert Hall,” in *Living Stereo: Histories and Cultures of Multichannel Sound* (New York: Bloomsbury Publishing, 2015), 155.

¹¹⁸ Miller, “Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory.”

¹¹⁹ The arrangement resembled Michael Snow’s *Flight Stop* (1979) installation of 60 fiberglass Canadian geese that hung in an atrium at the Eaton Centre in Toronto, Canada.

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Figure 38: *The Murder of Crows*, sketch by Miller in his artist book. Cardiff Miller studio archive, Grindrod, photograph by author, 2014.

Cardiff and Miller, well aware of the signification of presenting *The Murder of Crows* in this way, remarked on the similarities between their installation and a theatre setting: “In theatre, the symphony is in the pit, whereas with this one

[*The Murder of Crows*] the symphony is around them [the audience], so it definitely does reference traditional theatrical setups.”¹²⁰ Hidden behind the hood of the pit, in what Noam Elcott referred to as the “mystical abyss” of theatre, sound was projected onto a passive, collective, and silent audience.¹²¹ Concealing the orchestra in the pit created a gap between the “reality” of the orchestra being situated in the space and the “ideality” that their veiling was trying to create.

Cardiff and Miller, well aware of these implications, located the symphony *around* the audience. By exposing the sound sources, the black loudspeakers and wooden chairs became sculptural rudiments that bridged audience, stage, and sound. At that time, their efforts to merge large-scale theatrical musical performance and art was innovative and precarious.¹²² However, in the music world, this was a task that avant-garde composers had been attending to since the proliferation of recorded sound in the 1950s where composers approached music as a spatial construct.¹²³

For example, sound’s relationship to space was taken to task by Karlheinz Stockhausen in the 1950s and 1960s. His compositions confronted the social and compositional norms of the modern-day concert hall where the listener faced the stage with their perspective “frozen spatially” for an extended duration. Stockhausen challenged this frontality through technology. “The moment we discovered the means to move the sound [this was the] end of fixed

¹²⁰ Cardiff, “Theatrical Sound.”

¹²¹ Elcott, “Dark Theatres,” in *Artificial Darkness*, 56. Also, see Jonathan Crary, *Suspensions of Perception: Attention Spectacle and Modern Culture*, (Cambridge, Mass.: MIT Press, 1999), 251. Also, Lewis Kaye explained that acoustic architecture produced very controlled conditions of audience predicated on the idea of the spectacle. By focusing on the architectural and spatial conditions “that frame the experience of sound, we can move away from thinking about ‘an’ audience as a shared experience and shift to understanding the conditions – the social and historical patterns of organised experience.” Kaye, “The Silenced Listener,” 64.

¹²² For further reading on theatre design, see Ewan Stefani, and Karen Lauke, “Music, Space and Theatre: Site-specific approaches to multichannel spatialisation,” *Organised Sound*, 15(3), 2010, 251–259. Also see, Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900-1933* (Cambridge: MIT Press, 2002).

¹²³ These efforts were helped along by advancements in ambisonic technology which was invented in the 1970s but remained inaccessible due to the computer systems required to run the software.

perspective.”¹²⁴ The proliferation of recorded sound enabled composers to challenge the conventional conditions of the concert hall and sound’s movement around the audience. Cardiff and Miller were also concerned about perspective and relativity: “We’re frustrated with theatre,” Miller explained. “In theatre, there’s always a line between you and the stage. We’re trying to immerse the audience in some way.”¹²⁵ Using ambisonics to mobilise the sound, Cardiff and Miller challenged the fixed frontal position and division between the audience and stage, as well as the linear and sequential nature of sound as a time-based phenomenon.¹²⁶

These ideas were, of course, consistent with Cardiff’s experimentation with two-channel speakers and tape loops in *To Touch*. A decade later, innovations in recording, playback technologies, and computers now enabled them to challenge the frontal perspective with twelve-channel ambisonic sound in *Berlin Files* and a 98 speaker ambisonic system in *The Murder of Crows*. The sound formed the spatial environment while dissolving the boundaries between the audience and stage. German art historian Wulf Herzogenrath observed that as “the voices encircle the listener,” *The Murder of Crows* engaged the audience differently to “what occurs in the rows of a concert hall.”¹²⁷ Breaking fixed perspective was a feat they had achieved long ago with binaural sound, and then again with 24-bit sound in *Forty Part Motet*. Now, in *The Murder of Crows*, they combined high-

¹²⁴ Stockhausen, “Lecture 5 - [Part 1/3] Karlheinz Stockhausen - Four Criteria of Electronic Music (KONTAKTE), (1972),” Thomas Olano, YouTube video, February 3, 2013, <https://www.youtube.com/watch?v=7xyGtI7KKIY>

¹²⁵ Miller, “Theatrical Sound.”

¹²⁶ Lewis Kaye too criticised the Western concert hall model of music performance because of its spatial divide between the performer on stage and the audience in the darkened stalls. Kaye noted that the musical performance was designed to capture the audience both visually (as the listener’s sit facing the stage) and aurally (as the music was amplified from the stage). This spatial division emphasised the attentive listening by “effectively silencing the listener” to sit and appreciate the performance. Kaye, “The Silenced Listener,” 64. Cardiff and Miller also note this division. See Miller in “Theatrical Sound.” Also see Boris Groys, “On the Sound Installations of Bernhard Leitner,” in *P.U.L.S.E.: Rèaume Der Zeit = Spaces in Time*, ed. Bernhard Leitner and Boris Groys (Ostfildern London: Hatje Cantz, 2008), 22.

¹²⁷ Wulf Herzogenrath, “Introduction,” in *Janet Cardiff, George Bures Miller: Käthe-Kollwitz-Preis 2011*, Janet Cardiff, (Berlin: Akademie der Künste, 2011), 5.

fidelity and directional sound to sculpt sonically. Ambisonics made it possible to pull and shift the space without the aid of headphones or a video screen to guide the piece.

What further distinguished *The Murder of Crows*, as opposed to the experience of a concert, was the continual self-consciousness that the audience experienced within a multi-directional soundscape. As I have demonstrated throughout this thesis, Cardiff and Miller's attention to self-awareness within the experience of the artwork was consistent. The sculptural sound situated the audience within the sonic events playing out within the spatial environments they created. Cardiff explained that this effect evolved from the idea she had for *Forty Part Motet* when she wanted to get inside the music and hear each voice in the choir. "We're always just experimenting," Miller explained, "it was about the sounds moving around the viewer such that the space almost becomes a movable sphere of sound."¹²⁸

However, in *The Murder of Crows*, rather than designing the installation so the audience moved from speaker to speaker, the sound moved around the audience. Cardiff explained that "the audience is not necessarily directed to sit down, but the whole concept [in *Forty Part Motet*] is that when they move around it's a different piece of music for everyone." In *The Murder of Crows*, they were "more interested in the sound moving around the audience."¹²⁹ It sounded as the audience sat in what the artists called the "sweet spot" in the centre of the piece while the 98 speakers positioned around the gallery sculpted the atmosphere. Focusing on the movement of sound, they wanted the piece to play out sculpturally and physically within the installation space. Consequently, the spatial positioning and the unfolding of the work collapsed any distance between the listener and the stage as they were encircled in a sphere of sound.

¹²⁸ Miller, "Janet Cardiff and George Bures Miller on Bringing Their Epic 1,000-Track Sound Environment to the Park Avenue Armory."

¹²⁹ Cardiff, "Theatrical Sound."

4.3.2 Physical spaces: Fitting together sonically

Although the ambisonic technology produced a convincing soundscape, recreating “reality” or its simulacrum had never been a goal for Cardiff and Miller. As described throughout this chapter and thesis, they were more attentive to the physicality of the sound as a spatial environment. The installations teased the margins of certainty and ambiguity. “There is something interesting about the moment when people think, is this real or is it fake?” Miller explained, “this confusing moment is very important to us.”¹³⁰ This moment that Miller referred to was the viewer’s identification with the realism of the spatial sound.¹³¹ Despite this association, concepts like Jean Baudrillard’s simulacra (a simulation of reality to such an extent that it is no longer possible to distinguish the real from the simulation) are not applicable to the spatial environments Cardiff and Miller create.¹³² The listener did not become trapped within the impossibility of isolating the process of simulation or to “prove the real.”¹³³ We know that the sounds are recorded because we can see the speakers. But the fidelity of the sound and the presence of the technology transitioned the listener between states of being able to distinguish reality from its simulation. This threshold between certainty and ambiguity are most potent as they challenged the listener’s habitual response to sound and its authenticity.

As I have explained, *The Murder of Crows* produced contrast and texture while also using *Janet’s* dream sequence and gramophone at the centre of the installation to keep the audience’s interest throughout the piece. This was a formula that was carried over from works like *Forest Walk* (1991), *Whispering Room* (1991), *The Dark Pool* (1995), and Miller’s solo works. Accordingly, Cardiff

¹³⁰ Miller, *Something Strange This Way*, 114.

¹³¹ Uroskie, on the other hand, believed that “in the *Paradise Institute* we do not really confuse fact and fiction because we know full well that everything taking place is fiction.” Uroskie, *Between the Black Box and the White Cube*, 4.

¹³² Baudrillard maintained that people simply were “substituting the signs of the real for the real.” Jean Baudrillard, *Simulacra and Simulation* (Ann Arbor: University of Michigan Press, 1994), 2.

¹³³ See David G. Malham, “Toward Reality Equivalence in Spatial Sound Diffusion,” *Computer Music Journal*, 25:4 (2001): 31-38.

and Miller adapted sonic and spatial effects—the shifting and the forming of “different types of space”—that were conceivable through variations and contrast in recorded spatial sound.

As a physical experience, the audience interpreted the 30-minute score of *The Murder of Crows* at their will. “It takes people out of their minds and into the experience,” said Miller about the long duration of the composition. “We’re not always thinking about the way one thing will fit with another thematically, but we are always thinking how it will fit sonically.”¹³⁴ Miller explained that they were fixated on how the piece sounded and unfolded through various spatial tensions and contrast. Indeed, Miller’s emphasis on how sounds fitted together spatially and sonically is revealing as it emphasised that there was more to the piece than the discussions on “fragmented” and “disjointed” dream narratives or the reference and “story” of the Francisco Goya *The Sleep of Reason Produces Monsters* (1797-1798) leads us to assume.¹³⁵ Rather than the narrative as text, it was more crucial for the sound to fit sonically.¹³⁶

¹³⁴ Miller, “The Rings of Saturn.”

¹³⁵ The Goya reference appeared frequently in discussions of the work and in the catalogue for *The Murder of Crows*. See Christov-Bakargiev, “The Murder of Crows,” in *Janet Cardiff and George Bures Miller: The Murder of Crows*, ed. Catherine Crowston (Ostfildern, Germany, Alberta, Canada: Hatje Cantz; Art Gallery of Alberta, 2011), 29-49. Interestingly Goya’s etching *The Sleep of Reason Produces Monsters* (1797-1798) is in the Gallery of New South Wales, Sydney, collection. This could be a coincidence or perhaps an intentional reference since *The Murder of Crows* was originally commissioned for the Sydney Biennale in 2008. Also: Kirsty Bell explained that *The Murder of Crows* created a dramatic atmosphere and narrative tension through the conventions of cinematic score. As a result, she noted, a complex sonic environment created both a pictorial and sculptural dimension. Kirsty Bell, “Janet Cardiff And George Miller: The Imagination is Never Wrong,” in *Janet Cardiff, George Bures Miller: Käthe-Kollwitz-Preis 2011*, Janet Cardiff, (Berlin: Akademie der Künste, 2011), 26. The borrowed conventions of cinema were also reflected in Ryszard Dabek’s description of *The Murder of Crows*. Ryszard Dabek, “(When You Wake) You’re Still in a Dream,” *Art Monthly Australia* 212, August (2008): 31.

¹³⁶ Cardiff in Western Front, “Winter Events at the Western Front: Janet Cardiff and George Bures Miller ‘The Black Pool’: Residency, Exhibition and Artist’s Talk,” no. 15, 1995, The Dark Pool exhibition files, WPG02.269, 1995, Paul D. Fleck Library and Archives, Banff Centre for the Arts, accessed July 15, 2014. As explained, Cardiff referred to the “spatial and physical understanding” when discussing *To Touch* (1993): “I am intrigued by the divergent ways in which to present a story so that it can become less of a linear information experience and more of a physical and spatial understanding.”

4.4 Conclusion

Between 2000 and 2008, Cardiff and Miller initiated a series of speaker works that distanced them from their previous references to cinema, kinetics, and binaural sound of their collaborative installations post 1995. In adopting ambisonics, Cardiff and Miller revolutionised how they employed spatialised sound. This task was located within the composition, editing, architecture, and the conditions of the audience's experience.

Berlin Files and *The Murder of Crows* situated the audience within a sound field that materialised and moved around them. So, in both *Berlin Files* and *The Murder of Crows*, Cardiff and Miller substituted the *cinema situation*, that is, the conditions of cinema viewing of *The Paradise Institute* and *The Muriel Lake Incident*, for a *spatial environment* that defined space. The spatial environment was thereby articulated through the composition of recorded sound, and its presentation in the exhibition space. Cardiff and Miller used ambisonic sound to form shifts and tensions in what Cardiff referred to as “different type of spaces” in *Berlin Files*. In *The Murder of Crows*, they created a similar effect by significantly increasing the number of speakers from twelve to ninety-eight.

Both *The Murder of Crows* and *Berlin Files* relied on spatial sound composition and visual and aural hooks to progress the work from one scene to the next. In explaining Cardiff and Miller's application of spatial sound across *Berlin Files* and *The Murder of Crows*, I have uncovered how they considered sound to be the driving force in the way it overlaid sound onto the audience's physical space. Accordingly, Cardiff and Miller were attentive to how the installation fitted and unfolded sonically.

The next and final chapter examines very different works—the artists' so-called video walks—that, nevertheless, proceeded according to the same principle.

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Figure 39: Cardiff and Miller, *The Murder of Crows*, 2008, Materials: Mixed media installation, Duration: 30 min, Dimension: Variable, Installation view: Nationalgalerie im Hamburger Bahnhof, Berlin 2009, Photograph: Roman März © Courtesy the artists, Galerie Barbara Weiss, Berlin, Luhring Augustine, New York.

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Figure 40: Cardiff and Miller, *The Murder of Crows*, 2008, speaker layout and install for Biennale of Sydney, Pier Wharf 2/3, Walsh Bay, Sydney. Cardiff Miller studio archive, Grindrod, photograph by author, 2014.

Chapter 5:

Spatial Replay: The Video Walks (1997-2014)

5.1 Introduction

The previous four chapters focused on Janet Cardiff and George Bures Miller's installation works. In this chapter, we come full circle, back to Cardiff's original idea of playing a recording in the space in which it was recorded. In doing so, Cardiff discovered the spatial potential of layering sound. This realisation not only set a precedent for her audio walks, but in combination with Miller's technical expertise, access to editing equipment, and interest in electronics, it enabled them to expand and experiment with ways in which they could spatialise and manipulate sound and space.

As we recall, the first audio walk *Forest Walk* was created in 1991 for cassette Walkman and headset. The walks evolved over a number of iterations along the path from analogue to digital. Initially, the walks integrated a telescope and viewfinder in 1997, a Sony CD Discman in 2004, and an Apple iPod MP3 Shuffle shortly after. The first video walk was created for a digital camcorder and headset in 1999, and in 2012 for a video iPod Touch and headset. Chapter One introduced the audio walk method of physically layering sound on analogue tracks. This chapter continues the exploration of layering as a progression from analogue to digital technologies.

The video walks and audio walks have been described according to their capacity to prompt memories, narratives, or create an uncanny confusion of reality, fiction, past, and present.¹³⁷ In the Introduction, I identified terms—such as

¹³⁷ See discussions by Mirjam Schaub, "The Affective Experience of Space: Janet Cardiff and George Bures Miller," in Yael Kaduri, *The Oxford Handbook of Sound and Image in Western Art*, The Oxford Handbooks Series (New York: Oxford University Press, 2016); Pol Capdevila, "Aporetic experiences of time in anti-narrative art," *Journal of Aesthetics & Culture*, 7:1 (2015); Timothy Baker, "Re-Composing the Digital Present," *Contemporaneity: Historical Presence in Visual Culture*, vol. 1 (May, 2011); Anamarija Batista, and Carina Lesky, "Sidewalk Stories: Janet Cardiff's Audio-Visual Excursions," *Word & Image* 31, no. 4 (2015): 515-23. Although Batista and

“physical cinema,” “trompe l’oreille fiction,” and “augmented reality”—used to describe how the walks and installations involved the audience’s physical space. So, the tendency has been to borrow from cinema or media to frame the experience in terms of a disjunctive or illusionary encounter. The commonality in these terms is that they are used in an attempt to describe the *spatial overlay* effect that I have demonstrated throughout each chapter. That is, how the recorded sound overlaid the physical space. This chapter considers this effect to be what it is: a spatialisation technique created by the overcoding of sound and video upon the audience’s real-time experience mediated through the playback device.

The understanding I propose begins with a clue provided by Cardiff when she stated that the video walks differed from the audio walks in the way the walk interacted with the physical space.¹³⁸ And the second clue is provided by Cardiff and Miller’s method of pushing technology and its capabilities.¹³⁹ I demonstrate that the video walk was the endpoint in Cardiff and Miller’s determination to challenge the technology they use—a set of feats that had long been part of their oeuvre. The addition of a video screen, however small, not only provoked a definite behaviour in the walker (who became preoccupied with aligning screen to path) but also added yet another spatial layer to Cardiff and Miller’s already

Lesky only discuss the audio walks, they attempt to acknowledge the binaural and spatial sound used in the artworks; Andreas Hudelist and Elana Pilipets discussion of *Alter Bahnhof Video Walk* (2012) did not discuss the audio or video components but focused on the experience of the walk. See Andreas Hudelist and Elana Pilipets, “Walking Art: The Movement in-between,” *Anglistica AION: An Interdisciplinary Journal*, vol. 18, issue 1 (2014): 7-16.

¹³⁸ Schaub argued that the video walks “vampirize” sounds as they become “affective traps” where the “seductiveness of the disembodied human voice” was the guiding narrative. Schaub, “The Affective Experience of Space: Janet Cardiff and George Bures Miller.”

¹³⁹ As explained throughout this thesis, Cardiff and Miller often downplay their relationship with technology however they do emphasise its importance. Cardiff explained: “We were doing things with technology that were not possible at the time. But eventually technology caught up. We use technology in a nuts and bolts way.” Cardiff, interview by author, Grindrod, Canada, July 24, 2014. Miller has also said, “we pushed the limits of what technology can do.” Miller in, John Wray, “Janet Cardiff, George Bures Miller and the Power of Sound,” *The New York Times Magazine*, July 26, 2012. Also, Okwui Enwezor acknowledged their close relationship with technology in the Forward of their catalogue for the 2012 Haus de Kunst exhibition. Okwui Enwezor, “Vortwort,” in *Janet Cardiff & George Bures Miller: Works from the Goetz Collection* (Ostfildern: Hatje/Cantz; Haus de Kunst, 2012), 1.

complex spatial environments. The walker negotiated three spaces: the recorded binaural soundscape, their physical space, and the video screen.¹⁴⁰ The binaural sound proffered a plausible soundscape while the image on the video screen guided the route and set the pace. Simultaneously, the editing of the audio and video ruptured and revealed the artifice and the technology. This chapter explains how Cardiff and Miller achieved these effects in *Chiaroscuro* (1997), *Telephone Call* (2001), and *Alter Bahnhof Video Walk* (2012).¹⁴¹

Moreover, this chapter also draws from crucial moments in radio drama's history where composers looked beyond the clear significations of sound and radio, and toward the internal structure of sound and its spatial capacity.¹⁴² Turning to these histories, we can examine how Cardiff and Miller's art evolved out of compositional approaches to storytelling and spatial sound. Chapter One uncovered the undeniable parallels between Cardiff's work and electroacoustic and acoustic ecology histories; this chapter extends this genealogy to include radio. The addition of the video allowed Cardiff and Miller to modify the type of physical space or spatial environment possible as artworks. This development was in line with their predisposition toward adopting experimentation as a working method.

Lastly, this chapter continues to trace the trajectory of how their walks aligned with technological innovations in playback and recording devices since the 1980s.

¹⁴⁰ Schaub noted that there were two acoustic spaces at once in the audio walk. Mirjam Schaub, in Mirjam Schaub and Janet Cardiff, *Janet Cardiff: The Walk Book*, (Vienna: Thyssen-Bornemisza Art Contemporary; New York: Public Art Fund, 2005), 5.

¹⁴¹ Specifically, they used CPU editing and digital editing with "Final Cut Pro X" and "Session." In a 2012 interview with Tyler Green, Cardiff and Miller noted that the audio software was "getting better now." When they began using *Session*, they could see the waveforms: "In 1991 we had to use a reel-to-reel tack, which was a nightmare," Cardiff explained. Miller continued: "It was a delight to see the audio forms of the voices." Cardiff and Miller in Tyler Green, Janet Cardiff, and George Bures Miller, "No. 38: Janet Cardiff and George Bures Miller," Tyler Green, *The Modern Art Notes Podcast*, (July 26, 2012).

¹⁴² The influence of mediation through radio was a defining influence on her art. For Cardiff, growing up in a rural and isolated farming community, she had limited access to the outside world. She experienced the world largely through radio, television and magazines.

This course began with the audio walks discussed in Chapter One, and the present chapter follows the transition to video and digital recording devices.

5.2 “Getting so real that you are really there”

On April 12, 2012 (two months before Documenta 13 in Kassel, Germany) Janet Cardiff and George Bures Miller participated in an artist talk with curator Carolyn Christov-Bakargiev on the occasion of the opening of the exhibition *Cardiff/Miller: Works From the Goetz Collection* at the Haus der Kunst in Munich, Germany. Christov-Bakargiev began the conversation by making what she referred to as “an art historical statement” about Cardiff and Miller’s artworks. Christov-Bakargiev said that the works negotiated a “very important and significant shift.” She explained that this shift departed from the idea that “an artwork is something that is in the centre or a privileged position that is surrounded by the audience. . . . This structure is the traditional structure of modernism, since the Renaissance.” Christov-Bakargiev aligned Cardiff and Miller’s production with postmodernism’s quest to challenge the privileged modernist purview. Christov-Bakargiev continued,

the politics of the subversion of form and structure of the relationship with viewers, and also the politics of wanting to explore that area between the technological and the non-technological and the embodied. . . . Not to disembody but to re-embody the spectator. To actually ground us more.¹⁴³

She proposed that Cardiff and Miller’s artworks engage in a politics of subverting the conventional audience-artwork paradigm. She explained that this exploration “grounded” the spectator within a “re-embodied” experience.

The “re-embodiment of the spectator” through media-based works, was what Jörg Heiser referred to as “enlightenment as liberation” where the audience could

¹⁴³ Carolyn Christov-Bakargiev, Haus Der Kunst Munich, “Artist’s Talk - Janet Cardiff & George Bures Miller with Carolyn Christov-Bakargiev,” YouTube video, April 12, 2012, published on April 16, 2012, accessed May 15, 2015, <http://www.youtube.com/watch?v=xMWd50TmuHs>

escape the bonds of illusion by figuring a way out of Plato's cave.¹⁴⁴ However, as I explain over the course of the next few pages, the walker of the video walks was not tasked with *outsmarting* the shadows that the convincing binaural sound or the immersion in the video created. They were tasked with *negotiating* both the physical reality and artifice. Consequently, the audio and video became added spatial layers that the walker mediated in their experience of the video walk.

During their Haus der Kunst artist talk, Cardiff responded to Christov-Bakargiev's introduction suggesting that what was central to their art were notions of challenging reality through technology. "The rhetoric around ideas of reality through art has always been interesting to me," Cardiff explained,

How linear perspective made people think about how people were getting into the realness of the world, and the realness of the painting. Then it continued with the ideas of photography and how that was so real. I think that one thing George and I have attempted to do is continue this dialogue, but you have to get so close. Like right now everybody is obsessed with 3D. You know, 3D movies, 3D everything. Even we have a catalogue out that is 3D photography. ... A search for somehow getting so real that you are really there. And virtual reality will be the next step I think. Finally figuring out how to go into the holodeck.¹⁴⁵

Cardiff explained that she and Miller wanted to continue the dialogue on ideas and simulations of reality through art. This dialogue followed the lineage of methods of creating replicating reality through linear perspective, photography, and 3D movies and photography. Cardiff explained that these methods were used in "search for somehow getting so real that you are really there." And the next phase in this exploration of "finally figuring out how to go into the holodeck" was the development of virtual reality.

¹⁴⁴ Jörg Heiser, "Ways out of the Cave," in *All of a Sudden: Things that Matter in Contemporary Art* (New York, NY: Sternberg Press, 2008), 158.

¹⁴⁵ Cardiff, "Artist's Talk."

Cardiff's mention of the "holodeck" and virtual reality (VR) was undoubtedly referring to the holodeck as a concept of science fiction. As a virtual portal into an alternate physical environment, the holodeck was a concept that was popularised by *Star Trek* in the 1970s.¹⁴⁶ In 1997, author Janet Murray's used the notion of the holodeck in her novel *Hamlet on the Holodeck* where she explained that the holodeck existed only in fiction. Murray examined how narratives produced in digital formats simulated imaginary worlds where one could become immersed as an agent with the ability to transform a course of action.¹⁴⁷ Although the book was written in the 1990s when developments in virtual and digital space were in their infancy, her ideas tended towards the so-called "third wave" of VR.¹⁴⁸ Likewise, as 2016 saw the dawn of the "third wave" of VR devices, Cardiff and Miller's iteration of the video walk for iPod Touch and binaural audio in *Alter Bahnhof Video Walk* (2012), was years ahead of the commercial release of VR technologies. In 2016, Microsoft claimed to be well on their way to building their "HoloLens," a headset which allows the user to see in 3D or "mixed reality."¹⁴⁹ Likewise VR and augmented reality products such as Apple's *View-Master Virtual Reality*, Google's *Cardboard*, Oculus VR, and Sony were released in 2016.¹⁵⁰ By

¹⁴⁶ The Holodeck first appeared in *The Practical Joker* (1974) episode of the *Star Trek* animated series. According to writer Fabio Zambetta, the holodeck was a narrative device that allowed the *Star Trek* writers to experiment with "philosophical questions in setting not available in a typical sci-fi context." Fabio Zambetta, "Star Trek's Holodeck: from science fiction to a new reality," *The Conversation*, March 28, 2017, accessed March 17, 2018, <https://theconversation.com/star-treks-holodeck-from-science-fiction-to-a-new-reality-74839>

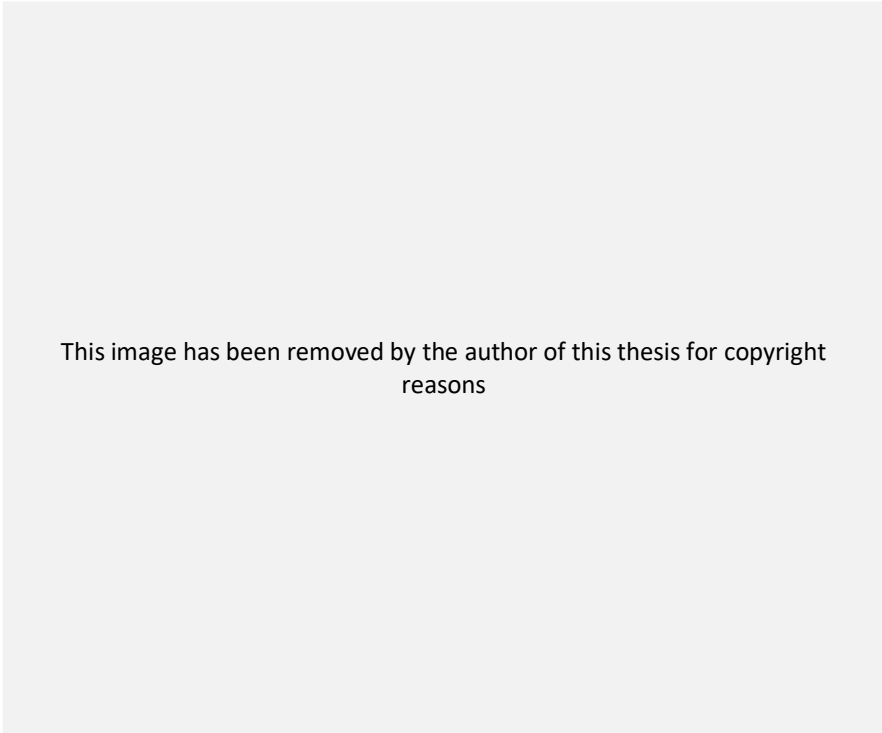
¹⁴⁷ Janet H. Murray, *Hamlet on the Holodeck: The Future of Narrative in Cyberspace* (New York: Free Press, 1997), xii. Cyber-narrative needed to establish its own codes, "rules by which things should happen," and structures for participation where the audience was no longer the receptive reader.

¹⁴⁸ For a discussion on the shift from the first to third wave in VR see N. Katherine Hayles, "Boundary Disputes: Homeostasis, Reflexivity, and the Foundations of Cybernetics," in Robert Markley, *Virtual Realities and Their Discontents* (Baltimore: Johns Hopkins University Press, 1996), 11-38.

¹⁴⁹ According to Microsoft's website, *Microsoft HoloLens* was "the first self-contained, holographic computer, enabling you to engage with your digital content and interact with holograms in the world around you." Microsoft HoloLens (website), accessed March 18, 2018, <https://www.microsoft.com/en-au/hololens>

¹⁵⁰ Stefan Hall and Ryo Takahashi, "Augmented and virtual reality: the promise and peril of immersive technologies," *World Economic Forum*, September 8, 2017, accessed February 6, 2018,

2018, the use of VR headsets and devices was widespread and had expanded to infiltrate the visual arts with artists like Marina Abramovic, Anish Kapoor, and Jeff Koons working with VR technology for the *Acute Art* project, and augmented reality apps like *EyeJack* transformed two-dimensional artworks into augmented reality via smartphone applications.¹⁵¹ Situating these commercial releases and their assimilation into the visual arts within the context of VR history, these developments were more than two decades after artists were experimenting with VR headsets at the *Bioapparatus* residency that Miller attended at the Banff Centre for the Arts in 1991. So, it is clear that the comments Cardiff made on the evolution of reality simulating technology in 2012, were grounded in ideas of science fiction and cybernetics—years before the mainstream adoption of VR devices and experiences in the late 2010s.



This image has been removed by the author of this thesis for copyright reasons

Figure 41: VR Headset testing, *Bioapparatus* Conference and Fall Residency 1991, Banff Centre for the Arts Archive, Banff, photograph by author, 2014.

<https://www.weforum.org/agenda/2017/09/augmented-and-virtual-reality-will-change-how-we-create-and-consume-and-bring-new-risks>

¹⁵¹ See *Acute Art* project <https://acuteart.com> ; and *EyeJack* <https://eyejackapp.com>

Moreover, Cardiff made another comment toward the end of the discussion with Christov-Bakargiev that further emphasised their focus on technology. Cardiff concluded the conversation with a prediction about the new artworks she and Miller were preparing for Documenta 13. “We are presenting two very different works that are pushing things in very different ways,” Cardiff said.¹⁵² Christov-Bakargiev replied stating that Cardiff was “too abstract” in her statement and suggested that she may like to elaborate. Cardiff responded saying that she was trying “not give too much away and describe the works.” Cardiff’s seemingly abstract comment, however, gained clarity once the two installations, *Forest (For a Thousand Years)* (2012) and *Alter Bahnhof Video Walk* (2012), were revealed in Kassel two months later. *Forest (For a Thousand Years)* was a 28-minute ambisonic surround sound outdoor installation—similar to *The Murder of Crows* (2008)—presented in a small secluded forested area of Karlsruhe Park.¹⁵³ The installation pushed the technical possibilities of ambisonic audio and the presumed need for a narrative to hold the audience’s attention—the obstacle they experienced in the making of *The Murder of Crows*.¹⁵⁴ Similarly, *Alter Bahnhof Video Walk* was the next phase of their walks with the integration of the then new playback technology, a fourth-generation Apple iPod Touch—a device that played MP3s and high-quality video graphics. Video playback technology had progressed significantly since their video walk for camcorder.

Rather than trying to cross over into the “holodeck” Cardiff and Miller made spatial environments as artworks that were firmly planted within the physical space in which they were presented. These environments were created from layered sound and video that were established within the walker’s physical experience of the walk. In *Alter Bahnhof Video Walk*, the spatial environment was

¹⁵² Cardiff, “Artist Talk.”

¹⁵³ Cardiff and Miller often collaborated with musicians for their pieces, *Alter Bahnhof Video Walk* featured music by Arvo Pärt.

¹⁵⁴ See discussion in Chapter Four on envisioning *The Murder of Crows* (2008) as a music piece. As discussed, they realised they needed a spoken narrative to progress the piece from one scene to the next.

conceived through the layering of recorded binaural sound and the video shown on the iPod screen.¹⁵⁵ From multitrack cassette tape recording, tape loops, binaural audio, ambisonic sound, to the latest in consumer playback devices, Cardiff's desire to push things in different ways referred precisely to the technology they used and the types of spatial environments they could image and realise as art.

In the video walks, Cardiff explained that they were able to shape the walker's physical space differently to what was possible with audio alone. "I think the video walks really are the most extreme 'fucking up' of our physical space," Cardiff explained. "They really screw with your head and we didn't realise this until after we'd done one then we were able to really push and work with these effects."¹⁵⁶ This play with the physical space was initiated in *Münster Walk* (1997) and *Chiaroscuro* (1997).

5.3 *Chiaroscuro* (1997): the video walk experiment

Cardiff began to integrate recorded video components in *Münster Walk* and *Chiaroscuro*, two audio walks she produced with Miller's assistance. In addition to the audio for cassette tape and headphones, these walks incorporated a prepared telescope. The telescope was fabricated out of metal and modified to include a small 8mm video viewfinder in place of a magnifying lens.¹⁵⁷ In what

¹⁵⁵ Lev Manovich, for example, called this layering of "realities" an augmented space. Lev Manovich, "The Poetics of Augmented Space," *Visual Communication* 5, no. 2 (2006): 224-226. Cardiff also agreed that the walks create an augmented space. "The fine line that separates our physical immediate world and creating an augmented or 'third world' as we like to call it is really prominent in a lot of our works especially the walks. But in ways this augmented space has always been there with our imagination." Cardiff in Peter Traub, "Interview: Cardiff + Miller," *Networked Music Review*, September 20, 2007, accessed November 17, 2013: http://turbulence.org/networked_music_review/2007/09/20/interview-janet-cardiff-and-george-bures-miller

¹⁵⁶ Cardiff, "Interview: Cardiff + Miller."

¹⁵⁷ Cardiff, in Klaus Bussmann, Kasper König, and Florian Matzner, *Contemporary Sculpture: Projects in Münster 1997* (Stuttgart: Verlag Gerd Hatje, 1997), 83-85.

Cardiff described as “precursors” to the video walks, the telescope performed the same function as the video screen in the video walks.¹⁵⁸

Chiaroscuro was commissioned for the exhibition *Present Tense: Nine Artists in the Nineties* at the San Francisco Museum of Modern Art in 1997 and was the first walk that Cardiff created for the inside of a museum.¹⁵⁹ It was shown a few months following *Münster Walk* for Skulptur Projekte Münster, Germany. *Chiaroscuro* adopted the usual audio walk format. The walker collected a Walkman and headset from a designated counter, and they were instructed to start the walk on the fifth floor of the museum. As the walker pressed play, Cardiff’s alter-ego voice, *Janet*, sounded over the headphones directing them: “Push the elevator button. We’ll go down to the first floor.” The walker followed *Janet*’s voice and directions along the prescribed route through the gallery space and central circular stairway. The dialogue was presented as a series of, what reviewer Sylvie Fortin called, “insoluble detective tales.”¹⁶⁰ *Janet* directed the listener to observe mundane elements of the museum and its surrounds, such as looking out the window to the distant hillside below San Francisco’s Twin Peaks. Indeed, unlike a museum audio guide, little of the script attended to the artworks in the gallery. Gregory Williams observed that the walk “provided an effective distraction from the items on view in the museum.” Williams continued, “Cardiff’s tour did not address any actual works of art, pointing out instead various sightlines within and outside of the architectural space.”¹⁶¹ As the walker was focused on sights and observations in and around the museum, the walking directions and commentary were edited with ambient sounds, audio samples,

¹⁵⁸ Janet Cardiff, *Artist Talk: Janet Cardiff*, Customs House, Sydney, April 30, 2014.

¹⁵⁹ *Present Tense* (1997) was organised by Janet Bishop, Gary Carrels and John S. Weber. Janet Cardiff exhibited alongside Iran do Espírito Santo, Felix Gonzalez-Torres, Jim Hodges, Charles LeDray, Gabriel Orozco, Jennifer Pastor, Kathryn Spence and Steve Wolfe.

¹⁶⁰ Sylvie Fortin, “Journeys Through Memory Gardens and Other Impossible Homecomings,” *La Ville, le Jardin, la Mémoire* (Académie de France à Rome Villa Medici, Rome, 1998).

¹⁶¹ Gregory Williams, “The Voice of Authority,” *PAJ: A Journal of Performance and Art* 20, no. 2 (May 1998): 62-67.

lines from books, recollected dreams, and television—all mixed and recorded into a multi-layered soundscape.

At one moment on the third floor of the museum, the typical flow of the audio walk was interrupted with several pauses—firstly to stop and look over the museum’s balcony, and secondly, as the walker was directed over to the telescope located by the window. *Janet* instructed the walker to look through the telescope and view the street below. The events that played out through the telescope appeared to be taking place in real time. However, instead of viewing a true magnified image of the activity on the street below, the walker was unwittingly viewing pre-recorded footage on the small viewfinder housed in the telescope. The recording was a short, looped, one-minute scene of a man having a cryptic encounter with a woman wearing a beige coat, scarf, and sunglasses—an apparent reference to Kim Novak’s character in Hitchcock’s *Vertigo* and its San Francisco setting.¹⁶² The background activity of the scene showed a man talking on a cell phone while a piano was being loaded onto a truck. The ambiguous nature of the encounter was what Williams described as someone witnessing this activity “from the pseudo-clandestine perspective of the telescope [that] cast a menacing light over the scenario.”¹⁶³ The scene was staged to appear to be happening live. It was filmed on the exact location and from the same viewpoint using the focal length of the telescope. However, unbeknown to the walker, the actions they were viewing were recorded and playing out on a colour viewfinder. The viewfinder was connected to a laser-disc player by a cable and a rewind and repeat circuit was attached to the playback unit.¹⁶⁴ The use of circuits in *Chiaroscuro* recalled the circuits and sensors used in *Conversation/ Interrogation* (1992), *To Touch* (1993), *Inability to Make a Sound* (1992), and *The Dark Pool* (1995). Furthermore, this technical annotation also foregrounded Cardiff’s

¹⁶² The woman in the beige coat was a character that reappeared in many works, notably *Berlin Files* (2003) discussed in Chapter Four.

¹⁶³ Williams, “The Voice of Authority.”

¹⁶⁴ Cardiff, *Contemporary Sculpture: Projects in Münster 1997*, 84.

reliance on Miller’s technical expertise not only in the production of *Chiaroscuro* and *Münster Walk* but all the video walks. In fact, it was through the introduction of the video screen that Cardiff and Miller began to co-author the video walks.

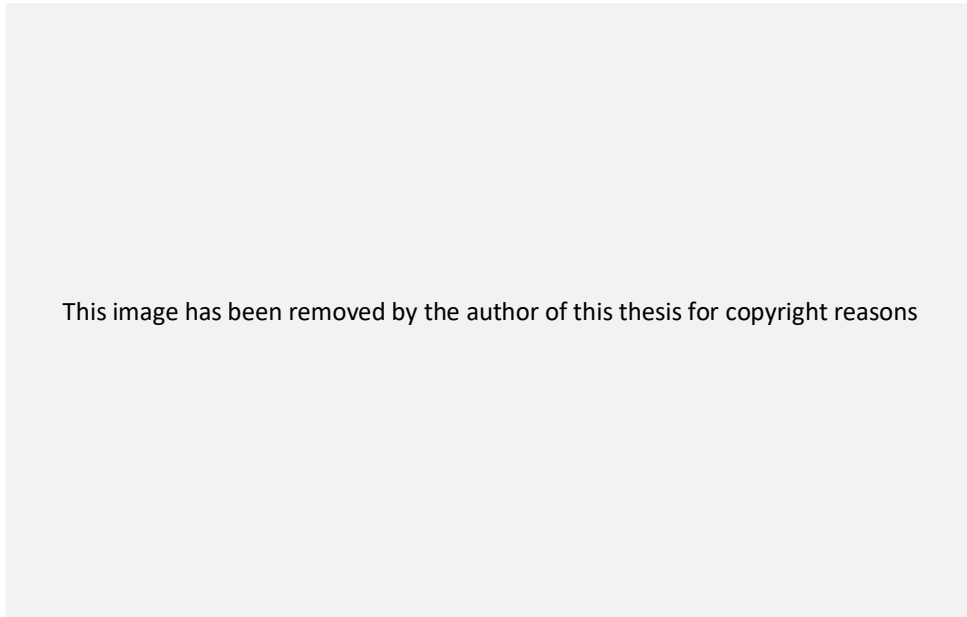


Figure 42: Janet Cardiff, *Chiaroscuro*, 1997, audio walk and telescope, 12 min © Cardiff Miller, accessed November 3, 2018, <https://www.cardiffmiller.com/artworks/walks/chiaroscuro.html>

The replacement of the magnifying lens—that refracted incoming light rays—with a recorded image in the prepared telescope, ruptured the notion of perspectival space and its assumed unity in the eye of the viewer.¹⁶⁵ Cardiff’s telescope was not contingent on reality or illusion but rather on the technology of the video viewfinder inserted in the telescope. Accordingly, Cardiff continued

¹⁶⁵ Jonathan Crary argued that the kaleidoscope, stereoscope, phekistiscope and other precinematic devices signified a rupture in the idea of perspectival space. Vision was no longer interchangeable with “reality”, but with illusion. Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge: MIT Press, 1992). Also see Noam Milgrom Elcott, *Artificial Darkness: An Obscure History of Modern Art and Media* (Chicago; London: University of Chicago Press, 2016).

to challenge the conventions of media and perspectival technologies.¹⁶⁶ Initially, as the walker looked through the telescope, it was impossible for the walker to distinguish the pre-recorded image from a real-time image. It was only once the walker moved away from the telescope to look out the window, that they realised the image was recorded.¹⁶⁷ However, before the walker could contemplate the scene, *Janet's* voice prompted the walker to move along the route. From this initial experiment with video in *Chiaroscuro*, Cardiff and Miller redefined how the walker encountered the walk and the space they were traversing. We now explain how the overlapping of a recorded image and sound performed as the “most extreme ‘fucking up’ of our physical space,” as Cardiff phrased it.

5.4 From audio to video: negotiating paths (1999-2005)

The video walk was realised according to the same discovery in the audio walks. They could create a method of visual phasing, or a spatial effect, by replaying a recording in the same location in which it was recorded. As described in Chapter One, Cardiff “discovered” the audio walk when she replayed a voice recording in the same location in which it was recorded. Similarly, the idea for the video walk emerged while they were experimenting with a video camera. “I was sitting in the living room with the video camera taping as George and I were having coffee,” Cardiff recalled. “Then I replayed it and found myself unconsciously following the pan of the recorded shot and being disconcerted when George, having gotten up, wasn’t in the shot where he was supposed to be.” Cardiff continued,

I realised that it was the same kind of strange situation as the telescope pieces we had done where the architecture remains the same, but the people and cars

¹⁶⁶ Interestingly, Galileo Galilei’s (1564-1642) telescope was diagrammed according to the same Euclidian optical model as Alberti’s perspective. One of the lessons he studied and taught was how to draw a sphere with raised protuberances casting shadows on its surface in raking light. Samuel Y. Edgerton, *The Mirror, the Window, and the Telescope: How Renaissance Linear Perspective Changed Our Vision of the Universe* (Ithaca: Cornell University Press, 2009), 10.

¹⁶⁷ This moment between reality and illusion/fiction is one that has been recited throughout art history; from phantasmagoria, camera obscura, *trompe l’oeil*, to cubism. See Elcott, *Artificial Darkness*.

change. The viewer becomes like the robotic head of the telescope moving to align the prerecorded video to the physical world.¹⁶⁸

Re-watching the video recording of Miller, Cardiff was unsettled when Miller was not in the shot “where he was supposed to be.” She compared this situation with the telescope in *Chiaroscuro*, where the architecture of the street below was identical to the frame in the viewfinder, but the characters and activity on the street were different. Cardiff explained that the viewer was like the robotic head of the telescope attempting to align and focus on the street below. We can recall this same action as the walker of the video walk becomes consumed by aligning the screen reality to their physical reality.

If we peruse Cardiff’s description carefully, we realise that the idea for the video walk developed not only from experimenting with filming. More specifically, it was an outcome of *replaying pre-recorded footage in the same location in which it was shot*. I emphasise that this is the same layering (or phasing) technique that Cardiff used when she “discovered” the audio walk. In the video walks, the video footage was replayed in the same location shown on the screen, directing the walker to align the screen with their physical space, as I will now explain. The video walks thus became an exercise in negotiating screen reality, an audio reality, and physical reality.¹⁶⁹

In Real Time (1999) was the first video walk made by Cardiff and Miller where they replaced the Walkman cassette player, or Discman, with a handheld stereo

¹⁶⁸ Cardiff, “In Real Time 1999,” Cardiff Miller website, <http://www.cardiffmiller.com/artworks/walks/realttime.html> “When Madeleine Grynstejn invited me to do an audio walk for the Carnegie I suggested that I try a new format, a video walk. It was a complete experiment, but it opened up the walks to a whole new discourse and level of experimentation for us. The story became a narrative using the idea of the audience / participant as a ‘rat’ in a maze, testing the limits of reality.”

¹⁶⁹ Cardiff and Miller often use terms like “added dimension,” which more often than not, add ambiguity to the works. For example, the *Alter Bahnhof Video Walk* webpage on Cardiff and Miller’s website explained that the difference between the audio and video walks was attributed to the “added dimension” offered by the portable video screen (in the form of the iPod). Cardiff and Miller, “Alter Bahnhof Video Walk,” Cardiff and Miller website, <http://www.cardiffmiller.com/artworks/walks/bahnhof.html>

camcorder. Produced for the 53rd *Carnegie International 1999/2000* at Carnegie Museum of Art in Pittsburgh, USA, a video image on a flip LCD screen and headphones guided the walker along an eighteen-minute walk through the offices and book stacks of the Carnegie Library.¹⁷⁰

As the participant walked, the LCD screen showed the same location as what was in front of the walker in real time, but the activity and people on screen differed because it was pre-recorded footage. So rather than assuming its usual function as a recording device, the camcorder became a playback device. The camcorder in the video walks were bulky, expensive, had a limited battery life, and did not readily have stereo sound output which was required to playback in binaural audio. Interestingly, although playback technology has changed, what remained consistent within all the walk works was the binaural audio. Cardiff and Miller adopted the latest editing software and hardware to ensure they were able to control and edit the sound.¹⁷¹ The ambient sounds in the library—the footsteps, people talking, and typing—and Cardiff’s directional and storytelling voice, were all recorded and played back in binaural audio over the headphones. *Janet’s* narratives were loosely themed around an encounter with a scientist, while the video footage continually switched between a dream sequence and footage of the library’s interior. Katy Siegel noted that the way they used *film*, editing, and production was “very open territory” and unique. Siegel observed that the experience of negotiating the audio, video, and real space of the library was

¹⁷⁰ *In Real Time* (1999), video walk, 18 minutes. Curated by Madeleine Grynsztejn for the 53rd Carnegie International at Carnegie Library. Exhibiting artists included Matthew Barney, Janet Cardiff, Thomas Demand, Mark Dion, Olafur Eliasson, Felix Gonzalez-Torres, Pierre Huyghe, William Kentridge, Gabriel Orozco, Edward Ruscha, Sam Taylor-Wood, Luc Tuymans, Kara Walker and Jeff Wall amongst others.

¹⁷¹ As Cardiff and Miller explained, the units with a stereo output were difficult to source and expensive at about USD 800 each. Most commissions, like *Ghost Machine*, did not budget for more than approximately ten units, thus limiting the accessibility of the piece. From my research, this seems to be an oversight on behalf of the commissioning institution who seem to underestimate the budget for peripherals, devices and set up time for the installation works. However, fast forward to 2012, the iPod Touch retailed for \$199 US each. The units were light, reliable, easy to charge, relatively easy to program, high-quality video graphics, and most importantly, stereo output. For *Alter Bahnhof Video Walk* (2012) at Documenta 13, and *City of Forking Paths* (2014) for the Sydney Biennale there were 30 devices available.

disorientating and consuming: “Looking back and forth from the books and the floors and the windows to their image, listening to the story the artist tells, is deeply disorienting and involving.”¹⁷² In fact, in what was the first of four video walks for a camcorder, the addition of the video screen in *In Real Time* presented a new set of propositions for the walker as they became pre-occupied with aligning the screen to the path. Replacing the Walkman with a handycam altered the dynamic between the walker and artwork as they transitioned from trying to follow audio directions alone, to negotiating audio and the video image in the video walk.

In the audio walks, even though the recorded sound was the walker’s only guide to ensure they were on the correct path, keeping pace was no simple feat for several reasons. The quick editing and transition between the scenes and Cardiff’s narrated directions were often difficult to follow—especially if the walker was to take the wrong turn or did not keep pace with Cardiff’s footsteps. The walker often found themselves straying from the correct path—particularly since the walker was usually unfamiliar with their surroundings. As emphasised in Chapter One, layering and editing was difficult since Cardiff’s directions were often vague and there were inherent limitations in analogue audio technology. Even though getting the walker “lost” was not the end goal, Cardiff and Miller became increasingly aware of the *effect* that the audio and video playback had on the walker’s ability to walk, navigate, and listen simultaneously.

Cardiff explained that as the walker became increasingly attentive to their physical space, they were less absorbed in the dialogue of the recording. “One of the first ideas when I was doing the [audio] walks, was this whole concept of walking; when you are walking, you have to pay attention,” She continued:

¹⁷² Katy Siegel, “1999 Carnegie International: Carnegie Museum of Art, Pittsburg,” *Artforum*, January 2000, 106, <https://www.artforum.com/print/reviews/200001/1999-carnegie-international-186>

One physically has to be aware so that you don't fall, so you can't really listen too thoroughly to what you are hearing. . . . the coordination sense takes over. And that's something that I discovered with the walks, that there are parts where you just want the audience to listen and be aware of their physical environment. And that makes them remember any dialogue as if it were a dream.¹⁷³

As the walker followed the audio directions, they remained attentive to where they were going while negotiating the path and listening to the audio. In turn, the participant became more aware of the path they were traversing as the *coordination* sense commandeered the walker. To navigate the path, the walker needed to rely not only on their hearing but their proprioception—that is, their relative position within space. The walker thus became preoccupied with navigating and not attending judiciously to the stories and narratives woven among directional cues.

As the walker was fixated on their navigational capacity, the architectural points guided them along the route. Cardiff explained that *Chiaroscuro* (1997) differed from the video walk *The Telephone Call* (2001) in the way the walk interacted with the physical space.¹⁷⁴ Both walks were produced for the San Francisco Museum of Modern Art and began in the same way. The audio was comprised of specific instructions and directions for the walker to follow, and the plot contained snippets of stories, sound effects, walking directions, and music. The walker was guided by the audio and architectural points in *Chiaroscuro*. While in *The Telephone Call*, the architecture became the baseline and the video presented a narrative that “involved interactions with people in the space.”¹⁷⁵ Thus, rather than simply framing the route and architecture, the video screen prompted other

¹⁷³ Cardiff, in Janet Cardiff, George Bures Miller and Michael Juul Holm, "Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm," in *Louisiana Contemporary: Janet Cardiff and George Bures Miller*, ed. Michael Juul Holm and Mette Marcus (Humblebaek: Louisiana Museum of Modern Art, 2006).

¹⁷⁴ *The Telephone Call* opened at the San Francisco Museum of Modern Art on March 1, 2001, as part of *010101, Art in Technological Times*, an exhibition about the intersection of art and new technologies.

¹⁷⁵ Cardiff, *The Telephone Call* (2001), Cardiff and Miller website.

interactions along the route. Beyond just directing the walker through the museum the video became an *additional spatial layer* in the walk. *Chiaroscuro* achieved this only momentarily when the walker was directed to peer into the telescope, but *The Telephone Call* maintained this action throughout its duration.

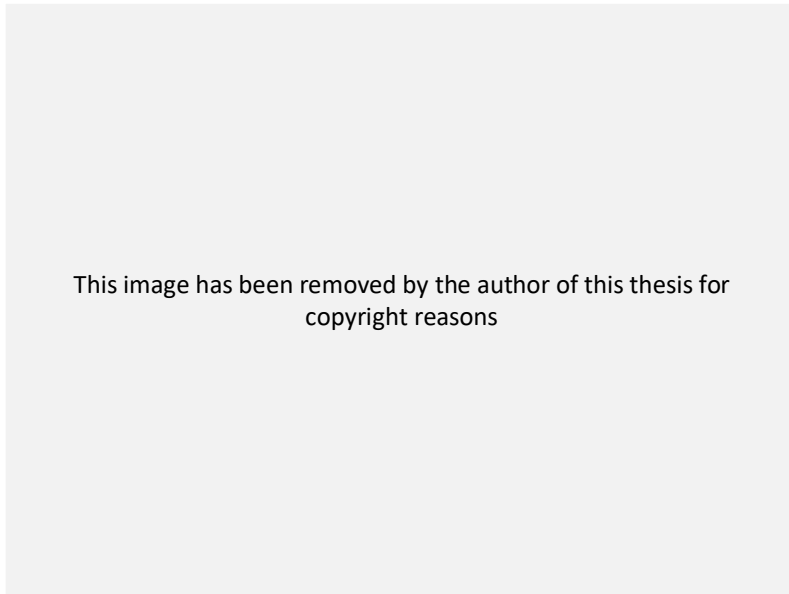


Figure 43: Janet Cardiff, *The Telephone Call*, 2001 video walk, 15:20min; San Francisco Museum of Modern Art, Collection SFMOMA © Janet Cardiff, <https://openspace.sfmoma.org/2012/09/koerner-cardiff> accessed November 7, 2018.

The intersection of sound, video, architecture, and other encounters formed an ambiguous space in *The Telephone Call*.¹⁷⁶ As the walker donned headphones and a handheld video camcorder, *Janet* instructed them to align the image on the viewfinder to the path in front of them. The piece led the walker up the central staircase of the museum, into a nearby gallery, and a service stairway normally off limits to visitors. Like the audio walks, Cardiff's intimate voice sounded close to the walker's ear, guiding them along the route. "Cardiff's voice muses on the people she is seeing and the overheard conversations and encounters around her," explained curator, John Weber:

Layers of real and recorded sound overlap, creating a rich and ambiguous sense of space. A man calls. In the bleak service stairwell, the tour pauses, and the

¹⁷⁶ *The Telephone Call* (2001), video walk, 15:20 min, San Francisco Museum of Modern Art, USA.

screen appears blank. Ominous footsteps approach from behind in the stairwell. Alone and convinced they are in the wrong place, visitors wait, hearts racing.¹⁷⁷

The real and recorded sound formed an ambiguous sense of space for the walker. The binaural sound positioned the walker within the location, while the video formed momentary linear exchanges with the characters, location markers, or other people along the route. These exchanges provoked a peculiar behaviour in the walker's mediation of the audio, video screen, spatial information, and path simultaneously.

Unlike the audio walks, where the walker only followed Cardiff's directions and site markers, the video walker negotiated the alignment of the video screen and other spatial information. Instructed by *Janet's* voice to align their screen to the path and to follow the movement of the video, the walker's actions imitated those of the camera operator filming the scene before them.¹⁷⁸ Accordingly, the walker was required to concentrate and focus for the 15-or-so-minute duration of the walk. As they became consumed with aligning the screen reality to the path, it became increasingly difficult to distinguish between "real" events and pre-recorded material. "It's like an alternate reality, like you're going into a different dimension," Cardiff said. "I was surprised at how much it puts you into a trance afterward. The reason is that your brain is concentrating so much on trying to line up the reality that is the video image to the reality that's outside."¹⁷⁹ The coordination required to walk and navigate the video, audio, and the physical space had a peculiar effect on the walker's experience. "Maybe it's got something

¹⁷⁷ John Weber, *The Telephone Call (2001)*, Cardiff and Miller website.

¹⁷⁸ Furthermore, keeping a steady frame was emphasised through the use of the *Steadicam* to record the video walks. The *steadicam* mounts a stabilized camera on an operator to allow for free-reign movement that smooths out handheld action shots. An entry in Cardiff's notebook from 2006 outlined instructions for the camera operator, emphasising the importance of a slow and steady shooting technique: "A few notes on shooting the walk. You should try to keep the camera as steady as possible. Try to imagine that someone is following your movements. Quick movements are difficult to follow but slow and steady ones are more easy." Cardiff and Miller Grindrod Studio, notes, accessed July 15, 2018.

¹⁷⁹ Cardiff, *Janet Cardiff: The Walk Book*, 293.

to do with walking and the way we experience reality when we are in motion,” Miller suggested. “And the way you [Cardiff] use the voice, it all adds to this weird trance-like state that you end up in.”¹⁸⁰ The method used to record Cardiff’s dream sequences and directions, specifically the flat and emotionless tone and closeness of Cardiff’s voice sounding in the walker’s head, between both ears, situated the walker in a “trance-like state” as they attempted to mirror the directions and video image.¹⁸¹

Inattentive to Cardiff’s voice, the walker was preoccupied with shadowing and aligning the screen to the path and space they were perambulating. The walker attempted to mirror the pace and hold the screen correctly and in line with the screen. As the screen became a directional device, the audio cues became less of a navigational tool and more of an atmospheric effect. Specifically, it was the editing process that provoked the walker’s reliance on the video. In addition to the footage of the route filmed at a steady walking pace, the fictional scenes, and moments when the video screen would appear blank, punctuated the directional scenes.¹⁸² At one point in *The Telephone Call*, the walker found themselves in a service stairwell when the camcorder screen momentarily cut to a blank screen. This moment was also recalled in Weber’s description: “In the bleak service stairwell, the tour pauses, and the screen appears blank. Ominous footsteps approach from behind in the stairwell.”¹⁸³ The cut-to-black in the video became a confronting moment for the walker. The visual anchor the walker had been diligently following was disrupted. Cardiff and Miller relied on these editing techniques to provoke the walker’s predisposition to do “the right thing and follow directions.” Cardiff explained that she wanted to “mess with this idea of

¹⁸⁰ Miller, “Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm.”

¹⁸¹ Charles Stankievecch called this effect a disorientation that occurred in the audio walks a *supplementation* of reality. Stankievecch, “From Stethoscopes to Headphones: An Acoustic Spatialisation of Subjectivity,” *Leonardo Music Journal* 17 (2007): 58.

¹⁸² This device—a form of film punctuation called “cut to black” where the screen image is instantaneously darkened—was used in *Berlin Files* (2003) described in Chapter Four.

¹⁸³ Weber, *The Telephone Call* (2001), Cardiff and Miller website.

having to follow.”¹⁸⁴ In fact, the video walks required additional directions to ensure that the walker could follow the piece. “Whenever we make a walk we always finish the edit and have a few people test it to make sure they can find their way,” Cardiff explained. “The camera would be going up the stairs on the left, and some of these people were going up the right, so we had to add my voice saying, ‘Go to the left.’”¹⁸⁵ Additional visual commentary and directions were edited into the vocal directions so that the walker could coordinate their movement with the physical space. Likewise, the descriptions that Cardiff added to the audio often included encounters with people or things along the route. “I’ll describe the physical environment and something like, ‘There’s a man coming towards you...’” Cardiff explained. “This can give the audience a sense of synchronicity when the physical world coordinates with the recording, like, how did she know he was there.”¹⁸⁶ The directions simultaneously acted as site markers that ensued the occasional serendipitous moment when the recording and physical world synchronised.

Accordingly, the foregrounding of the editing strategies adopted in the video walks demonstrates that the interchange between the video and audio was not an endeavour to get the walker “lost” or an attempt to teleport them into the holodeck. Rather, the editing strategies allowed the artists to create a

¹⁸⁴ Cardiff, artist book: c2001, Grindrod Studio archive, accessed July 20, 2014.

¹⁸⁵ Interestingly, this behaviour had changed over time, and since the invention of video enabled mobile phones, people are now more accustomed to navigating while distracted by their mobile phones. “Now we’ve found that people are past that because they’re so used to recording videos on their mobile phones. Everybody’s used to recording reality and understanding how to move with the camera.” Janet Cardiff, interview by Andrew Maerke, *The Rings of Saturn: Janet Cardiff & George Bures Miller: Pt I*, by Andrew Maerke, Art IT Magazine, https://www.art-it.asia/en/u/admin_ed_itv_e/SI7NIrKfyqaCOP6tA2yw

¹⁸⁶ Cardiff, “Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm.” Cardiff had also commented on the reference she made to a banana peel in the audio walk for Whitechapel Gallery, *The Missing Voice, Case Study B* (1999). She received many comments from walker’s who had seen a banana peel along the walk route and would refer to the occurrences as serendipitous.

multilayered spatial environment. These techniques were used to provoke the walker's constant need to ensure they are holding the camcorder correctly.¹⁸⁷

Conformity was a concept that Cardiff began exploring in her early printmaking days. In her 1988 exhibition, *An Obscure Sense of Possible Sublimity* at stART Gallery in Kitchener, southern Ontario, Canada, Cardiff discussed conformity in relation to a large-scale silkscreen work in the exhibition. The piece was a drawing of an arrow pointing upward and the word "DOWN" inverted underneath. Describing the work Cardiff said, "we see things and we just obey them. It is a reference to us. We do things when we are told. It is an interesting phenomenon that we are sort of like robots in a way."¹⁸⁸ Cardiff explained that society was inclined to follow and obey systems and rules.

Likewise, the walks demonstrated that this tendency was reflected in our predisposition to follow directions.¹⁸⁹ Cardiff explained how she worked with this propensity in her vocal directions:

"It's kind of superficial to see this form of direction as manipulation. Everything in our culture is about manipulation: we're given sidewalk signs that say, "Go there"; waiting at red lights; looking at a painting where the painter uses colour to direct our eye; . . . Our behaviour is always modified, and that was one of the

¹⁸⁷ This can be considered as a form of psychogeography—taking the walker off their predictable path, jolting them into an awareness of the urban landscape. We can recall Guy Debord's identification of unification of two different "ambiances" that determined urban landscapes—soft (sound, light, time and associations) and "*plaques tournantes*" (actual physical constructions). Debord, "Theory of the *Dérive*." Also see Keith Bassett, "Walking as an Aesthetic Practice and a Critical Tool: Some Psychogeographic Experiments," *Journal of Geography In Higher Education* 28, no. 3 (2004): 397-410.

¹⁸⁸ Cardiff in, "Janet Cardiff 1987 Part 2," (1987), YouTube video, posted by Kevin Hogg [Rebel Machine], February 22, 2009, accessed July 14, 2013, <https://www.youtube.com/watch?v=9mrpiVp8KYs>

¹⁸⁹ Janet Cardiff, artist notebook, 2005, Grindrod Studio, Accessed July 15, 2012. Cardiff described the video walks as playing with the inherent human nature to follow directions.

subtexts of my walk pieces. . . . But it's also like a child's game in that you have the freedom to give up your power, it's really about that pleasure."¹⁹⁰

Cardiff explained that direction was not to be confused with manipulation. As a subtext for the walk works, Cardiff noted that our behaviour was always modified—for example, when we cross the street or look at art. However, there was also freedom and pleasure inherent in relinquishing control and giving into the journey of the walks. The script of each walk introduced popular film and literary tropes and used mass-produced consumer technologies (the camcorder and later the iPod). However, the walker was not standardised or desensitised as Theodor Adorno's "rhythmically obedient" listener.¹⁹¹ Rather, the walker was attentive to, but not necessarily in command of, their subjective experience. For Cardiff, that was part of the charm.

5.5 Pulling in the reins and the unveiling: *Alter Bahnhof Video Walk* (2012)

Throughout this chapter, I have emphasised how the playback of the recorded video added yet another spatial layer in the video walks. To do this, Cardiff and Miller challenged the conventions of the media—the telescope in *Chiaroscuro*, the camcorder in *The Telephone Call*, and as will be described shortly, the iPod Touch in *Alter Bahnhof Video Walk*. As we can recall in *Chiaroscuro*, it was only once the walker stepped away from the telescope that they realised they were viewing a recorded image. The telescope's function was two-fold: it was the playback device from which the pre-recorded image would be played and simultaneously revealed. As an invention of modern science, the telescope was an optical device fitted with an eyepiece and an objective lens or mirror designed to magnify objects and reality from a distance. Jonathan Crary noted that the eye and the telescope "were allied by a conceptual similarity in which the authority of

¹⁹⁰ "Cardiff in Thea, "Inexplicable Symbiosis."

¹⁹¹ See Theodor W. Adorno, "On Popular Music: with the assistance of George Simpson," (1941), in Theodor W. Adorno, and Richard D. Leppert, *Essays on Music: Theodor W. Adorno* (Berkeley; London: University of California Press, 2002), 460.

the eye remained unchallenged.”¹⁹² In *Chiaroscuro*, however, the veracious eye and telescope were contested when the telescope became a storytelling device. In doing so, it undermined its usual function as an instrument intended to magnify objective reality.¹⁹³ Similarly, the conventional use of the camcorder as a recording device was also undermined when it was enlisted as a playback device.

The conventions of media and technology were also challenged in radio during the 1930s. Composers challenged the print and visual based paradigm by adopting radio as a media for storytelling. Cardiff and Miller negotiated a similar terrain creating audio and video walks for the *spatial* medium. Audio’s capacity to simulate reality was perhaps most pertinent during the golden age of radio in the US. On Halloween in October 1938, CBS Radio, New York, broadcast Orson Welles’s radio adaptation of H.G Wells’ “War of the Worlds,” a fictional simulated news bulletin about aliens advancing on New York City. It was rumoured that the broadcast caused chaos when listeners became carried away by the illusion depicted through the program. It was believed that listeners were unable to distinguish the radio drama from an actual radio news broadcast. In 1968 and 1971, the radio station WKBW New York, in Buffalo, aired an adaptation of the 1938 broadcast.

In the introduction to the transmission, the radio announcer recounted the panic of the program. The radio announcer asked the 1968 listener to “place yourself in the position of a listener in 1938.” He noted that even following an extensive media campaign that alerted listeners, essential services, media, businesses, and schools of the station’s intention to air the radio drama chaos and panic still spread throughout New York and nearby Canada. It was reported that Buffalo

¹⁹² Jonathan Crary, “Techniques of the Observer,” *October*, vol. 45 (Summer, 1988): 31.

¹⁹³ In “Something like: communication... without communication,” Jean-Francois Lyotard questioned the relationship between art and technology and technological development. He was ambivalent about technology and its relation to postmodernity and asked, “what does ‘here’ mean on the phone, on television, at the receiver of an electronic telescope? And the now? Does not the ‘tele-’ element necessarily destroy presence, the ‘here-and-now’ of the forms and their ‘carnal’ reception?” Jean-Francois Lyotard, “Something like: ‘Communication... without Communication,’” in *The Inhuman: Reflections on Time* (Stanford: Stanford University Press, 1988), 118.

police received over 4,000 calls and the Canadian military sent personnel to the border to protect their country from a reported Martian invasion. Amid the panic and distribution of weapons at one police station, the broadcast cut to a commercial break. It was only then that officers sheepishly realised it was a radio drama. They were, as the announcer said, “carried away by the realism reflected in the show.” As a forewarning to the presentation, he restated that the drama would frequently be interrupted by commercials and announcements, alerting listeners of its dramatisation. “All this is done in order for you to catch up with your mind. To pull in the reins of your imagination,” the announcer said.¹⁹⁴ These announcements were deemed necessary since the fictitious drama was performed on the radio, a media associated with factual news content and documentation.

The idea that hysteria swept through America as a result of the radio drama remained unchallenged for nearly eight decades. In *Broadcast Hysteria: Orson Welles’s War of the Worlds and the Art of Fake News*, Brad Schwartz challenged this conventional wisdom and claimed that it was in fact, the media that was overstating the panic caused. He said that even though over 6 million people listened to the original broadcast “of those maybe one million mistook it for a news bulletin. That’s a lot but we might think that five million people who instantly know a tall tale when they hear one is quite a lot too.”¹⁹⁵ Although many mistook the broadcast as a real event, much of the audience understood it was dramatised. Thus, the scale of the “fooling of the public” was not mass panic as reported. Rather, it became apparent that radio was a medium with which composers could challenge the conventions of storytelling.

Modern folklore or not, the 1938 broadcast of *War of the Worlds* resulted in a ban on simulated news broadcasts and dramatic storytelling techniques in news

¹⁹⁴ “War of the Worlds 1971,” posted by Rod Pyle, published October 31, 2012, YouTube, accessed 2 October 2018, <https://youtu.be/eXTEUM4OF7Q>

¹⁹⁵ Schwartz, *Broadcast Hysteria: Orson Welles’s War of the Worlds and the Art of Fake News*, (Hill and Wang, 2016).

programs in the US.¹⁹⁶ Despite the ban, public radio and radio drama in Canada, Germany, and England, flourished and continued to challenge conventional radio and passive listening. State-sponsored public service broadcasters were established on the premise that a mix of serious and popular programming afforded their audiences “‘higher’ standards of taste and outlook.” German radio producers began exploring the potential of radio as a storytelling medium in the 1920s. They combined “radio art,” and their genre of the radio play called the *hörspiele* to turn the absence of visual stimuli into an aesthetic advantage. Artists such as Bertolt Brecht, Hans Bodenstedt, and Hans Flesch challenged radio conventions and broke patterns of passive listening.¹⁹⁷ *Hörspiele* was composed exclusively for broadcast and worked with the particularities of the acoustic medium. Instead of creating audio pieces that intentionally tried to fool the public into mistaking a broadcast for real news, radio was employed as storytelling and artmaking device. Radio drama attempted to disentangle storytelling from its roots as a linear device for the printed page or cinema screen. Even before the invention of high-fidelity stereo, composers began to approach music spatially rather than as a linear form. The transparency and malleability of audio meant that composers could shape texture and contrast by layering sounds. So rather than intentionally fooling the listeners, composers used sound’s malleability as a creative medium. Thus, if we shift the attention from sound as an illusionary device, to sound used as a material for spatial storytelling, the *War of the Worlds* broadcast can be understood in a different light. Rather than premised on intentionally fooling the public, the very nature of recorded sound is its *transparency*, which is so innate that it can, at times, be perceived as reality.

¹⁹⁶ Charles Hardy and Pamela Dean, “Oral History in Sound and Moving Image Documentaries,” in Thomas L. Charlton, Lois E. Myers, and Rebecca Sharpless, *Handbook of Oral History*, (Lanham, MD; Oxford: Altamira Press, 2006), 272. There is a parallel here to Cardiff and Miller’s comments on the unspoken rule and law of art (via Michael Fried)—that art should not be theatrical. “We are interested in making art that is accessible like entertainment. In the art world, I think there is this unspoken rule that art shouldn’t be too entertaining or theatrical. But you must go with what interests you.” Cardiff in Carolee Thea, “Inexplicable Symbiosis: A Conversation with Janet Cardiff,” *Sculpture Magazine*, no. Jan/Feb (2003): 4.

¹⁹⁷ Hardy, “Oral History in Sound and Moving Image Documentaries,” 275.

Indeed, something curious occurred in the *War of the Worlds* broadcast, and in the video walks, as both pieces announced the presence of their media throughout their duration. The *War of the Worlds* did this with frequent announcements and commercial breaks. In the video walks, although the walker occasionally slipped between being able to distinguish the recording from reality, the presence of the apparatus—the camcorder, iPod, and headphones—kept any fooling at bay. Audio and visual cues we incorporated to “pull in the reins” of the so-called auditory illusion—or what Miller termed as “pull the rug out” in the reveal.¹⁹⁸ The artifice of the three-dimensional soundscape and the “screen reality” (as Cardiff called it) were interwoven amongst these moments of *unveiling*—a mechanism at the core of the video walks.

Although the binaural audio created a realistic and plausible soundscape for the walker to delight in as they followed the path, the screen and the audio cues continually reinforce the multiple spatial layers at play. An example of this “unveiling” occurred in the video walk for camcorder *Ghost Machine* (2005) at Hebbel Theatre in Berlin. While the walker was attempting to align the pre-recorded image on the screen to the path in front, there were several methods used to unveil the illusion of the immersion in both the spatial sound and the act of following the video frame. Cardiff’s voice addressed the walker directly, and other methods such as pointing out a visual anchor, cutting to a blank screen, or showing an image of Cardiff holding a camcorder on the screen were also interwoven throughout the piece. Cardiff explained how these methods were applied in *Ghost Machine*:

we take them into a dressing room to look into the mirror, and on the camera screen they see me with the video camera, and then they look up, and they see themselves in the mirror and it takes them out of the art piece completely into the virtual world of the mirror, totally screwing with their brains. I think it shows

¹⁹⁸ Miller, "No. 38: Janet Cardiff and George Bures Miller."

them how immersed they had been in the artwork, and it is at that point I think when you get to these kind of surprise points or “aha” experiences.¹⁹⁹

While walking and following the camcorder screen, the walker was led into a room to view a mirror. An image of Cardiff holding an identical video camera appeared on the screen. As the walker looked into the mirror, they saw their reflection, but on the screen, the image was of Cardiff. This very brief negotiation between the real and recorded took the walker out of the artwork and experience. The pre-recorded image and sound techniques reminded the walker of their physical presence—like the way the radio station made announcements throughout the broadcast of *War of the Worlds*.²⁰⁰ Here, Cardiff and Miller unveil, or “pull out the rug,” of the immersive effect of binaural sound and ghosting the screen. In turn, the plausibility of the binaural soundscape and the walker’s absorption in the task of aligning the video screen collapsed.

5.5.1 *Alter Bahnhof Video Walk* (2012)

Alter Bahnhof Video Walk (2012) also staged moments of negotiation between the walker’s attentiveness to the soundscape and aligning the video image. Launched at Documenta 13, 2012, *Alter Bahnhof Video Walk* was a 26-minute video walk for iPod Touch and headset. It was made almost five years after their previous video walk, *Ghost Machine*.²⁰¹ In exchange for photo identification and a signed waiver, the walker collected an iPod and headphones from the Offerner Kanal office on the main concourse of the Hauptbahnhof. The attendant informed the walker of the duration of the walk and that they should ensure that they are wearing the headphones correctly (the artists instructed staff to specify which headphone was

¹⁹⁹ Cardiff, “Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm.” We can recall Cardiff’s reference to the ‘aha’ moment in Chapter One’s discussion of *Forest Walk*.

²⁰⁰ This experience differed from the theories of cyberpunk culture of the 1980s and 1990s, where the immersion into the virtual world was achieved by using VR devices such as helmets and gloves. See Brenda Laurel, *Computers as Theatre*, (Reading: Addison–Wesley 1993), 161.

²⁰¹ The SFMOMA was also showing *The Telephone Call* (2001) in July 2012, at the exhibition *Stage Presence: Theatricality in Art and Media*. This would have been the last time the work was shown due to the museum’s renovation shortly after.

left and right). The walker was also told to follow the audio directions and align the visuals on the screen en-route through the train station. The walk began on the wooden bench in the main concourse, followed through the Bahnhofshalle (Entrance Hall) to train platform 13, proceeded upstairs via a service entry to the *Bali Kino*, down another set of stairs, and ended in the waiting area near *Gleis 1 Restaurant Club* (a space adjacent to the starting point).

Two particular psychoacoustic moments occurred within the first five minutes of the video walk. These moments made the walker acutely aware of their 360-degree sphere of hearing. As the walker was seated on the bench, they were instructed to align the screen horizontally in front of them. As the walker pressed play on the iPod screen, Cardiff's voice sounded over the headphones as if she was instructing herself. "OK. Turn the camera on. Press the video button." In binaural audio, her voice could be heard at the back of the walker's head. Cardiff's voice proceeded to set the scene: "I'm sitting here right now with you in the train station at Kassel. Watching the people pass by." While Cardiff spoke, the video image on the iPod was a playback recording of the same location and view that the walker could see in front of them in real-time. The audio and video image cut briefly to a lush green forest scene, with the sound of leaves crunching under the walker's feet. As the scene cut back to the train station, Cardiff announced, "this video will be an experiment. We're like those prisoners stuck in Plato's cave. We watch the flickering shadows on the screen." The fidelity of the recorded spatial sound intensified as the sound of trombones became audible in the left headphone. Moments later, two trombone players appeared from between the pillars on the left of the iPod screen. The deep resonance of the sounding trombones contrasted with the high-pitched sound of the vocalist singing into a megaphone.

As *Alter Bahnhof Video Walk* unfolded, the walker was presented with several demonstrations of the possibilities of binaural sound. Firstly, Cardiff's voice remained steady as it continually sounded from the same location at the back of the walker's head. Cardiff's voice, anchored between the listener's ears, became a

counterpoint to the dynamic spatial soundscape that developed around the walker. The voice directed the walker to move: “Let’s get up. Follow them. And turn to the right. Now stop and watch.” The walker then preceded to stand up and shadow the instructions given, stopping to watch the screen as a ballerina danced in the concourse. The sound of a dog barking quickly silenced the music, that could be spatially located in the bottom right corner of the walker’s field of hearing. To the left, Miller shouted “Cut! Cut!” as a fake camera crew and the dog enter the screen view. The scene presented two encounters with binaural audio and video. The first was the rhythm and pace of Cardiff’s monotone voice sounding at the back of the walker’s head. Followed by the interjecting characters and scenes edited into the video. Both were significant moments in which the walker realised that they could locate sound spatially and mirror the iPod video image while walking.

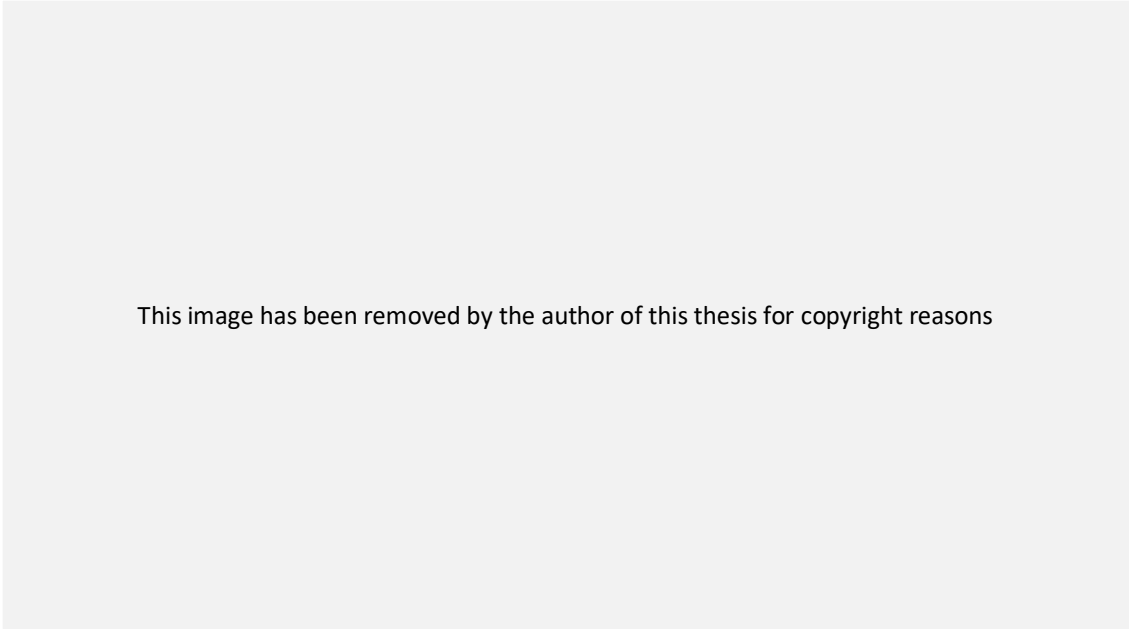
In fact, what occurred after this initial scene was difficult to recall as the walker quickly became preoccupied with aligning the video screen to the path while simultaneously following the audio directions. *Alter Bahnhof Video Walk* situated various intersections amongst the layers of recorded sound, video, and physical reality.²⁰² The effect was more than a visual and aural trick as the marvel of the recorded media was counterbalanced by the walker’s reality. Like the phantasmagorias of the eighteenth century, the audience enjoyed the artifice but was also aware of the illusion.²⁰³

The skill of *Alter Bahnhof Video Walk* was Cardiff and Miller’s understanding of two things: the behaviour of binaural sound combined with the video, and the

²⁰² As discussed in the Introduction, the intersection of the recorded three-dimensional sound over the physical space had been referred to as a *trompe l’oeille* effect—as an auditory illusion.

²⁰³ Phantasmagoria was a type of magic lantern performance in the 1790s and early 1800s, which used back projection to keep an audience unaware of the lanterns. See Crary, “Techniques of the Observer,” (1988): 33. In *The Phantasmagoric Dispositif: An Assembly of Bodies and Images in Real Time and Space*, Elcott stated that the phantasmagoria was beyond being a spectacle of illusion. He wrote, “Part enlightened entertainment, part haunted house, the Phantasmagoria, like its descendant two hundred years later, refused categorization as mere magic lantern spectacle.” Noam Elcott, “*The Phantasmagoric Dispositif: An Assembly of Bodies and Images in Real Time and Space*,” *Grey Room* 62 (Winter 2016): 43, 51.

effect of attempting to negotiate their listening to binaural sound and aligning the screen to the view. Like the audience of the *War of the Worlds* broadcast, aware that the broadcast was a radio play, the walker was aware that *Alter Bahnhof Video Walk* was art. Rather than being fooled by the realism of the binaural sound and video image, the walker delighted in the fidelity of the binaural sound and the novelty of navigating and multitasking the audio and video while coordinating the bodily sense of walking.



This image has been removed by the author of this thesis for copyright reasons

Figure 44: Cardiff and Miller, *Alter Bahnhof Video Walk*, 2012, video walk, 26 minute walk, installation view, Produced for DOCUMENTA (13), Kassel, Germany, © Cardiff and Miller.

5.6 Sculpting spatial texture

Accordingly, *Alter Bahnhof Video Walk* presented three intersecting layers: the audio, video, and the physical. I have spoken at length about the walker becoming preoccupied with aligning the video with their physical reality. I will now explain how the three intersecting layers co-exist in sculpting spatial texture.

Firstly, Cardiff and Miller configured several vocal layers in the audio-mix of *Alter Bahnhof Video Walk*. Cardiff's voice *Janet* directs and instructs the walker; Cardiff's "thinking voice"; a narrative voice; a voice that converses with other characters and narrates various monologues; a voice recorded on a noisy

dictaphone; and a voice that addresses the walker directly. Aside from the number of vocal characters assumed by Cardiff, what is undoubtedly more curious was the way these voices sound.²⁰⁴ Cardiff's voice was recorded in proximity to the binaural microphone—producing an “affectless,” flat, and emotionless voice.²⁰⁵ *Janet* sounded calm, intimate, and at times sensual. Spatially, the monotone whispers could be felt not in the ears, but at the back of the head between both ears. Cardiff explained that the positioning was deliberate, “it was very deliberate to have it right at the back.” The binaural technology and human senses determined the sound's location. “Even if we record something in front of us with this binaural audio technique I use, we don't see it as in front of us because we use our eyes to position things,” Cardiff explained. “If we don't see it in front of us, we hear it from behind.”²⁰⁶ Our eyesight spatially positioned sounds in front of the body. The capacity to localise the sound source involved hearing range and directionality. Cardiff also explained that the intimacy and immediacy that could be evoked through her voice was important to the creative process.²⁰⁷ Experimenting with voice recording, binaural audio, and playback Cardiff and Miller understood the effect of the binaural technique as it processed sound in a way that “goes into your head.”²⁰⁸

²⁰⁴ Cardiff and Miller's YouTube page hosts a short 6-minute documentation video of the start of *Alter Bahnhof Video Walk*. I recommend that you take a moment to review the clip and return to this text. Cardiff Miller, “Alter Bahnhof Video Walk,” *YouTube*, July 23, 2012, accessed December 27, 2015, <https://youtu.be/sOkQE7m3IPw>

²⁰⁵ Cardiff, interview by author, Sydney, February, 2012.

²⁰⁶ Janet Cardiff, in Patricia Maloney, “Bad at Sports: Interview with Janet Cardiff,” in *Art Practical*, December 7, 2015, <http://www.artpractical.com/column/bad-at-sports-interview-with-janet-cardiff>

²⁰⁷ Janet Cardiff and Anthony Easton, “Word Sculptures: Janet Cardiff in Conversation with Anthony Easton,” *Jacket Magazine*, October (2006), <http://jacketmagazine.com/31/cardiff-easton-iv.html> Cardiff admired Vito Acconci and the physical presence of his voice as an object: “It's a very direct connection, an intimate one. Vito Acconci's voice is the greatest. It is almost a physical object that becomes separate from the person.” See Acconci's *Proximity Piece* (1970), where he followed and stood near people intruding on their personal space and attempting not to be noticed.

²⁰⁸ Cardiff, “Bad at Sports: Interview with Janet Cardiff.”

Thus as the sonic *repoussoir*, the walker continuously negotiated the positioning of the voice with the soundscape, video image, and path.²⁰⁹

Furthermore, in addition to the sounding at the back of the walker's head, Cardiff's voice shifted ever so slightly within the walker's field of hearing. Charles Stankieveh noted that the voice sounded differently from the rest of the binaural recording in that it sounded from the same position continuously within the listener's field of hearing:

the voice does not move; it is the one motionless component in the entire piece. Sound effects rush by the listener's body, which in turn moves through a landscape, but Janet's voice remains firmly implanted within the cranium.²¹⁰

Cardiff's voice remained stationary as an internal and motionless voice in the listener's head, while other sounds rushed by the listener's body as the walker proceeded to move along the route.

However, upon listening closely to *Alter Bahnhof Video Walk*, it becomes evident that *Janet's* voice was not completely motionless. There were several spatial nuances, particularly in the directions to turn to the *left* or *right*. At the end of the opening scene, *Janet* instructed the walker to "get up and turn right." Her voice sounded slightly off centre and louder in the left ear—nudging the walker to the right. *Janet's* voice also conversed with the walker directly as it guided them through the station. "Let's stop and watch the trains right here. Trains have always frightened me in ways. . . . That's me in the white coat down there."²¹¹

Whilst saying this there was a slight tonal change in *Janet's* voice as she

²⁰⁹ If we recall Gustave Caillebotte's *Paris Street; Rainy Day* (1877) he placed the viewer on the same plane as the figures in the painting. Cardiff and Miller's do this with binaural sound and video.

²¹⁰ Stankieveh, "From Stethoscopes to Headphones," 58. While he did not refer to the video walks specifically, Stankieveh's analysis is one of the few that discusses the actual sounding of Cardiff's voice at length.

²¹¹ *Alter Bahnhof Video Walk* script.

addressed the walker.²¹² These slight nuances in the voice accentuated the interplay between the complex layers of the audio recording.

The task of creating a spatial interplay between layers of multiple voices was perhaps most notably achieved by Glenn Gould when he challenged the idea that radio was a *monophonic* medium. Although historically, composers challenged sound as a time-based medium—such as the polyrhythmic explorations of Thomas Tallis and Henry Cowell—most notably, it was recording and speaker technology that transformed the possibilities of sound. For Cardiff and Miller, the development of binaural audio in the early 1970s—a technology they began adopting two decades later and continued to use through the 2000’s—was vital to the creating effects in the audio and video walks. In the late 1960s, Gould used contrapuntal radio as an alternative to radio and oral history-based documentary.²¹³ He treated radio documentary rhythmically and used his contrapuntal (or counterpoint) technique to challenge radio’s print-based paradigm.²¹⁴ In 1967, Gould produced *The Idea of North*, the first of three sound documentaries in the *Solitude Trilogy* commissioned by the Canadian Broadcasting Corporation’s Public Affairs Radio.²¹⁵ The fifty-eight-minute mono recording (produced just before the release of stereo) was a sound documentary of five speaker’s stories about living in Northern Canada. The piece was a combination of narrated stories and other sound effects and recordings. Like the

²¹² Cardiff, interview by author, Sydney February 2012. Cardiff explained the difficulty in pitching her voice in a flat and monotone manner, so that there was little distinction and emotion in her sounding voice. This was the reason why they did not use actors as Cardiff felt that actors always revealed “too much emotion.”

²¹³ Garreth P. Broesche’s essay “Glenn Gould, Spliced: Investigating the Filmmaking Analogy,” in *MTO a Journal of the Society of Music Theory*, vol. 22, no. 4 (December 2016). He makes a distinction between Eisenstein’s “intellectual montage” and Gould’s tape splicing.

²¹⁴ Counterpoint technique is like polyphony. Polyphony is non-dialectical for it involves the interweaving of voices, or ideas, rather than the process of thesis-antithesis-synthesis following Hegel, or toward the negation of countervailing or conflicting views. Rather than *effect* as synthesis, polyphony established concepts and voices in relation to one another. Cardiff manipulated polyphonic composition in *Forty Part Motet* (2001).

²¹⁵ “The Idea of North (1967),” YouTube video, Glenn Gould-Topic, February 5, 2015, accessed June 14, 2016, <https://youtu.be/Tsux27kMwjc> [at 36:43]

sound of Cardiff's footsteps and the steady-cam video that filmed a continuous path for the walker to follow, *The Idea of North* incorporated the sound of a railroad train that served as a steady pace throughout the piece. The opening featured a prologue of a multi-vocal interchange between three voices—or a “trio sonata” as Gould called it.²¹⁶ The continuous chugging train contrasted the voices as each was phased in and out. The “teasing, foreshadowing, and intimating” of the interchanging voices, operated as a “hearing exercise that prepares the listener for that which follows.”²¹⁷ Roughly halfway through the recording, the intensity of the multiple monologues reached a crescendo as they simultaneously interchanged and overlapped, creating complex aural texture.²¹⁸ The editing of multiple sounds and voices simultaneously within a dialogue of relations was what Gould referred to as an “explosion of simultaneous ideas.”²¹⁹ This technique allowed for dense textural variations. Listening to *The Idea of North* required a great deal of concentration to follow all the voices at once. Similarly, the audio and video walk utilised a similar method of textural variation. As I have explained, the video walks required the walker to multitask and concentrate on the video, listen to the directions, pay attention to where they were walking, and attempt to follow the narrative story, all while listening to the audio in binaural sound.

So far, I have described how the video walks became an exercise in negotiating the screen reality and audio reality. The third layer in this synthesis is the physical reality and how the screen and audio were mediated along the physical route of the video walk. The movement through space, the layers, and components of the audio and visuals were written into the scripts that Cardiff

²¹⁶ John Thompson, Glenn Gould, “There Is a Strong Visual Component in Radio’. Glenn Gould in Conversation with John Thompson,” *Intermediality: History and Theory of the Arts, Literature and Technologies*, no. 19 (2012): 183.

²¹⁷ Hardy, “Oral History in Sound and Moving Image Documentaries,” 294.

²¹⁸ Gould, “There Is a Strong Visual Component in Radio,” 183. Gould explained: “I have a compulsion to keep busy, texturally.

²¹⁹ Gould, “There Is a Strong Visual Component in Radio,” 183.

and Miller produced for each walk. The routes were selected based on the spatial and textural information of the location. Cardiff explained that she wrote her scripts spatially for the physical encounter of the video walk—and each script included spatial information, sounds, visuals, dream sequences, narratives, and accounts of the surrounding environment.²²⁰

Most importantly, the spatial texture maintained the pace and rhythm required for the walker to follow *Janet's* directions. As reality fused with the recorded, the aesthetic experience of the walk was situated between Lefebvre's rhythm analyst's experience of polyrhythmic rhythms and Michael Bull's monorhythmic experience.²²¹ As noted, the walker was attentive on multiple levels: to the iPod screen, the audio sounding through the headphones, the path they are walking along, and the surroundings (both spatial and auditory). The walker re-spatialised the route walked by continually negotiating multiple layers of information. Cardiff described the significance of both contrast and physicality in the walks:

Both the physicality and contrast are always very important for a walk. Just as a drawing needs variety and texture, a walk needs small spaces, big space, quiet and noisy parts. . . . The lines [script] must fit with the physical. It's like writing in three dimensions.²²²

²²⁰ Cardiff, interview by author, Sydney, February, 2014. Overtime, their recording process became much more mobile. Miller carries his Mac Book Pro and additional hard drives and recording equipment such as the zoom recorder, video camera and Steadicam harness. They create makeshift recording studios in cupboards and closets in the onsite locations on which they are based during filming. Also, Cardiff no longer records her scripts on site, nor does she record the footsteps on site as she initially did. Instead, the sounds are recorded and mixed in the studio where they can apply effects and layers to manipulate the recording.

²²¹ See Henri Lefebvre, Gerald Moore and Stuart Elden, *Rhythmanalysis Space, Time and Everyday Life* (London, Continuum International Publishing Group, 2004), 67. Bull proposed that a monorhythmic aesthetic was created by the iPod user, where the outside conformed to the domain constructed by the user. Michael Bull, "The Audio Visual iPod," in *The Sound Studies Reader*, ed. Jonathan Sterne (New York: Routledge, 2012), 203-206.

²²² Cardiff, *Janet Cardiff: The Walk Book*, 33.

Referring to the conventions of drawing that rely on textural variation and light and dark, Cardiff explained that the scripting of the walks followed similar principals. The scripting process was like writing in three-dimensions for Cardiff. Each scene needed to be constructed according to how things fitted together within the physical space.

The video walks discussed in this chapter were all dependent on the textural articulations that structured the route. For example, one of the first tasks Cardiff and Miller performed upon making a walk, was to study a map and visit the site to determine possible routes. This initial task formed the basis of the script as it outlined the sequential order of each “scene”—the location, route, walking directions, vocal recordings, and sound effects. Importantly, Cardiff ensured that the route encompassed sufficient contrast and transitions from one location to the next. Upon visiting the site, Cardiff performed spatial and audio tests where they record the ambience of the space. The curator of *In Real Time*, Madeleine Grynsztejn, described how Cardiff performed a spatial “test” with a video camera at the Carnegie Library with a video camera. “She brought her own camera,” Grynsztejn said, “and the first thing that I watched her do was spatially test the place.” By examining the space, Cardiff revealed her interest in the volume of the space: “She works with volume as well as sound,” Grynsztejn explained.²²³

The textural variances written into the script had a practical purpose. Creating distinctions and variation in space ensured that the walker was able to follow the route and establish if they were in the “right” location. The walker thus experienced many variations in space: the contrast between near and far, open and enclosed spaces, and quiet and loud. For example, in *Alter Bahnhof Video Walk* the walker experienced these distinctions over the recorded video, audio, and physical location. As described above, the walk began on the bench overlooking the vast space of the train station’s main hall. The walk continued north toward the train platforms. The route then continued outside onto

²²³ Madeleine Grynsztejn, “In Real Time 1999,” Cardiff Miller website.

platform 13, and then up a narrow stairwell near the cinema, and out onto the large and empty waiting room where the walk ends. In scripting these different spaces into the walk route, Cardiff and Miller expressed their understanding of the need for adequate variety in the volume of spaces as it shaped the walker's experience in negotiating the recorded audio and video and real-time environment. As we recall Cardiff's comment earlier, where she described the video walks as the most extreme "fucking up" of our physical space, she explained that she and Miller were able to "really push and work with these effects."²²⁴ The walker was thus not a strolling *flâneur* but a *novice multitasker* as they mediated the audio, directions, video, negotiated stairs, traffic, and other pedestrians and Documenta visitors.

5.7 Conclusion

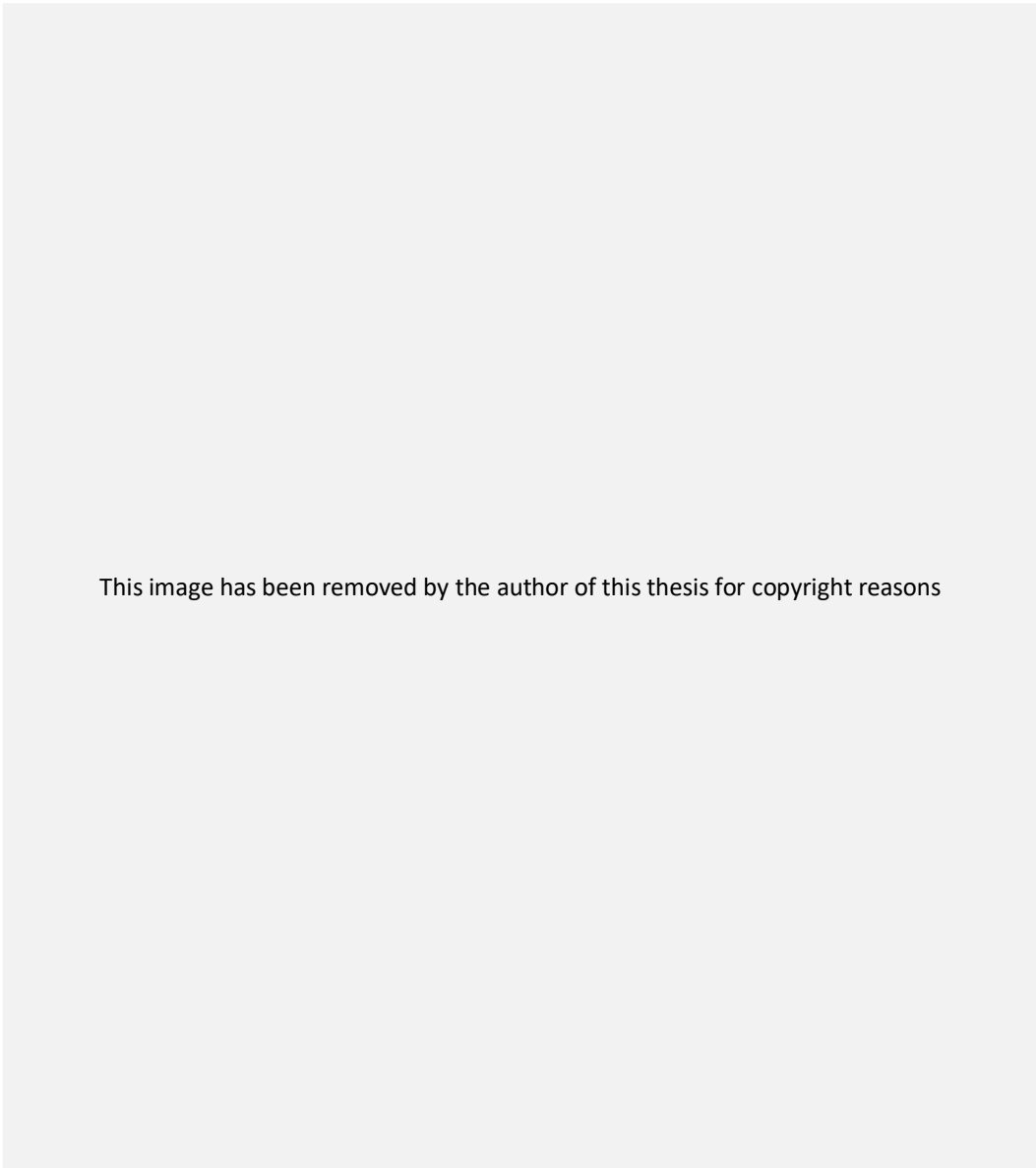
This chapter has analysed the video walks by investigating the technology and compositional methods used by Cardiff and Miller. As an elaboration of the audio walk, the addition of the video screen became another layer in coexistence with the binaural sound that overlaid the walker's experience of the physical space. Cardiff and Miller expanded their notion of layering sounds. The physicality of the sound and contrast in the soundscape were fundamental. Replaying a pre-recorded video scene in the same location in which it was filmed, produced a visual phasing and layering that was much like the playing-back of recorded sound in the audio walk.

However, a curious shift occurred in the walker's behaviour in the video walk. Instead of listening intently to the binaural recording, they became preoccupied with aligning the "screen reality" to what they saw in front of them. In doing so, their attention shifted between listening to the directions and aligning the screen with the path as they negotiated the screen, audio, and physical reality.

²²⁴ Cardiff, "Interview: Cardiff + Miller."

Moreover, within this negotiation, the video walks relied on crucial moments of “unveiling” through specific editing methods in the audio and video.

The video walk was the endpoint in Cardiff and Miller’s determination to challenge the technology they used. The addition of a video screen, however small, not only provoked a definite behaviour in the walker but also added yet another spatial layer to Cardiff and Miller’s already complex spatial environments.



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Figure 45: Cardiff and Miller, *Alter Bahnhof Video Walk*, 2012, the old train station in Kassel, Germany as part of dOCUMENTA (13), *Forest (For a thousand years)*, 2012, Karlsruhe Park. Cardiff Miller studio archive, Grindrod, photograph by author, 2014.

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Figure 46: Cardiff and Miller, *Alter Bahnhof Video Walk*, 2012, route map. Cardiff Miller studio archive, Grindrod, photograph by author, 2014.

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Figure 47: Cardiff and Miller, *Alter Bahnhof Video Walk*, 2012, script. Cardiff Miller studio archive, Grindrod, photograph by author, 2014.



Figure 48: Janet Cardiff, *Her Long Black Hair*, 2004, audio walk with photographs, 46 minutes, Central Park, New York, audio walk on original Discman. Public Art Fund New York, photograph by author, 2014.

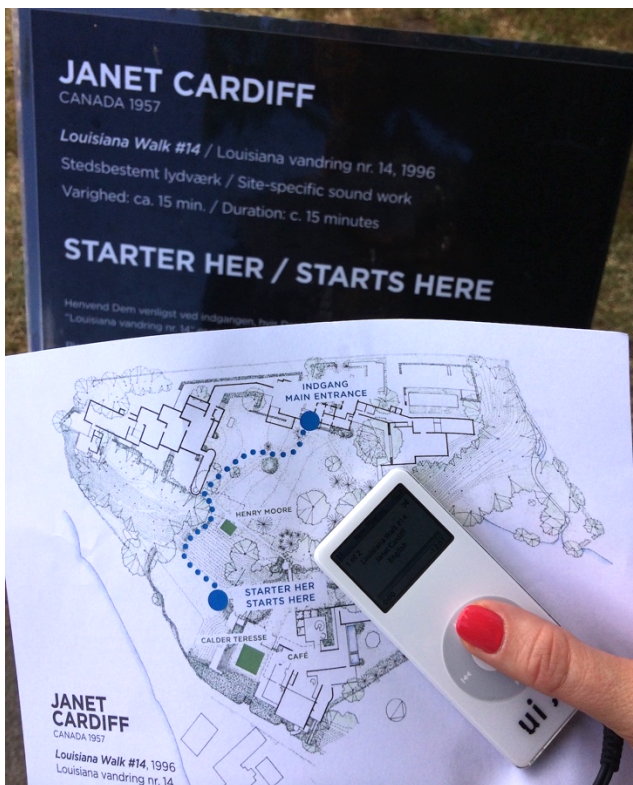


Figure 49: Janet Cardiff, *Louisiana Walk*, 1996, audio walk, 11 min. Louisiana Museum, Humlebæk, Denmark. The original walk for cassette tape was transferred to MP3 and iPod Shuffle, photograph by author, 2014.

Conclusion

This thesis has provided a detailed account of Janet Cardiff and George Bures Miller's installations, audio walks, and video walks from the late 1980s until 2014. This intense focus is without precedent in writing on the artists. I have explained how Cardiff and Miller experimented with sound and media in their self-described *spatial environments*. Each chapter identified how they adapted techniques of layering recorded sound and other media within distinct phases of their oeuvre.

Cardiff originally began using sound because she found two-dimensional images limiting compared with what she could do spatially: "I need a lot of layers to work for me," Cardiff explained.¹ In *Forest Walk* (1991) she discovered a strange "blending of technology and reality" where she could overlay the walker's physical space with pre-recorded sound played in binaural audio. In *Whispering Room* (1991) she was able to manipulate sound by grouping speakers and looping vocal recordings. Miller used CCTV in *Conversation/ Interrogation* (1992) to cross-cut edit pre-recorded footage with slightly delayed real-time footage of the sitter. *To Touch* (1994) and *The Dark Pool* (1995) used hidden sensors that were embedded in the installation space to trigger and play looped sounds. In *Berlin Files* (2003) and *The Murder of Crows* (2008), Cardiff and Miller implemented ambisonic sound so that a composition sounded from many speakers strategically located in a space. *Alter Bahnhof Video Walk* (2012) combined pre-recorded video footage with binaural audio. Concurrent with their spatial techniques was their keen interest in the *physical* qualities of sound. The identification of these directions over their body of work only emerged from the close and focused analysis of the artworks themselves. In approaching Cardiff and Miller's artworks in this way, this thesis confronted several research problems.

¹ Cardiff, artist notebook, 1991, Grindrod studio archive, accessed July 24, 2014.

Firstly, this thesis would deliberately not examine the full breadth of Cardiff and Miller's artworks. It does not extensively discuss their series of standalone "theatrical" works (such as *Opera for a Small Room*, 2005, *Killing Machine*, 2007, *Storm Room*, 2009); their small object-based works (such as *Cabinet of Curiosities*, 2010); the more recent puppetry works (such as *Sad Waltz and the Dancer Who Couldn't Dance*, 2015); or any works post 2014. With a career spanning over three decades, and with the detail and intense focus that my research adopted, it was not conceivable (nor a sufficient wordcount allowance) to analyse all the works in such detail. However, the focus on the audio walks, early kinetic installations, standalone speaker works, their first collaborative room installation *The Dark Pool*, and the video walks indeed traces Cardiff and Miller's artmaking from its beginnings in printmaking, collage, painting, electronics, and photography, through its development in sound, video, kinetics, and installation. The analysis that this thesis provides comes without precedent.

Secondly, at times a slippage emerges between the terms used to describe the *effect* of the spatial environments on the audience's experience. Terms like "confusion," "disruption," "juxtaposition," "illusion," "embodied," and "uncanny" are frequently used to describe these effects. Notions like "physical cinema," "augmentation," and "virtual" are also used to describe the works. This is complicated further by Cardiff and Miller adopting these terms themselves. One could argue: is not the proposition of presenting spatial overlays (and what I at times refer to as *tensions*) of the real and the recorded not just an importation of new terms to describe the same effect? I wish to emphasise that their works present *continuities* in experience, perception, and space. It is less about "illusion" and "disjunction" in experience, and more about the compositional *effects* that Cardiff and Miller used in their artworks that is of significance here. We can refer back to Jonathan Sterne's vital observation that the *overcoding* of physical space with information (in the form of sonic overlays intended to spatialise sound) had already been an audio composition effect used by sound

engineers to represent and construct space simultaneously.² We are already conditioned to hear things at once and from many perspectives.³ So rather than tricking the ears as an aural illusion, or a negation of experience (emerging out of an understanding of the uncanny as a dialectical experience), reverb was a *tool* to construct space. The virtuosity of Cardiff and Miller's art was their ability to apply and tease the spatial malleability of sound creatively in their work.

However, as a counterweight to this assertion, is this not just an importation of terms used within musicology and sound studies? It is evident that this thesis draws from histories of music, sound, radio, art history, and occasionally film and literature to describe Cardiff and Miller's space making. However, these accounts are used because their works *specifically* draw on these histories. For example, Cardiff and Miller endeavoured to challenge the "cinema situation" in the diorama of a movie theatre that was *The Paradise Institute* (2001). In *The Murder of Crows* (2008) they challenged concert hall listening and established notions of how we view art exhibitions by adopting ambisonic sound. Accordingly, it is important to recall what has been emphasised throughout this thesis: Cardiff and Miller are artists working explicitly within the art world and make works for museums, art galleries, and biennials.

Thirdly, this thesis deliberately and intentionally does not focus in any great detail on the content of the work, the plots, and spoken narratives, that feature extensively in the artworks. As I outlined in the introduction, traversing the same path (along with an exclusively subjective reading of the works) will only draw the same conclusions that have been reached in the past—that layering and editing recorded sound and video evoked a cinematic, immersive, or uncanny experience. In contrast, my research has revealed that although these elements are essential, they served a precise function. As I have demonstrated, and as I will

² Jonathan Sterne, "Space within Space: Artificial Reverb and the Detachable Echo." *Grey Room* - (2015): 112-120.

³ Université Paris 8, "Jonathan Sterne, (McGill University, Canada) Space within Space: Artificial Reverb and the Plasticity of Echoes," *vimeo*, October 26, 2016, <https://vimeo.com/189950957>

recap again shortly, the “filmic” and narrative are integral to the works. Cardiff and Miller relied on these as devices in the work to “hook” the audience into believing that there was a story to unfold. In turn, the artists were able to maintain the audience’s attention for the long duration (in some cases up to 1 hour). From this approach, Cardiff and Miller utilised and maneuvered these fragments, literary, or filmic tropes through the layering of spatial sound. This ability is, in fact, intrinsic to their success as contemporary artists. They achieved this by adopting sound recording and playback technology that enabled them to layer and sculpt sound (and in particular vocal recordings). The main finding of my thesis is Cardiff and Miller’s insistence on using sound for its physical malleability and that they persistently challenged the available technology to form and sculpt their spatial environments.

By focusing on the spatial possibilities of sound in Cardiff and Miller’s works, I have unpacked that their adoption of technology, relative to their installations, was undeniably the driving force behind their production. I have identified the method that spearheaded Cardiff’s audio walks, of replaying recorded sound in the same space in which it was recorded, as a pivotal moment. She also explored spatialisation by manipulating speaker technology in *Whispering Room* (1991). Here, instead of layering on the basis of site, she programmed the basic, left and right channel function of two-channel speaker technology by splitting tape recordings to play over two separate channels. Moreover, multiplying the number of speakers within a space intensified the spatial effect. From 1991 onward, she embarked on other ways to incorporate these techniques into her works. The pivotal moment for Miller was the discovery of using shadows, electronic, and kinetics. By using flickering lights (or shadows) and jolting objects throughout space, he was able to expand his works to incorporate the environment beyond the physical materials arranged in the space. Likewise, he also discovered the use of CCTV camera and motion sensors, and how playing pre-recorded footage back in the same space in which it was recorded, could create a strange effect between how people interacted with the pre-recorded image and the media.

Thus, the significant focus in my thesis has been Cardiff and Miller's concept of the "spatial environment" and their insistence on experimentation. These notions have been presented as a means to investigate how they had endeavoured to push the concept of a spatial environment in each of the five crucial phases in their practice. These moments were presented in each of the five chapters.

Chapter One tracked how Cardiff introduced experimental tape loops, multi-track tape recording equipment, loudspeakers, and binaural audio to her art. The innovation of these early works was the discovery that she could create a spatial "phasing" sound effect by replaying a tape recording over the same environment or space in which it was recorded. In *Whispering Room*, she expanded the idea of forming a spatial sound environment by strategically arranging sixteen speakers in a gallery space. The speakers played a series of tape loops that created spatialised sound effect as the visitor walked through the space. The outtake from this chapter is that the layering of recorded tape, tape loops, and her discovery and application of the phasing effect within her compositions, was the impetus behind the spatial sound environments that Cardiff and Miller would later create.

Chapter Two traced Miller's early solo career. In particular, it investigated how Miller's early training in painting and modernist abstraction was later merged with his training in new media. The subsequent works that Miller developed appeared as hybrid works that fused his fascination with movement, electronics, and kinetics with his interest in creating tension between objects, shadows, and the exhibition space. Also, importantly, this chapter revealed how instrumental these developments were not only for Cardiff and Miller's collaborative works but also to Cardiff's transition to sound and new media in her early solo works.

The significance of these developments was evident in *The Dark Pool* discussed in Chapter Three. Miller's interest in electronics, bricolage, and sensors was fused with Cardiff's experiments with tape loops and sensors in *To Touch*. This chapter establishes Cardiff and Miller's practice within a specific moment in the history of installation art where a generation of artists (emerging predominantly within Western Europe) were focused on exhibition spaces and artworks as ambiances.

Chapter Four revealed how Cardiff and Miller's adoption of ambisonic sound technology altered the way they applied spatial sound. In referring to *Berlin Files* and *The Murder of Crows* as spatial environments, Cardiff specified that the physical quality of sound was the "driving force" in the installations. Cardiff and Miller used sound editing technology to develop tensions within the physical spaces they created (whether spatially, in volume, or developing contrast between what was on the screen and the sound). Cardiff and Miller referred to this as forming "different types of space" as the sound was superimposed onto the audience's physical encounter with the space.

Chapter Five investigated how Cardiff and Miller expanded their method of layering sounds by replaying a pre-recorded video scene in the same location in which it was shot. By doing so Cardiff and Miller evoked a curious shift in the walker's behaviour. The walker became pre-occupied with aligning the screen to their path and accordingly shifted their focus away from the audio and directions. The video walks, like *Ghost Machine* (1999) and *Alter Bahnhof Video Walk*, became a multitasking operation that relied on crucial moments of unveiling through their editing. The walker thus negotiated the audio, aligning the video screen, and the path.

Each chapter referred to a number of historical methods of spatialisation: analogue tape looping, electroacoustics, acoustic space, curious perspective, reverb, phasing, contrapuntal radio, radio drama, polyphonics, and how music was used to create a "feeling" or "vibe". Coinciding with these developments, each chapter has emphasised the shifting focus on exhibition spaces: soundwalks, the cinema situation, the emergence of exhibitions as ambiences, Luc Tyman's *twilight*, spatialisation within concert hall listening, and even how Cardiff and Miller's practice coincided with developments in virtual reality. This thesis has shown that methods of spatialisation and the focus on exhibition spaces were co-dependent. Cardiff and Miller embraced the possibilities of spatialisation in order to develop their *spatial environments*, and moreover, so they could explore notions of reality and perspective.

What has also been traced in this thesis are a number of key developments throughout their oeuvre: the importance of technology, and their fascination with contesting linear perspective through forming tensions between the spatial and linear elements in the works. These outcomes are key learnings of my research. As this thesis has illustrated, the technology Cardiff and Miller used was instrumental to the success of their artworks and it was important to each phase in their career as they tested “the limits of what the technology can do.” It has revealed a clear trajectory for the technology they employed as it evolved from analogue to digital.

The shift from analogue to digital computer editing made the editing process easier. We can recall the issues Cardiff had with editing and layering sound in *Forest Walk*. The analogue tape sound edits could never be precise. “The more you recorded or reused sound, the more worn out it became. You may have four or eight tracks and then record it to a 24-track recorder,” Cardiff explained.⁴ The rawness of Cardiff’s treatment of audio was reflected in the way the walker encountered the walk, unable to follow the directions. Fast-forward two decades later, in *Alter Bahnhof Video Walk*, technological advancements and software proffered higher fidelity recordings and made editing more seamless. Cardiff and Miller found that they did not need a specialised recording studio as they could use laptops and build makeshift sound booths in the accommodations they stayed in while recording on site.

Since the first audio walk *Forest Walk* for cassette Walkman and headset, the walks evolved over a number of iterations along the path from analogue to digital. They integrated a telescope and viewfinder in 1997, a Sony CD Discman in 2004, and an Apple iPod MP3 Shuffle shortly after. The advancements had an enormous impact on how the artists composed. For example, *Louisiana Walk* (1996) was the first time digital mixing technology was used. The Discman used in *Her Long Black Hair* (2004) needed to be modified as the amplifiers installed in

⁴ Cardiff, interview by author, Grindrod, Canada, July 24, 2014.

the devices were not powerful enough to provide the contrast in sound that was needed. And, iPods were better than Discmans because the in-built amplifiers were louder, lighter, and cheaper. The first video walk was created for a digital camcorder and headset in 1999, and a video iPod Touch and headset in 2012. Moreover, this progression of technology and consumer devices has a flow on effect to how we consume technology today and in the future. We are growingly becoming more accustomed to walking and looking at our mobile phones, so the impact of the playback devices they use need to be continually reassessed as the consumption of technology changes. Also, with the commercial development of virtual reality headsets and the release of *Google Glass Explorer*, a question that remains is if Cardiff and Miller will adopt these new technologies in their walks.⁵

The key to answering this question, I feel, is that if adopting these technologies (which are “immersive” in the sense that it would be difficult for the audience member to “slip” in and out of being immersed in the experience) will enable Cardiff and Miller to maintain the same level of play between the recorded and reality. Each chapter revealed how Cardiff and Miller formed *tensions* in their works—between the devices or “hooks” used in the works to capture the audience’s attention (such as the spoken dialogues, and narratives, plausible spatial soundscapes and video images), and “pulling the rug” or revealing the technology and artifice of the situation—achieved through ingenious editing. In this way, Cardiff and Miller's work directly contravenes Michael Fried’s notion, that an artwork must not be theatrical. The works relied on an element of theatricality and narratives hooks to maintain the audience’s attention. As we recall, Cardiff explained that “there needs to be a level of reality” to make the works believable. Miller too referred to this as the need to “pull the rug” and reveal the artifice of the highly physical spaces.

⁵ Cardiff and Miller did not answer this question during an interview in Grindrod in July 2014, Cardiff and Miller, interview by author, Grindrod, July 2014.

Accordingly, the audio walks used the linear pace of the Cardiff's voice and footsteps; *Berlin Files* relied on tensions between the visuals and sound transitions; *To Touch* and *Whispering Room* used repetition, tape loops, and strategic speaker placement; *The Dark Pool* applied a predetermined path through the space, and *The Murder of Crows* relied on the four dream acts and an impressive combination of directional sound and ambisonic spatial sound. Alternatively, the video walks formed tensions between the linear act of following a video screen, listening to directions, and constantly negotiating the walker's absorption in both. This idea echoed their attentiveness to challenging perspective and levels of "reality."⁶

What emerged out of approaching their works as sound installations was that their experimentations were squarely focused on the physical encounter that the spatial environments created. This thesis established that there was more to Cardiff and Miller's work than the creative application of narratives and plots to evoke memory or affective encounters. It has focused on how their art has developed since the 1980s, paying particular attention to their time at Banff Centre for the Arts in the early 1990s. It showed how Cardiff and Miller adapted sound and electronics and applied various modes of spatialisation in their works. Through adapting the conventions of sound and video editing, they challenged the conditions and traditions of the ecological soundwalk, theatre, cinema, the art gallery, and the concert hall. My analysis also uncovered Miller's attentiveness to space and shadows, and how intrinsic this was to the success of their works.

This research has revealed the lineage of their works within the history of challenging perspective in art through the creation of space. This research also has implications for other artists and peers of Cardiff and Miller who use sound

⁶ Cardiff, "Janet Cardiff and George Bures Miller Interviewed by Michael Juul Holm," in *Louisiana Contemporary: Janet Cardiff and George Bures Miller*, ed. Michael Juul Holm and Mette Marcus, (Humblebaek: Louisiana Museum of Modern Art, 2006), 24.

as the driver in their works. It also has significance for the wider field of adopting focused and detailed methods of investigating installation art.

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