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Abstract

The body is the interface through which a person knows their surroundings, their lives, their relationships, and their culture. Weaving together a discussion of contemporary research in embodied cognition theory and pragmatic philosophy with traditional music analysis and my own physical experience, I explore how four different performance works speak to the body, and so, invigorate and transform meaning, communities, and people.

Chapter one, "Jill Sigman and the Moving Body," examines how choreographer and dancer Jill Sigman creates a multimedia work that is both an investigation and a performance. Through an analysis of Sigman’s NAT MUR and supporting research in embodied cognition philosophy, I examine how Sigman, defines, transforms, and reinvigorates language, such as "guarding," "rolling," and "heart."

In the second chapter, "Diamanda Galás – Word Made Flesh," I explore Galás's, The Plague Mass and Vena Cava. I describe Galás's full body, compositional practice of "becoming" her subject (in this instance, the HIV/AIDS epidemic) and show how her practice of embodiment creates, communicates, and develops the audience's understanding and experience of her subject.

In the third chapter, "Bill T. Jones – Filling in the Virtual Body," I analyze Ghostcatching, an animated dance video created by Bill T. Jones in collaboration with the OpenEnded Group. Drawing on Marc Leman's research on embodied cognition and music technology, I demonstrate how the viewer's physical, lived experience provides the information necessary to
understand fundamental aspects of Bill T. Jones’s animated body and its surrounding environment.

The fourth chapter, titled “The Tristan Project and the Knowing Body,” explores how Richard Wagner's creation of musical water in Isolde’s final aria, accompanied by Bill Viola's video depiction of transitional states of being, helps to communicate a physical understanding of Isolde's grief and subsequent death. These compositional choices support a collective experience of mourning.

This dissertation ends with a discussion of my compositional exploration of these ideas in my piece There’s A Spirit in the Flesh (2011) performed by Donna Costello, Jen Baker, and myself. Written descriptions and scored excerpts of this composition are included in this section. A video of the premier performance can be accessed as a linked supplementary media material through ProQuest or Princeton’s DataSpace.

It is my hope that the essays in this dissertation model a way of using the body as a framework for a discussion of music and multimedia performance. At the root of it, this research explores how we create meaning individually and communally and how this is inextricably connected to the body.
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INTRODUCTION

FULL BODY LISTENING

Percussionist Evelyn Glennie is able to perform complicated traditional orchestral works as well as improvise with contemporary composer/performers such as Fred Frith by relying on what she calls "full body listening" to compensate for her deafness. Performing barefoot, she senses the vibration of the floorboards and with perceptive fingers feels the tremble of drumheads so that she can respond to subtle musical changes. She supports her haptic information with visual cues, watching for the velocity and rebound of a drum strike, the shift of bow strokes, the weight or tension with which the bow is held, and the movement of fingers or lips. Glennie listens through her entire body for vibration, movement, and other symptoms of sound. Her music is one of touch, sight, motion, and interaction.¹ This is music for everyone.

People experience music as a multi-sensory art form. For example, if we feel a plastic beer cup vibrate at a loud rock concert or feel our windows rattle from the boom of thunder. Sonic vibrations reinforce and add dimension to our understanding of what we hear. If at a symphony concert, we can use visual information such as bow movements, conductor's motions, and the glimmer of cymbals to help guide our ears. We know sound through all our perceptive abilities working in concert. Through engaged, multi-sensory attentiveness, we learn about sound and the world around us. This dissertation explores how the body guides our engagement and, as Glennie demonstrates, how the body mediates our listening.

Before I outline the content and inspiration for this dissertation, I would like to address my use of "we." I have always been fond of "we" statements in regards to how one might understand the non-lingual meaning of sound. Music criticism and analysis throughout the nineteenth and twentieth century often uses a "we hear" to guide the reader through an argument or to directly reference specific musical attributes that are meaningful to an analysis. It is common to see "we" used in reference to a collective understanding of musical intention as "what the music is doing." For example, one might say, "we can hear that the expected resolution of the dominant seventh chord is thwarted by a deceptive cadence." This use of "we" highlights the writer's relationship to music and the analytical framework they are using.

"We" can be problematic because of the priorities, viewpoint, and assumptions it wraps within its two simple letters. Still, I believe that an inclusive and useful "we" can exist alongside a respect for different individual experiences. Music begins with the act of playing or sounding, is followed by listening, and then something happens, some kind of communication. Somewhere in this process of communication, I believe there is a "we" that suggests togetherness and something shared. Rather than it being about who we are, what we know, our specific cultural values, or exact life experiences, in this dissertation, I prioritize how "we" share music and how different

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2 I do not mean to belittle the problems of assuming homogeneity or of the implied exclusion present in pronouncing that the reader should be a member of a "we" that, in reality, may not feel comfortable, accessible, or understandable to all. Experiential differences stemming from race, gender, culture, ethnicity, economics, education, and geography, among other factors, are deeply important and valuable. I have a strong respect for scholars who specialize in understanding these differences, such as social theorists, cultural anthropologists, musicologists, and ethnomusicologists. Still, this has not been my focus of study over the last seven years and I think there is value in a discussion of art and music that potentially crosses beyond the limitations of experiential difference.
people, through the universal experience of living in a human body, are able to be with music, as a sonic, bodied thing.³

In listening to music (or experiencing a performance) with others, people share their time, their bodies, their memories, and their sympathy with the sound and with each other. In a live performance, each person physically alters the sound and space. In this process, there is the potential to contact, connect, sympathize, and touch both the music and others present — to be in relationship. This dissertation suggests points of touching; places that people might share, connect, and relate to a work of art.

HOW IT ALL BEGAN

In 2007, composer Betsey Biggs called me up and asked whether I wanted to see a new version of Wagner’s *Tristan und Isolde.* The selling point of the piece was the addition of video by artist Bill Viola. Loving Bill Viola, I agreed. On a beautiful spring Saturday at one pm, I entered Avery Fisher Hall. Five hours later, I left speechless and tingly all over. I have spent the last seven years wondering why this work had such a physical affect on me. Interspersed through this dissertation, I will present a series of hypothesis about how different multimedia works speak to the body, and so, invigorate and transform meaning, communities, and people.

Dance is an obvious place to start my body-centered investigation. Music and dance are very similar. Dance, like music, is inherently multi-media: a time based art that exists with

³ The universal experience of living in a human body that I refer to allows for difference within each body, yet prioritizes that, within a large conception of experience, our experience in the human body has many shared qualities.
movement, sound, light, space, and costume all consciously composed to varying degrees. Unlike music, where historically theorists like to imagine that the musical score represents a perfect, bodiless entity, dance emphasizes the primacy of the body. In my first chapter, "Jill Sigman and the Moving Body" I examine how choreographer and dancer Jill Sigman creates a multimedia work that is both an investigation and a performance. Through an analysis of my experience as an accompanying musician and audience member and supporting research in embodied cognition philosophy, I attempt to uncover how Sigman's piece, NAT MUR, creates and transforms my understanding of actions, objects, and language, such as "guarding," "rolling," and "heart."

In the second chapter, "Diamanda Galás — Word Made Flesh," I continue my exploration of the importance of the body through the work of vocalist, composer, and performance artist Diamanda Galás. Looking specifically at her works, The Plague Mass and Vena Cava, I describe Galás's full body, compositional practice of "becoming" her subject (in this instance, the HIV/AIDS epidemic) and show how her practice of embodiment creates, communicates, and transforms the audience's understanding and experience of her subject. I also explore how these musical/theatrical works support the creation of community through their function as contemporary rituals addressing modern life.

In chapter 3, "Bill T. Jones — Filling in the Virtual Body," I analyze Ghostcatching, an animated dance video created by Bill T. Jones in collaboration with the OpenEnded Group

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4 Sound is always a byproduct of dance: movement through space, friction across floorboards, weight, and impact all define the sound of the movement itself. Live acoustic music similarly necessitates movement: the plucking of strings, the fluttering of vocal folds, the contact of mallets and blocks are all choreographed. Even electronic music relies on the movement of sound vibrations, movement that is physically felt and sometimes seen.
comprised of Shelley Eshkar, Marc Downie, and Paul Kaiser. In this work, video animation is derived from motion-capture data recorded from Bill T. Jones. Here, I examine how the sound "fills in" fundamental aspects of the animated body and its surrounding environment. Drawing on Marc Leman's research on embodied cognition and music technology, I demonstrate how the viewer's physical, lived experience provides the information necessary to relate to and fill in Jones's virtual body.

In my fourth chapter, I dig deeper into the idea of what kinds of knowledge are housed in the body. Titled "The Tristan Project and the Knowing Body," here, I return to what began this whole dissertation, Esa-Pekka Salonen, Peter Sellars, and Bill Viola's adaptation of Richard Wagner's Tristan und Isolde. In an attempt to understand my physical response to the live performance, I look at contemporary research, in somatic psychology and embodied cognition philosophy, that suggests the importance of the body and perceptual experience in the creation of meaning and also psychological health. Through a detailed analysis of Isolde's final aria, I explore how Wagner's creation of musical water and rising waves supported by Viola's depiction of transitional states of being help to communicate Isolde's grief and subsequent death, and support the possibility for a collective experience of mourning and catharsis.

WHAT HOLDS THESE ESSAYS TOGETHER

These essays are bound together in the way that they explore the role of the body in one's experience and understanding of performance. They are not meant to be a precise plan for a body centered analysis nor do they connect linearly together as a theoretical path to a specific
destination. Instead, these essays, unfurl to show the possibility of using the body as a framework for a discussion of music and multimedia performance.

My research has been framed by my commitment to retain and grow my sense of wonder, my experience of tingling and chills, and my love and admiration for these pieces of art. I have strived to form a practice of musical study that would not be an invasive, dominating, strong-armed dissection of these artistic beings, but a living with, growing with, becoming-a-member-of-their-world experience. These priorities are intricately linked to my brother’s death in 2009, during the beginning of my research. My interest in ritual, my curiosity about resilience, my need to keep the body intact, and my deep belief in the importance of the body, have all been deeply informed by my experience of his passing. Standing by his bedside, as they prepared him to be an organ donor, I was overwhelmed by an awareness of the strength, power, and presence of my brother as spirit within his living body. He was there in the thickness of his skin, his fluttering eyelid, his labored breath, and his heaving chest. In these moments with him, I had a clear vision of the primacy of the body in all that is meaningful — the absolute importance of the body and its interconnection with the spirit.

This written dissertation and my dissertation piece have been guided by the phrase "spirit in the flesh." In my dissertation composition of the same title, I rehearsed regularly over a six-month period to develop an ensemble with trombonist Jen Baker and dancer Donna Costello that was more like a tribe or family, than a music group. Guided by our bodies, we each performed within and outside of our primary disciplines. Moving, sounding, and singing, we performed a series of actions that formed a daily ritual.
Writing this dissertation, my love and respect for the human body, in all that it facilitates towards one's knowledge, experience, creation, and enjoyment of this life, has continued to grow and deepen. Perhaps it is the part of me that stems from three generations of doctors and healers, but through these essays I have found my way to study and understand musical meaning and its connection to life in my body. With gratitude to the amazing human body that makes this life possible, I present *Spirit in the Flesh: Essays on the Relationship between the Body and Meaning in Performance.*
CHAPTER ONE:

JILL SIGMAN AND THE MOVING BODY

It is a cold Sunday afternoon in Bushwick, Brooklyn and a small crowd gathers at Jill Sigman's studio to witness NAT MUR, a movement ritual in five parts. The audience watches an evolution of tasks — getting up, rocking, crawling, guarding, and holding. Through the two and half hour performance, the audience discovers the boundaries of the piece as they learn about the room, the materials, and Sigman's body. The work has the sparse simplicity of a controlled experiment. The audience observes Sigman's exploration of an array of questions, such as: how does a body rock when it is bound to branches or what happens if a person takes a strong homeopathic remedy? The questions are presented as research performed by a body, illustrating a meeting point between scientific curiosity and art.

Observing how the body articulates a question and the simultaneous answers it presents is a complex and powerful way to witness and participate in research. Sigman has honed her physical practice as a method of questioning and exploration. Described as "conceptual dance that asks questions through the medium of the body," Sigman's work exists at the intersection of dance, theater, and visual installation. Her work models an embodied approach to research. Watching her performance, one is able to sympathetically follow Sigman's body into an environment where questions and answers live together without spoken language.

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6 Sigman's work is influenced by her extensive experience as a dancer, choreographer, and artist as well as her philosophical studies and writings on aesthetics. Jill Sigman, "Bodies, souls, and ordinary people: three essays on art and interpretation" (PhD diss., Princeton University, 1998).
I am beginning this dissertation with a discussion of the moving body because it is something we all know intimately. Through a description and analysis of NAT MUR, I will illustrate my personal experience of physical sympathy and embodied meaning creation inspired by this work. I will follow this with a theoretical discussion of embodied cognition philosophy and different forms of physical engagement including sympathy, empathy, and attunement. Through this discussion, I will explore how the human propensity to sympathize with another body inspires a kind of attention, learning, and knowledge that is fundamental to the expressive and communicative power of embodied art, music, and multimedia performance.
NAT MUR by Jill Sigman

March 7th, 2010

The Border, 1 Grattan Street, Studio 221, Bushwick, Brooklyn, NY

Figure 1.1. Jill Sigman performing NAT MUR accompanied by Kristin Norderval and Anne Hege (shown)
Photo by Amelia Charter

NAT MUR comprises five sections or "tasks," structured like a suite, one task following on the other without interlude or pause. Musicians Kristin Norderval and Anne Hege perform music for the tasks. Following an open score constructed by Norderval, the music is improvised, using voice, bones, body percussion, and long tubes. Norderval contributes computer-processed sounds in tasks four and five. The audience members are invited to come and go as they please during the duration of the work. There are no limitations as to where they can sit or stand and when they can move.

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7 Because I performed as part of the live musical component, I have a unique perspective of NAT MUR. This active, physical participation, combined with my defined role to energetically support the ritual influenced my sympathetic response to the work.
In NAT MUR’s first task, “getting up,” Sigman attempts to bring her body to standing within a circle constructed of bones. She begins by rolling from side to side and into a side curl. As the task progresses, she gradually shifts her movement to slowly rolling up towards standing. She only allows herself to roll towards standing when her mind is centered and empty.\(^8\) Her movements illustrate the direction, force, and strength it takes to stand. Watching, I am reminded of my singing practice earlier in the week, feeling the ground beneath my bare feet, and the calm, inspired balance rising from my feet through my spine and sternum.

\(^8\) I know this because Sigman explained it during rehearsal. The audience is aware of pauses in her movement and that the movement is triggered by something clearly known by Sigman.
I am able to sympathize with Sigman's body because I am familiar with the physical and mental elements of the task: I have rolled on the floor, I have moved to standing, and I have waited for something. Sigman performs with an attention to detail and precision that distinguishes her experience and ability as different from my own: she is far more controlled, aware, and precise with her body than I. Her expert, thoughtful movements encourage me to think about the intricacies of the body (hers and mine) in all of its movements. Like an icebreaker, this first task introduces her body to mine and establishes a sympathetic relationship through familiar actions.

**TASK TWO: ROCKING**

![Figure 1.5. Jill Sigman performing task two](image)

Photos by Michael Hart

Sigman removes the circle of bones and places three long branches in the center of the room. Lying on top of the branches, she binds her body to the three branches with Ace bandages so that they stretch above and below her back forming a vertical plane that extends out from her
The branches suggest a prosthetic addition, like a new limb or a permanently attached shell.

As Sigman negotiates her new body's contour and weight through rocking, the branches impede her ability to roll and create stiff angles where there is usually the soft roundness and flexibility of flesh. The movements animate the new contour and materials of her branch/body. The rocking eventually transforms into an attempt to stand. When upright, Sigman's body pivots around the tip of the branches. Moments of stillness are rare. Sigman's body circles around the axis of branches like planets orbiting stars.

For me, the performance triggers memories of my childhood. I remember tying my legs to crutches and challenging myself to move from dresser to desk or bed to chair without my feet touching the floor. Watching the branches influence her movements, I remember the feeling of my own legs bound to crutches. I remember how captivating it was to have new limbs. I recognize this newness in Sigman's exploration of the branches. In particular, I feel the momentum of her movement as she passes from rising to falling while attempting to stand. I watch her control her momentum and speed so that she is able to approach the peak with just enough energy to linger there, upright. I think about how I know momentum and the physics of force and energy through my own body. My experience of momentum provides a shared meeting point for our bodies, helping to facilitate my sympathy with Sigman's movements.

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9 In an e-mail message to the author on May 5th, 2010, Sigman describes binding herself to branches saying, "I think of it like making a papoose of myself."
In the third task, Sigman blindfolds herself and crawls along a floor littered with red balls. At times, she attempts to balance the balls on her back. The blindfold is an Ace bandage, the same material that was used to bind the branches to her body in task two. The balls are cloth wrapped and dipped in wax. Blind, Sigman explores the space through sound and touch.

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10 Sigman confirms that the balls are "made of knots of cloth that I dipped in a mixture of three kinds of wax, sometimes with red dye added." Jill Sigman, e-mail message to author, May 5th, 2010.
I focus my attention on the ball objects. I wonder about their weight. They seem to be heavy and light simultaneously: an organic object with an outer skin-like coat of wax encasing a flesh-like interior.\textsuperscript{11} I watch how Sigman interacts with the ball objects: how they balance on her, how she changes under their weight, how they sound when they fall to the floor, and how they wobble and roll. They don't seem fragile, and yet, it is nerve-wracking to watch them fall off her back and see her blindly crawl amidst a floor filled with strange, heart-like objects. Her blindness sympathetically heightens my awareness of touch and sound as well as a feeling of confusion and disorientation. The ball objects are unknown and my avatar (Sigman) does not have all her faculties. I feel Sigman's vulnerability. What was previously a physical sympathy is slowly transforming into a broader physical, emotional, intellectual, and psychological sympathetic engagement with the performer.

\textsuperscript{11} Sigman explains, "for me the wax balls are related to the cow heart. I see them as organs, or tumors... Something fleshy and visceral." Jill Sigman, e-mail message to author, May 5th, 2010.
In the fourth task, Sigman holds a metal antenna in an *en garde* posture. There are occasional punctuations when she whips the antenna down, cracking it against the floor. Sigman's upper body and face are prominent in this section. Her brow is furrowed, suggesting concentration, struggle, and wariness, as if she is defending against an enemy whose time of arrival is unknown. She is vigilant. She draws attention away from physical activity to listening, with such tremendous force that I find myself listening too.

I feel myself listening through Sigman's ears and through her whole body. I imagine she is feeling sonic vibrations through the antennae rod, conducting them down into her body so that she listens by feeling the movement of sound.\(^\text{12}\) Rather, listening, feeling, moving, and sounding are woven together. Sigman explains how what is perceived as stillness, is actually an attention to

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\(^\text{12}\) Similarly, my improvisation supports this sonic/haptic listening. I sing into a long tube. I hear and feel the vibrations oscillate easily along the length of the tube and then balk and stutter when the frequency does not align with the frequency of the tube. My improvisation responds to both the feeling and the sound of my collaboration with the tube as an instrument.
minute movements in her physiology. "I am constantly making shifts in the sternum and that is where my focus is." This task is a continuation of a decade long exploration of how her body communicates. When writing about an earlier work, RUPTURE, she describes this movement exploration in detail.

The movement vocabulary for RUPTURE is influenced by an improvisational practice that I have been developing for almost ten years. As I was working on a solo called “Ach, Rosalie!” I began to notice how extremely subtle shifts in my sternum, sacrum, jaw, and hands made for large visible differences in the kind of person that I appeared to be. I began to be curious about what it felt like to be in a body that was in the world in a different way from my habitual one, and how I could use these subtle skeletal shifts to add to the meaning of the movement I created.

Although the audience may not be consciously aware of the minute shifts in Sigman's body, I wonder if they are perceived in an unconscious, sympathetic way that leads to a qualitative, embodied communication of the work.

13 Jill Sigman, e-mail message to author, May 5th, 2010.
14 Ibid.
Sigman brings out a metal tray holding a quartered beef heart wrapped in plastic, surgical scissors, and a pile of Ace bandages. She begins by cutting the bandages into strips. The movements imply both a medical procedure and a death ritual. The sounds are engrossing as she cuts and rips the bandages, removes the heart quarters from the plastic bag, and places them on the tray. I strain to hear the sound of the flesh itself. I want to hear the sound that only wet flesh has — thickness — the sound of tissue that is familiar because I feel it in my own meat and skin.

The beef heart has a density that has not been present in the piece before this moment (except in the dancer’s body). It is a density that I listened for in the wax balls, but, through observation, knew to be lacking. The density and smell (a new addition) fills in what was hollow.

Sigman struggles with holding and simultaneously wrapping the heart quarters together. Her

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15 Sigman uses the same kind of Ace bandages in task five as she used for blindfolding herself in task three and binding the branches to her body in task two.
process of wrapping the heart contains its threatening thickness as if we could be smothered by the richness of this one object. The heart is not precious or fragile. It is full. Sigman embraces the wrapped heart by holding it close to her chest. I see how it must weigh through her body and in the way the beef heart slightly sags and presses into her arms. Through its weight, I understand it as a vital organ and know its previous power to push blood throughout the entirety of a massive body. I feel my own heart tirelessly beating within me. I recognize this as a rite of respect for the work of the body.

The density of the heart is matched in its symbolic presence. It is both a real heart and one of the first symbols that we learn representing the emotion of love. The merging of real and symbolic inspires a sympathy that is both physical and abstract. I am aware of a rejuvenation of my concept of love; its connection to life; its corporeality; and its massive, powerful, central role in our physical being that bleeds into our spiritual and emotional existence. This knowing is not bound by language, but exists through a complex interplay between abstract thought and physical experience.
Embodied cognition philosophy explores the complex interaction between abstract thought and physical experience. This strain of philosophy emphasizes that interaction with the environment, mediated by the whole and unified experience of being in a human body, is the basis of what we know and what that knowing means. In Mark Johnson's book on embodied cognition philosophy, *The Meaning of the Body: Aesthetics of Human Understanding*,\(^\text{16}\) he investigates the role of the body in the creation of meaning.

Meaning grows from our visceral connections to life and the bodily conditions of life.... From the day we are brought kicking and screaming into the world, what and how anything is meaningful to us is shaped by our specific form of incarnation.\(^\text{17}\)


\(^{17}\) Ibid., ix.
At the core of embodied cognition philosophy is an understanding that meaning is constantly created, renewed, and adapted. Meaning is a fluid, ever-changing thing that is known through life's qualitative, unified, complex, and continually evolving experience. As suggested by pragmatic philosopher William James, one knows this complexity through the body's perceived interactions with the world defined as “percept.” From this, a person abstracts memories, patterns, and ideas, describing these discrete abstractions as “concepts.”\(^{18}\)

In the fifth task of NAT MUR, the real, physical density and weight of the beef heart, the knowledge of its function in a cow's body, along with its similarity to the human heart, all add meaning to Sigman's work. The physical dimension of both the beef heart and Sigman's body guides the creation and negotiation of meaning where the abstract concept of "heart" is reconnected to the multidimensional, physical experience of a heart and body.

The entwining of physical meaning and conceptual meaning happens earlier in NAT MUR, as well. It is clear from the beginning of NAT MUR that Sigman's movements are subservient to the defined task. In talking about the work, Sigman states that "the movement is entirely task-based...There is no further choreographic sequencing or choice-making."\(^{19}\) In particular, the movement earnestly communicates how Sigman's body works, how the world around her works, and how the materials she works with work. She realistically presents the details of her physical reality: of exertion, control, balance, contact, gravity, force, and how new materials disrupt or support these physical properties and abilities. Within each task, the audience experiences the physical percept of "getting up," "guarding," or "holding" both

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\(^{19}\) Jill Sigman, e-mail message to author, May 5th, 2010.
vicariously, through Sigman's body and in memory through their own body because they are familiar, pedestrian actions. Sympathetic participation, memory, and mental engagement become a foundation from which the audience can explore how and why these actions are meaningful.

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Getting Up</td>
<td>Rocking</td>
<td>Crawling</td>
<td>Guarding</td>
<td>Holding</td>
</tr>
<tr>
<td>Objects</td>
<td></td>
<td>Circle of Bones</td>
<td>Branches</td>
<td>Ace bandages</td>
<td>Wax Balls</td>
<td>Metal Antenna</td>
</tr>
<tr>
<td>Movement/Space</td>
<td>Rolling to standing from lying down when the mind is quiet - exploring vertical space</td>
<td>Rocking with branches bound to body, exploring new branch/body and moving into vertical space</td>
<td>Crawling blindfolded exploring horizontal space and new objects (wax balls)</td>
<td>En garde posture holding metal rod with occasional whips of the rod exploring internal and external space</td>
<td>Wrapping and holding beef heart exploring detail of organic object and inner space</td>
<td></td>
</tr>
<tr>
<td>Body Part</td>
<td>Whole body, head tail connection</td>
<td>Limbs - arms and legs</td>
<td>Torso - back</td>
<td>Torso - sternum and face</td>
<td>Torso - chest/heart</td>
<td></td>
</tr>
<tr>
<td>Sense</td>
<td></td>
<td>Sight Touch Sound</td>
<td>Sight Touch Sound</td>
<td>Touch Sound</td>
<td>Touch Sound Sight (less so)</td>
<td>Smell Touch Sound Sight</td>
</tr>
<tr>
<td>Physical Sympathy</td>
<td>Balance</td>
<td>New contour of the body</td>
<td>Blindness, Unknown objects</td>
<td>External/Internal Listening</td>
<td>Weight of the heart and flesh</td>
<td></td>
</tr>
<tr>
<td>Memory</td>
<td></td>
<td>Posture and movement to the ground</td>
<td>Binding crutches to my legs and moving</td>
<td>Vigilance watching over my brother</td>
<td>Donation of organs, care of the body at the end</td>
<td></td>
</tr>
<tr>
<td>Imagination</td>
<td>Rotation and pivot of planets and moons</td>
<td>Listening to space, feeling sound vibrations from the galaxy</td>
<td>Mummification, honoring of body</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metaphor</td>
<td></td>
<td>Awakening Introduction Balance</td>
<td>Changed Body Extension Baby rocking Papoose</td>
<td>Exploration Crawling as early ability to explore Unknown objects</td>
<td>Vigilance Listening Conducting or connecting</td>
<td>Containing Density Care giving Closeness</td>
</tr>
</tbody>
</table>

**Figure 1.11.** Chart of Task Attributes in NAT MUR

The process of the creation or renegotiation of meaning through physical experience is complicated. Above (see Figure 1.11) is a basic matrix of some of the diverse elements that weave together to influence what is meaningful in NAT MUR. Within each category, Sigman establishes the boundaries and limits of her world. Through specific directions for each task, she creates a consistent structure that defines the relationships between the different task
requirements, physical elements, and her body. For example, in task one: "getting up," we are introduced to her body, movement, and balance within an enclosed circle. We can see that her movements are similar to our movements (pedestrian) and that Sigman allows herself to move at deliberate moments based on something we cannot see. Sigman's stops and starts imply a "getting up" that is like the slow and painful rising of one who is fatigued or working towards a goal that is difficult to obtain. Fleeting shadows of inner struggle, self-sabotage, and conflict color our introduction to her world. Through the subtle signs of the body, NAT MUR has an "aura" as described by Walter Benjamin or wholeness as described by Eugene T. Gendlin, that grows beyond Sigman's compositional decisions, movements, body, or aesthetic choices, and yet, is the outcome of the interaction of these elements, understood through the physical body.

Returning to embodied cognition philosophy's suggestion that the body is the means for obtaining perceptual information and that this information provides the basis of all conceptual knowledge, one can see how dance can be understood as presenting embodied material. Yet, as observers, what, exactly, are we perceiving and how does this relate to embodied learning and the creation of meaning? If, as suggested by embodied cognition philosophy, concepts are created from abstracted sensorimotor perception, then an investigation into exactly how we become physically engaged and how our perception is activated is useful to understanding how meaning is made and how works of art support the creation of meaning.

20 Her consistency is supported by her singular attention to the directions of each task.
21 Walter Benjamin describes the aspects of an artwork that are irreproducible, such as a work's "presence in time and space, its unique existence at the place where it happens to be" as creating the "aura." Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in Illuminations (New York: Schocken Books, 1968), 220, 217-252.
Marc Leman, in his book *Embodied Music Cognition and Mediation Technology*, differentiates synchronization, embodied attuning, and empathy as three specific forms of physical engagement that he calls "corporeal imitation." As an overview, synchronization is described as "a natural (sensorimotor-based) inclination to move along with a given pattern in the physical environment." For example, tapping one's foot along with the beat at a rock concert is a form of synchronization. Leman's second form, "embodied attuning," describes the more complicated interaction that happens when the perceiver physically aligns with elements of the musical work. Attuning "aims at being as much as possible in harmony with features of the moving sonic forms of music, a kind of playing together with the music... addressing higher-level features such as melody, harmony, rhythm, and timbre, or patterns related to expressiveness, affects, and feelings." Singing along with the radio is an example of embodied attuning. Attuning fulfills our desire to unite with the artwork physically.

The third type of physical engagement Leman cites is empathy. Empathy differentiates itself from the previous two types of imitation because it requires emotional participation. "Empathy assumes participation, identification, and understanding, as if the other's state of

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23 Although Leman is writing specifically about music, I think all art forms can inspire these modes of participation. Marc Leman, *Embodied Music Cognition and Mediation Technology*, (Cambridge, MA: The MIT Press, 2007), 115.
24 Ibid.
25 Leman describes how we desire to attune because any type of imitation is pleasing. He cites Aristotle's *Poetics* (Ch. 4) "it is also natural for all to delight in works of imitation" (2001, p. 1457). He has a lengthy discussion including multiple hypothesis about why it is pleasing, noting an infant's desire to imitate and be imitated as a sign of recognition and interaction, as a way of learning how to engage with others, and as a way of growing. Leman *Embodied Music Cognition and Mediation Technology*, 104-107.
experience is one's own."26 "Other" refers to the musical work as a subject: we are not only mirroring or simulating action in sympathy with the performers or the conductor onstage, but in sympathy with the music itself.

PERSONIFICATION

Considering a piece of music as an active subject offers something significant to our discussion of sympathy, empathy, embodiment, and "aura." As early as 1854, Eduard Hanslick proposed that, like dance or architecture, music is made of forms that relate to one another like moving bodies.27 Leman suggests that a person physically responds to moving sonic forms the way one would sympathize with a living body. "Forms have a direct impact on human physiology because they evoke corporeal resonances."28 Leman adds that "listeners become engaged in the process of signification because the music appears to them as an intentional organism; ... an acting subject that is involved in events."29 For example, the search for consistency in the relationship between compositional elements or a discussion of a work's "laws" or "rules" suggests that a work has an underlying intention and integrity similar to that of an autonomous being.

26 Leman Embodied Music Cognition and Mediation Technology, 122. "Empathy is different from sympathy, which is more a matter of agreement with the emotions of the other. Empathy would assume that the subject has an understanding of the other." p. 245
27 Eduard Hanslick, Vom Musikalisch-Schonen: Ein Beitrag zur Revision der Asthetik der Tonkunst (Leipzig: Barth, 1891 first published 1854).
28 Leman, Embodied Music Cognition and Mediation Technology, 17.
29 Ibid., 93.
What is it about music that makes a listener want to relate to it as an embodied being, in other words, to personify it?\textsuperscript{30} In personifying a work of art, one imagines a work's intentions, desires, patterns of behavior, and life-like qualities. Beyond Leman's proposal that a listener can enjoy aligning with a musical work because they enjoy feeling a connection with the work, I propose two other reasons for why a person personifies art, drawn from my experience as both a composer and performer. First, giving music a body and, therefore, the potential for physical experience helps link the musical work to abstract meanings derived from corporeal realities. For example, if the slow movement of a symphony is described as "creeping," this suggests not only a physical pace, but also a posture and a psychological mood that the listener relates to as an embodied experience. When personified, these intricate details of body and movement are given a story and placed within a time bound process. Second, we enjoy learning.\textsuperscript{31} Personifying a work of art allows one to audition various personality traits and situations, so that it is possible to playfully understand the work's limits and laws. For example, if one imagines a musical work to be like a little elf, one can test if the musical body or character aligns with the general characteristics of an elf. As both composer and listener, we learn what a “musical elf” is by trying out different instruments, rhythms, melodies, and sonic environments.

\textbf{INTERNAL MODEL}

Synchronization, embodied attuning, and empathy demonstrate a listener's physical engagement with a work of art. Usually these forms of participation manifest as some sort of

\textsuperscript{30} Composers sometimes refer to their pieces as gendered beings with a mind of their own. "She's being so difficult lately" or "he's growing out of control" are phrases that I have personally used and I have heard other composers describe their works in similar ways.

external behavior (toe tapping, singing, etc.), but they also imply internal action that is not as easy to measure. Contemporary scientific research suggests that participation and perception have an intimate relationship. Research in neurobiology has found that, physiologically, "perception and action share common neuronal event codes." In other words, acting and perceiving are biologically merged. Research shows that when experiencing or perceiving a work of art, we participate by actively creating an internal model of that work. The internal model is a qualitative space that supports both a replaying of the experience while also allowing a person to make predictions about what will happen. As Marc Leman describes, "perception can be seen as the creation of a motor image of the world that is based on sensory information. The world is seen from the viewpoint of intentional actions."

This parallels philosopher and psychologist Eugene T. Gendlin's discussion of felt sense.

A felt sense is not a mental experience but a physical one. Physical. A bodily awareness of a situation or person or event. An internal aura that encompasses everything you feel and know about the given subject at a given time – encompasses it and communicates it to you all at once rather than by detail.

We can compare Gendlin's "internal aura" to an actor's understanding of a character's motivation. An actor must mimic the description of the character, but beneath this must be an understanding of the whole of the character, their past, future, desires and aversions. The idea that we do not know things by detail, but rather as intentional whole beings suggests that, for example, we do not relate to music as objective details of musical content such as pitch, tone, dynamic, etc., but rather, we experience a work more like a being with specific motivations. Forms of personification help the observer explore the broad and complex space of an artistic

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33 Ibid.
34 Gendlin, *Focusing*, 32.
world. One comes to understand the artistic character or world through their internal model, where they can audition what they imagine to be a piece's intended action or personality traits. Similar to the toddler's game of fitting shapes into their coordinating holes — a triangle into a triangle slot, a circle into a circle slot — one makes predictions about an artistic work's intention. The success or failure of one's predictions comparing their internal model with the real art form reinforces or redesigns the inner model.\textsuperscript{35}

In constructing an internal model, the audience becomes participating, co-creators of the work, performing what Leman describes as "embodied resynthesis."\textsuperscript{36} Chemical changes within the body provide concrete signs of active participation. For example, mirror neurons give "direct evidence for the existence of a common neural structure for action and perception."\textsuperscript{37} In research with monkeys, Rizzolatti et al. found that mirror neurons "activate when the monkey observes another individual (the experimenter or another monkey) making a goal-directed action;"\textsuperscript{38} these mirror neurons mimic similar neurons discharged during the monkey's own physical articulation of a similar goal-directed action. "Mirror neurons do not code a simple parameter of movement such as force or movement direction; rather, they encode the intended action of an agent toward an object."\textsuperscript{39} In other words, a particular action in one's inner model and the same action in the external world interact with the brain in the same way.

\begin{itemize}
\item\textsuperscript{35} Perhaps this is why people like to experience an artwork over and over. Familiarity allows us to become experts at predicting what will happen and also allows one to become more attentive to detail.
\item\textsuperscript{36} Leman, \textit{Embodied Music Cognition and Mediation Technology}, 88.
\item\textsuperscript{37} Ibid., 90.
\item\textsuperscript{38} Ibid., 249.
\item\textsuperscript{39} Ibid., 90.
\end{itemize}
Contemporary behavioral studies suggest that when a person experiences something, they immediately begin constructing an internal model. One's ability and desire to anticipate what a work will do, or what Wilson and Knoblich (2005) call "predictive behavior," signals an understanding, curiosity, and attention to a work's intended action. Physical engagement, sensorimotor perception, predictive behavior, and internal model construction are woven together into a symbiotic system that supports growth and engagement with the work of art. This system illustrates how perceptual, physical experience is fundamental to an individual’s continued re-evaluation of a work’s intention and subsequent creation of an internal model.

COMMUNICATING THROUGH THE BODY

So, if perception and action are entwined and we create inner models based on our understanding of a work's intention, how we understand intention is crucial. To flip this, how a composer or artist communicates intention and the structural laws of a work is critical to what they communicate. I propose that one of the ways we understand a work's intention is through the body. The experience of living provides the basic knowledge necessary to hypothesize about an artistic work's intention; metaphor, memory, imagination, personification, and natural physical laws all help to guide the creation of our inner model of an embodied, intentional being that is a work of art.

40 Contemporary behavioral studies with infants finds there is "evidence that the coupling of observation and executed movements is innate. Newborn infants spontaneously imitate actions they have never seen before by overt behavior." A newborn can immediately imitate unknown actions, such as making the shape of an "ooo" with its mouth. Newborns are able to translate action from visually seeing another perform the task to physically performing the task them selves. This ability to imitate at birth suggests a link between perception and action that is inherent to being human. Leman, *Embodyed Music Cognition and Mediation Technology*, 90.

41 Ibid., 159.
From her first task, Sigman's use of pedestrian movements immediately connects my experience of moving with hers. When constructing my internal model, I do not question any of my understanding of basic laws of gravity, motion, momentum, and force because the world she communicates is the same physical world that I live in. By task three, crawling, I am familiar with the way that Sigman presents the unadorned movements within her task titles. The earnest sparseness of tasks one and two, getting up and rocking, are reinforced as Sigman crawls blindfolded, amidst a flood of red, wax-cloth balls, exploring the lateral space and the new red ball objects.

How do I understand Sigman's compositional decision to crawl blindfolded and how is this meaningful? I begin by relating her choice of tasks to stages in early child development. Crawling, as the stage after rocking (task two) and getting up (or sitting up, task one), is the first time a baby is able to independently move throughout a space, even with small obstacles. Crawling provides an exponential expanse to the baby's world and their perceived experience. What previously could only be seen, heard, and smelled by a baby (only from one viewpoint or a viewpoint controlled by a parent), is now a world that can be touched. Sigman's exploration of the space suggests the new expanse of experiential possibility that comes when a baby learns to crawl.

When I consider the whole, qualitative feeling or "aura" of the third task, it feels young and curious. Sigman's blindness creates a very real physical vocabulary that is tentative and careful as she negotiates her perceptual strengths without sight. She explores the red balls; feeling

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42 This is not true in all performance. For example, in classical ballet, natural law is questioned when a ballerina attempts to look weightless.
their shape, weight, and balance; listening to how they fall. Sigman's vulnerability and physical limitations also connote frustration and fear, like an elderly person who struggles with tasks that were previously simple. I intuit these qualities through a sympathetic, physical experience of the work. The slight hesitation in her movement as she moves aside the balls just in front of her and the tilt of her head when a ball falls off her back guide my attunement to her experience. My bodily understanding of NAT MUR, known through my ability to experience the work through Sigman as an avatar, but weaving this together with my memory of my own physical experience of living and a detailed observation of the bodies around me, through my daughter, my parents, and grandparents, forms the foundation of my internal model that encompasses everything I perceive and understand about NAT MUR.

Aura and intention are difficult analytical subjects because they are often subjective, qualitative, and hard to define. It may seem above, like I am talking around an analysis of NAT MUR rather than giving one, yet, what I hope to show is that pondering a work's intention, personality, spirit, or aura, even from a subjective viewpoint, and understanding the work as relating to or having a body, are productive and powerful ways of learning about, and being with a work of art. Like watching two dancers touch and fold into one another, what is interesting is the interaction between the bodies and the bodies themselves. Works of art are embodied beings that we interact with in beautifully physical ways and it is this interaction that I will explore in the following chapters.
CHAPTER TWO:
DIAMANDA GALÁS — WORD MADE FLESH

INTRODUCTION

“Ella no canta. Ella es una canción. Se transforma en una canción.” [She doesn’t sing. She is a song. She transforms herself into a song.] With these words, Salma Hayek introduced traditional Hispanic vocalist Chavela Vargas at her 2004 Carnegie Hall performance. This quote captures the mystical ability of music to entwine with people, place, and time. Chavela Vargas’s "Volver," Frank Sinatra’s "New York, New York," Sam Cooke’s "A Change is Gonna Come," and Nina Simone’s "Pirate Jenny" are all examples of songs that weave themselves with the performer's voice and life as well as the world events surrounding the song and the general zeitgeist of the time. By examining the melding of music and body found in vocalists or performers who become the song, and become a conduit for culture and communication between people, time, and place, one can explore the complex symbiotic connection between body, sound, and meaning. Diamanda Galás exemplifies this type of performance. Galás constructs compositions that allow her to "live" her subject. Combining vocal processing, electronic sounds, voice, theater, and a dedication to her subject matter, she entangles body, sound, and spirit. Through this process, she succeeds in manifesting her subject in tangible, embodied form.

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43 An earlier version of this chapter, titled "Composing an Instrument, Building a Performer: The works of Diamanda Galás" was presented in 2009 at the Eighth Annual New Music Festival at Cal State Fullerton, CA.
"My work is the thing itself. It is the sound of the plague." — Diamanda Galás

Galás's ability to embody her subject is a result of her compositional process, which encompasses in-depth study over extended periods of time, extraordinary extended and traditional vocal technique, use of live electronics, and obsessive commitment. She is searching for something, clawing at it, and grappling with it, as if she is willing herself, through hard, grueling work, to transform into her subject. Examining how her work is revised and altered from *The Masque of the Red Death* 1988 to *The Plague Mass* (1991) and finally *Vena Cava* (1993), one can see how she is able to move ever closer to, and physically into her subject, the HIV/AIDS epidemic.

Galás began writing music about the HIV/AIDS epidemic in the mid 1980s. In 1988, she released *The Masque of the Red Death 1988*, a trilogy composed of three albums that were also released independently as *The Divine Punishment*, *Saint of the Pit*, and *You Must Be Certain of the Devil*. These albums contain many pieces that she reframes later in her performance work *The Plague Mass: 1984 - The End of the Epidemic*. In *The Masque of the Red Death*, the songs can be described as stemming from a blues or cabaret tradition. She accompanies herself on piano in stylistic affinity to Edith Piaf, Billie Holiday, Fats Waller, and Screamin' Jay Hawkins, among others. Still, her use of extended vocal technique and Bel Canto singing complicates a simple categorization of her style.

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*The Masque of the Red Death* is titled after Edgar Allan Poe's story of the same title where a Prince attempts to hide from a plague that is affecting everyone around him. The story expresses the fear of many towards the AIDS virus in the 1980s and 90s.
The songs are redefined when sculpted into her performance work, *The Plague Mass: 1984* - *The End of the Epidemic* (I will refer to this work as *The Plague Mass*), performed and recorded live October 12th and 13th, 1990 at the Cathedral of St. John the Divine.\(^4\) Arranged for voice and electronics, piano is only used with the last song, "Let My People Go." The music is worked into a type of theater where she plays multiple characters in a seamless drama. Her performance falls somewhere between performance art and a funeral rite for those suffering from the HIV/AIDS epidemic.

Her investigation into the embodiment of the HIV/AIDS epidemic continued with her 1993 release of *Vena Cava* recorded live at The Kitchen in New York City in February and March of 1992. Here, she expands on the third track of *The Plague Mass*, creating a musical expression of the experience of those with and around AIDS induced dementia arranged primarily for voice and electronics. In the same year, Galás released the video album *Judgement Day*, which includes covers of pieces from *The Plague Mass* and *The Masque of the Red Death* performed in her earlier cabaret style at the piano and also re-released *The Masque of the Red Death 1993*. This decade-long process demonstrates her persistent, obsessive, creative, and darkly playful exploration of her material.

**MUSICAL ABILITY**

The breadth of Diamanda Galás's unique musical abilities facilitates her broad and fully embodied investigation into her subject matter. She is undaunted in her artistic research, crossing

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through many different musical styles and engaging their various communities. Descending from the jazz and blues tradition of performer/composers, she has been welcomed by the academic, hard rock, goth, experimental, and avant garde music communities as well as establishing herself as a performance and visual artist. Her musical abilities are undeniably impressive. She is a skilled pianist (she was a soloist with the San Diego Symphony when she was 14) with excellent vocal technique spanning traditional, folk, and extended practices. Her vocal power, precision, and breadth of ability are the result of years of hard work and study. She describes her practice saying, "I didn't enjoy studying voice—it was a lot of hard work. I worked my fuckin' ass off for years and years and didn't see people and didn't go out[emphasis in original]."47 She compares her vocal studies to learning a martial art.

A Japanese martial artist once said that in my performance I use "kill energy," because my singing involves superhuman use of the voice. If you're singing for 4000 people, you're singing for "the Gods"... singing is not about parlor room nuances of the personality, but a very concentrated energy, an attack of energy—the transformation of the body into a weapon. It's about going beyond your self. That's how martial artists train: when you hit someone, you're going through them... beyond that physical dimension. And that's the same way I've trained with voice for many years [emphasis in original].48

Through committed study, Galás uses all of her body's energy in her vocal work, attempting to reach an output that is beyond human capacity. Within this training regimen, music becomes a vehicle for her to move beyond herself. Her vocal "weapon" is one of strength and agility. She hones her ability to make quick vocal style and timbre changes, elemental to her compositional voice and her creation of character. These practices illustrate the intense and demanding process by which Galás melds music and body together.

48 Ibid., 9.
Galás's true goal is to push beyond the human limits of her body and voice. She references her early work, *Wild Women with Steak Knives*, as one of the first times she wove together electronics (using five microphones with various live processing capacities) and her unique vocal training that she describes as:

training of vocal chords to yield an *übervoice*, a superhuman instrument that’s not about being a singer but about being a channel through which the Absolute can manifest (or a bearer of tidings of unsentimental truth, unmatrixed by mere 'taste'—a word which speaks of human limitation rather than choice). I wanted to produce an immediate extroversion of sound, to deliver a pointed, focused message—like a *gun* [emphasis in original].

Galás expands her hard work and exceptional talent into something super-human through both a deeply emotional practice and finely crafted live vocal processing, often created in collaboration with a technician. Her compositions entwine body, movement, voice, character, and emotion with electronic sounds. Her process of development illustrates a continual moving towards and into her subject. Below, I will explore her movement around and into the HIV/AIDS epidemic.

**BECOMING HER SUBJECT**

All of these elements, long periods of study and revision, unique breadth of skill, and refined use of electronics, are used to support Galás’s deep, obsessive desire to become her subject matter. Galás describes this process in her article “Intravenous Song.”

This music is concerned with tendencies towards excessive behavior. An obsession, extremes omnipresent and encroaching upon the other, within microseconds, coalescing one moment and dissolving the next, towards an ultimate dissolution, which is the soul’s own Implosion…An actor may simulate the desired emotive state through a skilled manipulation of external object materials, or he may use the raw direct experience of the emotion itself. This

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50 She often collaborates with sound engineer Blaise Dupuy, “Diamanda Galás Discography.”
second concern is felt by performers who, not just professional, are Obsessional performers [emphasis in original].

Galás is an obsessive performer. As suggested by the title of her article "Intravenal Song," she is interested in music as something blood born, pulsing through the body, and living within a person. "When I do a 'Plague Mass,' it's done for people in the AIDS community by someone in the AIDS community...I started working on my AIDS project over two years before my brother became ill. Half my friends are HIV-positive; this is my life [emphasis in the original]." Time, persistence, and a lack of distance between the subject and herself, as the performer, define her compositions. Galás yearns to both express and become the human condition. This desire is palpable and unrelenting in her performance. This single-minded, clarity of mission leads Galás to develop *The Plague Mass* and, later, *Vena Cava*, where she performs her journey into the HIV/AIDS epidemic.

**THE PLAGUE MASS: ENGAGEMENT THROUGH RITUAL**

The audience arrives at the Cathedral of St. John the Divine on October 12th, 1990, to attend a funeral Mass, a modern Mass created and performed by Diamanda Galás. She begins by asking, "were you a witness?" Her use of "you" creates immediate inclusion. She speaks low in her register, resonating the words in her chest. The glottal attack on the "a" and deliberate strength of the "s" define a mechanical rhythm to the question within the harsh sonic edges of each word. The question is repeated, lingering in a trail of reverb. Galás leaves time, as if waiting for the audience to answer. She leaves space for them to remember moments when they have witnessed the cruelties of the HIV/AIDS epidemic. She continues, "and on that holy day, and on

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that bloody day, were you a witness?” Galás repeats the question aspirating the final “s,” as if propelling her forward. She asks again, "were you a witness..." and veers into new territory, "and on his dying bed, he asked me, 'tell all my friends I was fighting too.'" This statement confirms her personal experience of the HIV/AIDS illness. She quickly qualifies, "but to all cowards and voyeurs, there are no more tickets to the funeral." Galás restricts entry: this is a funeral for those who are living with or have lived with the plague. This also asserts her right to be there. She is not a voyeur or coward, she has done the work.

Suddenly, the audience hears her first sung note, "No!," a large, operatic, high C above the treble staff with full vibrato, accompanied by reverb. At first, "no" seems to reference the cowards and voyeurs that aren't admitted, and then it morphs into the "No!" of one in pain. She repeats the high wail, circling by half steps around the C. Her tone morphs between thick vibrato and extended techniques that verge on a scream, suggesting a fragmenting of pitch. The "No!" becomes wretched. When the lingering reverb has died away, she asks again, "were you a witness?” in her original spoken, slow, spacious drawl. It is as if she has recovered from a sudden bout of debilitating pain or has come out of a horrific flashback.

With this opening, Galás communicates the physical reality of witnessing the epidemic through voice and body. *The Plague Mass* is a meeting ground for those within the communities devastated by the HIV/AIDS epidemic. Her creation of a new Mass specifically for these communities presents an artistic work that is both a commentary on social attitudes towards AIDS as well as functional, participatory, modern ritual.
MODERN RITUAL

Richard Schechner defines the seven functions of ritual and performance: "to entertain, to make something that is beautiful, to mark or change identity, to make or foster community, to heal, to teach, persuade or convince, and to deal with the sacred and/or demonic." He proposes that performance and ritual lie in a spectrum where performance aims towards a limited number of these functions and ritual aims at communicating most if not all seven. Using this definition, *The Plague Mass* can be described as ritual because it fulfills most of these criteria. There are moments that are entertaining through a use of dark humor, such as her recitation of the "Law of the Plague" in the second track. The opening of this track is also aesthetically beautiful, composed for a strong drumbeat and the ululations of an imagined crowd of mourners. Galás defines her community (those at the funeral who are not cowards or voyeurs) and tries to offer something to help and heal this community as well as teach others outside the community about the HIV/AIDS epidemic.

The audience is cued to expect ritual both by the title "Mass" and the location of the performance, a church. Schechner's criteria "to make or foster community", "to heal", and "to teach," emphasize action, creation, and change. These are essential components of Galás's *Plague Mass*; she expects her audience to participate spiritually, emotionally, and physically and she models this participation by using her body as the vehicle for transmission, extended by the power of electronic sound synthesis and processing. The traditional Mass provides a form that Galás fills with detailed musical content, embodied in characters that give voice, flesh, perspective, and relationship to her funeral for the AIDS epidemic.

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The Plague Mass is a religious service that loosely follows a traditional liturgical order. The first section is a gospel medley that functions like the opening hymns and call to worship in a Christian service. Here, Galás introduces many of the voices and characters that she will return to later in the work. She defines the service as a funeral and references text from a number of traditional hymns. The second track, "This is the Law of the Plague," is inspired by Leviticus, chapter 15 in the Old Testament which states, "Speak unto the children of Israel, and say unto them, When any man hath a running issue out of his flesh, because of his issue he is unclean...Every bed, whereon he lieth that hath the issue, is unclean: and every thing, whereon he sitteth, shall be unclean." Chapter 15 continues to recite various ways that a man and a woman are "unclean." Galás adapts this text for the second track so that it becomes as a type of scripture reading in its archaic language and tone. About halfway through the Mass there is a confession followed by a warlike anthem and then a homily and Communion with the consecration of the bread and wine sung in Latin. Finally, the last three songs, sung in Italian, French, and English and using gospel, extended, Bel Canto, and Middle Eastern vocal techniques, present a melding of the prayer, offertory, and final hymns of a traditional service. In the place of a final blessing, Galás closes with a single line of text from the opening "there are no more tickets to the funeral, the funeral is crowded!" Although Galás does not follow the Mass order precisely, the resemblance is similar enough that the form of the Christian service is recognizable as a central part of the work.

54 Lev 15:2-4 (King James Version).
The Mass, as ritual, provides not only formal structure, but also suggests symbolic connections between physical, spiritual, and conceptual components. Traditionally, Mass renews the relationship between physical, lived experience and abstract, spiritual belief. Because of this, The Divine Liturgy (Eastern Orthodox tradition) and Mass (Catholic tradition) are fitting rituals to explore empathy, engagement, and physical manifestation of an abstract idea. For example, the Christian practice of consecration during communion re-enacts Christ's last supper. The priest recites the words that Jesus spoke to his disciples. These words establish the bread and wine as symbols for his body and blood. Those who partake in the ceremony physically re-enact the experience of the disciples. More than a physical experience, this ceremony is used to spiritually reaffirm one's relationship with God. As I will show below, Galás similarly draws on physical participation, re-creation, and embodiment to create a ritual that connects us physically and spiritually to the modern experience of those suffering from the AIDS epidemic.

**COMPOSING THROUGH CHARACTER**

Galás's Mass is composed around a cast of characters. Her preacher, proclaimer of laws, patient, doctor, devil, and mourner project specific, embodied incarnations of the archetypal characters present in the story of biblical plagues as well as the people present in the modern drama of the AIDS epidemic. Through each character's specific mannerisms, vocal quality, physical presence, language, intonation, and electronic processing, Galás composes her musical ritual. The Mass opens with a medley that introduces many of the characters. The tracks that follow expand on these different people, creating a multi-dimensional view of the intermingling bodies present in the story of the epidemic.

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55 Galás was raised in the Greek Orthodox Church, which traditionally practices The Divine Liturgy service.
The preacher is one of the strongest characters that Galás presents. When she performs this role, her voice is commanding, supported with amplification and significant reverb. She references text from traditional spirituals such as "Were You There When They Crucified My Lord?" and "I looked Over Jordan and What Did I See?" as well as common sermon phrases such as, "can I get a witness?" and "brothers and sisters." During her homily style monologue in track six, we can hear her affinity with the qualities of political African American ministers, such as Rev. Martin Luther King, Jr. and Rev. Jesse Jackson.

"Brothers of blood and sisters of compassion don't give up the fight against the order of the homophobe...the order of the murderers...the order of the Nazi Pope in 1990, who are you?...The master plan has put compassion in the vestige of the present...We who fight and cry for a life gone every fifteen minutes say, 'acquired immune deficiency is homicide.'"  

Her call to arms is both political and religious. By assuming the vocal tone, cadence, charisma, and deep conviction to speak on behalf of the minority, all qualities of the traditional African American preacher, Galás aligns her fight to bring attention and empathy to the AIDS crisis with the civil liberty struggles of all minorities.

A very different character is introduced in the second track, "This is the Law of the Plague." I will refer to this character as the proclaimer. This track begins with a booming drum hit. The drum continues and forms a rhythmic accompaniment to the proclaimer's half sung, half spoken recitation. It is as if the proclaimer comes from a time and place where the law is read aloud. She uses a forward, nasal tone projecting over drums, voices, and (imagined) vast spaces. The proclaimer's laugh and phrase intonation suggests that she is one who revels in the suffering

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of others. She seems devoid of compassion and empathy. These traits require one to come too close to the "unclean."

Galás animates the experience of the AIDS epidemic through the words, voices, songs, movements, and personalities of these characters who present very different bodies. Where the proclaimer's voice was narrow, nasal, and thin, Galás's preacher and gospel voice are big, thick, deep voices that communicate fatness and flesh in the resonant sound. It is as if she puts on weight before one’s eyes. Blindly listening to the live album, Galás's skillful use of tonal placement, body resonance, and processing suggest specific characters with real bodies. The embodied characters tell a physical story that is an essential part of how Galás communicates to the audience.

COMPOSING THROUGH HYMN

Galás also communicates through traditional songs and hymns. Allusions to songs permeate The Plague Mass. Even if the song is not sung, as in the case with the traditional African American spiritual, "Were You There When They Crucified My Lord," the presence of the text imbues meaning. For example, "Were You There" describes Jesus' suffering during his last days as well as his resurrection. In the inclusive questions, "were you there when they dragged him to the grave?" The audience is asked to participate with an internal affirmation, "yes I was there when they dragged him to the grave" where "him" includes Jesus, as well as their friend, lover, or
family member who has died of AIDS. The song offers a space to collectively remember death and illness due to AIDS.\textsuperscript{57}

Not only do spirituals add meaning to *The Plague Mass* but the performance also reinvigorates the meaning of these spirituals. For example, Galás presents "Were You There" as a description of our present world, where the "him" who is dragged to the tomb is someone dying of AIDS. The audience's imaginings or memories of "when they laid him in the grave" or "when they pierced him in the side" gives new specific, qualitative meaning to the more traditional interpretation of Jesus' suffering and rebirth. This symbiotic relationship between physical, lived experience and the creation of meaning is fundamental to what continues to be meaningful. Filmmaker, choreographer, dancer, and writer, Maya Deren, gives us another way to look at this relationship between abstract meaning and the body through her study and description of Loa creation in Haitian Voudoun practices.

\textbf{LOA CREATION IN HAITIAN VOUDOUN PRACTICES}

The kind of performance that I do, the kind of things I have to say, the physical energy I put into it—it's\textit{ freeing} but it's very physically demanding. If you're standing in front of 3000 people doing this kind of performance—well, that demands superhuman strength and emotional reserves that are really beyond \textit{me} and my capability as very fallible human being. Sometimes my performances feel to me like a ripping of the flesh, like bloodletting...

\textit{AJ: A kind of voodoo possession?}

\textit{DG: That's exactly what it is.}\textsuperscript{58}

\textsuperscript{57} Contemporary research in the psychology of trauma suggests that reliving or reviewing a traumatic experience is a vital part of the healing process. Peter A. Levine, \textit{Waking the Tiger: Healing Trauma} (Berkeley: North Atlantic Books, 1997).

\textsuperscript{58} Juno and Vale, "Diamanda Galas," 20.
Laura Marks, in the introduction to *Touch: Sensuous Theory and Multisensory Media*, suggests that there are times when it is better to use a form of analysis or study which simulates or lies next to its subject so that their relationship, through similarity, interaction, and comparison, can unfold. Mimesis, as a form of study, allows for connections and reflections between subjects that are not overtly related. Such study is useful in coming to further understand embodied cognition philosophy's idea of percept and concept (discussed in chapter one). Through an introduction to the *flesh to principle* concept illustrated in the creation of Loa, or Voudoun deities, described in Maya Deren’s book *Divine Horsemen: The Living Gods of Haiti,* I will highlight some of the ways that percept/concept and flesh to principle touch and reflect upon each other. Like the skeleton lying atop a live performer in the recent Marina Abramovic retrospective at the MOMA in New York, there is a permeating of presence between these two subjects that creates an energetic interaction and informative relationship.

**FLESH TO PRINCIPLE**

In *Divine Horsemen,* Maya Deren describes the creation of Haitian Loas, or deities, saying,

"in Voudoun the cosmic drama of man ... [is] an almost organic dynamic, a process by which all that which characterizes divinity - intelligence, power, energy, authority, wisdom - evolves out of the flesh itself. Instead of being eternally separated, the substance and the spirit of a man are eternally and mutually committed: the flesh to the divinity within it and the divinity to the flesh of its origin."

The Loa are the collective energies of the dead in an essential form. The essential form is created over generations. The living memory of individual character traits attached to a person, such as one's grandmother, fade over time, as the people who directly remember this person age. The

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59 I appreciate Marks' proposal of mimesis as a form of study because it supports an appreciation of and respect for the subject as something whole and organic, like a body. Laura V. Marks, *Touch: sensuous theory and multisensory media* (Minneapolis: University of Minnesota Press, 2002), ix-xii.
61 Ibid., 27.
family member is acknowledged to be similar to a Loa who shares their particularly valuable or strong character traits. Over time, the Loa and ancestor merge, so that the community remembers only the Loa, who has now assumed the life experience and specific traits of the ancestor. An ancestor is always in process of becoming principle, or rather, becoming a part of the larger Loa identity. The ceremony *Retirer en bas de l’eau* (Reclamation from the Waters of the Abyss) begins the process of distillation from flesh to principle. This ceremony reclaims the soul, lodging it in a red earthen vessel called a govi, so that the process of becoming part of the Loa deity can begin.  

Deren writes:

> In due course of time, the parent in the govi becomes grandparent and the grandparent becomes ancestor. As his contemporaries die off, and with them all immediate first-hand memories, the flesh of the original human personality withers away, so that there is left within the govi only the distilled depersonalized, almost abstract essence of the principle that especially characterized him. Thus, in time, *the person becomes principle*. And yet—what once was so real, so substantial, cannot be permitted to end in such rarefaction, to vanish forever into the far reaches of history. This abstraction, to function in reality, must become reality; *the principle must become person*. And so the process of abstraction, as though meeting, finally, the limits of its own extension, curves back toward its origins: those who cannot remember begin to create, building now from the inside outward, as one might be guided by the clues and logic of a skeleton to construct a figure. In time, the ancestor becomes archetype.

There is no divine presence that was not once a physical incarnation. Over generations, the specifics of the individual become incorporated or subsumed into the larger, communal definition of the respective Loa. The Loa are also creatively manifested through art, performance, and ritual to have their own unique "lives" as archetypes.

This process of distillation is one of the points where the process of Voudoun Loa creation and embodied cognition theory touch. There is a resonance between the time-dependent process

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62 Deren describes how the Haitian Voudoun community values the lived experience and wisdom of their strong members and recognizes this as something they cannot afford to lose.

of the creation of Loa (archetypes and principles) that are renewed and reinvigorated by the lives of people within the community and the way in which percept and concept are knit together through physical experience.

Time is an essential component of relating embodied experience to principle or concept. Over time the particularities and specifics of individual experience help to broaden the scope or potential of the larger concept. The continual reinvigoration of a principle or concept through embodied experience supports the adaptation of the principle, so that it may include modern technologies, lifestyles, discoveries, and avoids becoming brittle, archaic, or incompatible with the present day. Loa creation models this resiliency. Those who are reclaimed continually feed the collective wisdom of the Loa, weaving the recently deceased's experience of modern life into the traditional archetype.

In The Plague Mass, Galás similarly stretches traditional cultural elements, such as hymns, characters, and Mass as ritual, to incorporate modern reality, in this case, the AIDS epidemic. By creating a Mass and funeral for all who have suffered from HIV/AIDS, she extends the traditional elements to include this contemporary subject. In Vena Cava, Galás continues this work and goes further, modeling a first person, physical experience of one living with AIDS induced dementia. Her live enactment of this reality challenges the audience to broaden their physical experience through a sympathy and empathy with Galás’s performance.
VENA CAVA: LIVING THE DISEASE

Similar to Jill Sigman's process of research through movement, Galás demonstrates her investigation of AIDS through performance in the 1993 work, *Vena Cava*. She expands the third track of *The Plague Mass* into a full length work, sonically presenting the places, relationships, bodies, songs, and emotions of one who is suffering from AIDS induced dementia. Her commitment to the subject matter, the "raw direct experience of the emotion itself," allows Galás to cross over from representing material to experiencing and embodying it. I will examine three elements in this process; first, investigation through personification and re-enactment; second, the role perceptual experience and physical engagement play in our understanding of cultural concepts such as death; and third, the importance of embodiment to our development of empathy. Building on Deren's description of *flesh to principle*, I will show how Galás's *Vena Cava* exemplifies the value of live performance in reinvigorating the relationship between the body and cultural meaning.

(PER)SONIFICATION

Personification and sonification are valuable methods of research. Sonifying information is a common practice in the sciences. Defined as "the use of non-speech audio to convey information," sonification is often used to either transpose sound wave data into the audible human range or translate visual or other sensoriperception data into sound. For example,

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64 Galás, “Intravenous Song,” 59.
65 Choreographer Carrie Ahern has inspired much of my thinking about empathy.
scientists have sonified maps of the sun so that different parameters of heat and location map to sonic attributes like frequency or volume. In this translation from one mode of perception (or multiple modes) into another, scientists can become aware of new relationships or anomalies within the material.

Galás similarly relies on personification and sonification to support her investigation of AIDS induced dementia. She invites the audience into her investigation as she enacts both through character and sound, aspects of dementia. For example, Galás accompanies her singing with sounds from the hospital, sampling mechanical drones and the sounds of a television (or many). Dementia is represented through sound when the audience hears Galás's confused speaking and spastic interjections of profanities. She articulates drugged perception in her slurred speech and hazy, slow response. These character attributes and sonic locations are created and reinforced by electronic elements, so that Galás is both creating and immersed within the sonic realities of her material. In this way, Galás's performance presents her exploration of illness through an enactment of it.

LOCATION

Galás conjures place and environment by sonically presenting the hospital. In the first track, we hear a high drone that suggests the sound of whirring machines. Mid-track, a subtle heartbeat enters, implying both how one is monitored and the invasive and amazing ability to

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make internal actions audible in a hospital. In the background of the second track, one hears summer insects buzzing, as if there is an open window. Sounds from a television blend into these background sounds. In the fourth track, the television is placed in the foreground. Galás begins the track, saying, "Yes! I like the T.V." Perhaps subconsciously, the audience is aware of the lack of acoustic dampening typically created by materials found in the home, such as carpet, couches, armchairs, and drapes. Instead, the sound of the television is a sonic monolith against the backdrop of a metallic, hard surface resonance created through electronic processing, simulating the textures and place (linoleum floors, metal tables, etc.) of a hospital.

Galás is able to merge environment with her voice and the creation of character so that external and internal worlds are entangled and possibly confused. In Vena Cava, the vocal lines skillfully create textures and timbres that unite the voice, the sonic artifacts that are often present in live vocal processing, and external world sounds. In track four, consonants such as f, s, k, and t are accentuated so that the consonants unite the live voice with the surrounding sounds. Here, the ambient cricket sounds sampled in the background track mesh with the subtle consonants. The consonants become, simultaneously, an extension of cricket sounds in the environment, while also being the mutterings of an interloper — someone the patient admits she can hear. The f, s, k, and t also mimic or merge with the mouth noise present when using a microphone and amplification. This blending and simultaneity of physical, environmental, and technological elements creates a powerful weaving of reality, artistic creation, and process. Embodied in Galás, the audience understands these elements as bound together in something whole and living.

68 Over the last four years, I have spent many weeks in the hospital and can confirm that the sounds of the T.V., the audible heart monitor, and the high whirring, still in 2014, are sonic attributes of a hospital.
CHARACTER

In *Vena Cava*, similar to *The Plague Mass*, Galás presents characters that appear, reappear, and overlap throughout the hour-long work. These personalities are derived from her uniquely broad life experience and are sculpted into relationships, such as parent/child, doctor/patient, and devil/soul. Presenting people she has known, communities she has been a part of, extensions of her Greek cultural heritage, and archetypal characters with her own personality, Galás juxtaposes Bel Canto samples of Mozart arias with the sounds of traditional Greek mourning and the singing of a Prostitute in East Oakland. She creates a drama where all of these very different voices bring something unique and significant to the investigation of disease and dementia.

Through her personal experience, Galás is able to physically inhabit these personas. Their voices project posture, gesture, breath, lifestyle choices, and the many ways in which these characters exist as physical beings, woven together with the ways Galás exists in her own life. These specific details are the unique elements that Galás brings to her performance and composition. For example, Galás draws on her classical music training, using Bel Canto technique when she sings an excerpt of Mozart’s “Porgi Amor” from *The Marriage of Figaro*. This singing style connotes a social world connected with Italian opera as well as physical health and vibrancy. In this moment, "Porgi Amor" seems like a memory of vitality juxtaposed with the breathy, frail tone of the infirmed character that immediately follows.

Similarly, Galás's use of glossolalia (speaking in tongues) in her singing draws on traditional Greek dirge music called Moirológia. In this musical tradition, antiphonal songs
between a soloist and chorus are sung as an imagined discourse between the living and the dead.

Galás also describes this style as

the mourning done by the women to incite revenge against the enemy...the women would speak directly to the dead...More importantly, the women would speak for the dead, expressing the feelings of the dead...This is not a bleeding heart, liberal concept: 'Pity the poor AIDS victim...' Patronizing sympathy is revolting; it has nothing to do with a Greek tragedy or Middle Eastern concept of mourning, which not only expresses the mourning of the family, but—more importantly—the anger of the dead [emphasis in original].

These interjections, although culturally relative for Galás, can also be interpreted as related to the ravings of one with dementia. At the core of this practice, is empathy for the full range of emotion, including anger, for the experience of those who have passed. To speak for the dead, one must step into their experience, and this is what Galás attempts to do in *Vena Cava*.

Galás, in another voice, presents her experiences working as a prostitute on the streets of Oakland. Speaking about her life, Galás says, “I often sang while working on the street; as a matter of fact, I discovered my voice. There I was with these queen sisters -in particular Miss Gina-saying, ‘Do you know that you have a lovely voice, Miss Thing?’ ‘Oh, why thank-you.’”

There are moments in *Vena Cava* when you hear “Miss Thing” speaking (she is also referenced in the text). She has a nasal, forward voice and one can imagine that this would project well on the street. Because this is framed as a musical/sonic experience, the physicality of vocal production communicates the intersection of body, character, and meaning.

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69 Juno and Vale, "Diamanda Galas," 12.
DOCTOR/PATIENT

The audience is drawn into the work and able to physically and sympathetically relate to how Galás speaks, sings, and inhabits her body because they are also moving, speaking, and sounding beings. Although the electronics at times distort or augment aspects of her sounding, many elements of her performance are familiar. Just as Sigman connected with her audience through pedestrian movements, Galás uses a blend of pedestrian sounds (speaking, whispering, yelling, as well as environmental sounds such as television and crickets) to provide a physical inroad into the subject. Her dialogues between doctor and patient are one example of how she composes a familiar inroad.

At the opening of the first track, Galás narrates the scene, saying, "I wake up and I see the face of the devil and I ask him, 'what time is it?'" She repeats, "what time is it," in her spoken register two more times, the reverb tail length grows as she simultaneously extends the duration of the words. She switches to a sung mid-range register using a frail voice that is clearly a new character, the patient. The reverb is heavy, accentuating her slow and slurred pronunciation. Overtime, granularized, pitch-shifted fragments of the original vocal line are layered in, creating fleeting harmonies that project an experience of confused perception.\(^7\) The patient's perception is also Galás's perception and the audience's perception. The audience hears things run together, blurred. The patient is unable to hold her pitch. Her line slowly creeps up, in an uneven glissando displaying the patient's inability to control her own voice and hold things in place. The text is unclear, sifting into a haze of sound. Perhaps the drugs make her tongue feel thick, or she

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\(^7\) Granularization is a type of electronic sound processing where the sound recording is broken into small sample "grains" (the time length of the grain can vary). Each small sample can be pitch shifted, delayed, repeated, or altered in various ways in real time.
is so weary that she has trouble speaking. The doctor interjects, clear and low, with only a little reverb and amplification, fully articulating the words and giving no emotional inflection to the text, "how do you feel today?" When the patient responds, the cloudy processing returns. The doctor character is both doctor and devil, asking the patient how much time she wants.

In conversation, the two bodies are juxtaposed. The patient sounds frail, confused, breathy, and physically weak. The doctor projects clarity and strength through strong articulation and a natural and efficient sound production. Here, the electronic processing becomes inseparable from the composition so that the characters are defined by the interweaving of vocal production, live processing methods, word choice, breath, and their relationship to each other. The audience relates to these characters through an innate understanding of the sound of health and illness, strength and weakness.

Galás communicates the patient's frustration, pain, and anger. She nimbly shifts from a round, full tone where her vocal production is relaxed to a more strident tone made with increasing forward placement (nasality) and tension on the vocal folds creating a scream-like sound. The listener understands the scream emotionally, physically, and psychologically. They know how a scream feels in the throat, the tension it takes to produce the sound, and are reminded of moments when they have screamed. Galás is able to move through a spectrum of vocal sounds morphing Bel Canto style singing into a scream. For example, in track one, when she is told she is insane, the patient screams. As she screams, the reverb fades out, the scream is pitch shifted and delayed so that a dry repetition at different pitches harshly repeats under her continued scream. The arid tension and force are viscerally communicated through the layering and looping of the scream, creating both an aesthetic and physical experience.
Similar to *The Plague Mass*, *Vena Cava* draws on classical, folk, and spiritual song material to explore AIDS induced dementia. For example, in the third track, Galás opens with a high register version of *Amazing Grace* where the vibrato occasionally morphs into multi-phonic vocals, so that the tone is at times brilliant, like a bright heavenly light, and in other moments, horrific, verging on a scream. Here, the physical sensation of the sound production as sometimes easy and sometimes difficult, physically communicates the lyrics "wretched," "lost," and "blind," as well as "saved," "found," and "free." Many are familiar with this song, but few have heard it in this register or with this range of singing style. In her interpretation, Galás melds the meaning of the song with her character's struggle and confused mutterings.

Galás incorporates other songs including Mozart's "Porgi Amor" from *Le Nozze di Figaro* (*The Marriage of Figaro*) in track two, *In Heaven there is no Beer* at the end of track three, *Hush Little Baby* in track seven, and finally *Silent Night* in track eight. These songs, similar to her use of spirituals in *The Mass Plague* and Maya Deren's description of the process of flesh to principle, weave together personal and archetypal or cultural meaning into *Vena Cava*.

*Vena Cava* also reinvigorates the meaning content of these songs. For example, *Silent Night*, composed in 1818 by Franz Gruber, is often sung to close the Christmas Eve service, where a congregation celebrates the renewal of birth, singing a lullaby together at the darkest time of year. By ending *Vena Cava* with an electronic sample of *Silent Night*, the audience feels the struggle of the metaphoric long night that they have witnessed in her embodiment of illness and perhaps sense the irony of the suggested text "all is calm, all is bright" after the chaos and instability of her
dementia. Within this song and its reference to the possibility of birth (and resurrection) there is a twinkling of hope that the epidemic will end, that the suffering will end, and that there will be an empathy and love for the afflicted. *Silent Night* brings these layers of meaning with it and Galás skillfully adapts this song to her performance so that the meaning of the new context reinvigorates and expands the old winter lullaby.

Drawing from another Austrian, Galás weaves in an excerpt of Mozart's "Porgi Amor," the text translated as, "O Love, give me some remedy for my sorrow, for my sighs! Either give me back my darling or at least let me die." This could be sung for the patient or by the patient. But what is striking here is the way this piece presents the body. The full, clear resonance and power of the Bel Canto singing is juxtaposed with the patient's frail speaking voice that follows. After the song has ended, Galás coughs and clears her throat, and we are returned to the bedside and hear one who is aged and infirm. Her spoken voice suggests a physical body where the chest is sunken and her posture hunched. Galás sonically communicates illness, frailty, and weakness through her dry, thick mouth sounds, the repetitive throat clearing, and habitual glottal coughs that accompany a body's inability to function as it should. Her speaking sounds remain in stark juxtaposition to the previous clear and youthful aria.

**SHARED PHYSICAL EXPERIENCE AS A FOUNDATION FOR EMPATHY**

Similar to Sigman's work, Galás's compositions can be understood as research. Through her performance, she asks questions like: What does AIDS induced dementia sound like? What does it feel like to be in that body? What kinds of life experience would this patient have and what kinds of songs would they sing? If this disease were a being, what would it say? These
questions compare her performance both to the experience of AIDS patients and to the personified experience of the disease. This form of play and exploration promotes a physically engaged relationship to AIDS induced dementia that, in the late 1980s and early 1990s, had become a subject that was de-personalized and stigmatized. Through her exploration, Galás attempts to put the listener's body empathetically in relationship with the HIV/AIDS epidemic.

Galás is able to pull the listener in by presenting the work as a bodily experience. The composed electronic tracks and live vocal processing are essential components that support physical engagement. The auditory feedback she receives from the live processing affirms to her body that her perception and actions are altered. At moments, she sounds thick and hazy and she can't seem to hold her pitch. These sonic realities signal to her body and brain that she is confused. As the electronics successfully reframe her experience, Galás's role-playing merges with her real experience and also becomes the audience's real experience. Her altered, drugged perception is also my perception as a listener. The listener is actually hearing the world through her ears, shall we say. The body physically responds to these cues, because their perception is real. Speaking to the body, Galás creates an inroad to empathy.

CONCLUSION

Like a Shaman speaking in tongues, Galás succeeds in being a vessel. "Extroversion of the soul, so to speak" as Galás describes it, where her soul becomes the souls of the subject she lives.

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72 When writing about her early work, Galás describes how her lighting and quadraphonic sound system would capture the audience "in my cage" and that "I need to do this for myself in order to feel a certain satisfaction. " I wonder if this satisfaction is connected with her immersion into her sonic world or "cage." Juno and Vale, "Diamanda Galás," 10.
through. Why is this work so special? Perhaps it is because her physical embodiment allows the audience to move beyond the post-modern problem of subjective meaning. Within this embodiment of the material the music becomes a form of folk music and we, as an audience, no longer question her bias, her authenticity, her experience, or our ability to relate. We are returned to the simplicity of listening to text and sound and emotion as an authentic extension of her, her culture, and her desire to communicate something of our own. As Clive Barker states in his introduction to her work, Diamanda Galás’s voice “carries her audience on a journey…where intellectual analysis and even aesthetic judgments become redundant. All you can do is listen and feel.”

\[73\] *Ella no canta.* *Ella es una canción.* *Se transforma en una canción.*

CHAPTER THREE:
BILL T. JONES — FILLING IN THE VIRTUAL BODY

Figure 3.1. Figure in virtual dance studio, still from Ghostcatching (1999)\textsuperscript{74}

\textit{AFTER GHOSTCATCHING} (2010)

\textit{After Ghostcatching} is an extended, three-dimensional version of Bill T. Jones’s earlier \textit{Ghostcatching} (1999),\textsuperscript{75} both made in collaboration with Shelley Eshkar, Marc Downie, and Paul Kaiser of The OpenEnded Group. These works explore dance in a virtual world using contemporary motion capture technologies.


\textsuperscript{75} Information, still photos, and links to video excerpts of these two works can be found at “\textit{After Ghostcatching}” and “\textit{Ghostcatching}” OpenEnded Group, accessed September 23, 2013, http://openendedgroup.com/artworks/agc.html and http://openendedgroup.com/artworks/gc.html.
I saw *After Ghostcatching* at SITE Santa Fe’s 8th International Biennial dedicated to video and film works, where the video was presented in a private, fully enclosed corner for a pristine 3-D visual and surround sound sonic experience of the forty-five minute work. As I entered with my 3-D glasses, the company of abstract, geometric bodies vaguely simulating physical letters accompanied by a spare yet intriguing recitation of the alphabet absorbed my attention. Linear beams gradually began connecting the different geometric forms, simultaneously suggesting depth, relationship, connection, and specific laws of motion. The bodies were similar enough to human bodies that I made assumptions of density and laws of interaction based on my own physical experience. I was wonderfully surprised to watch one form pass through the physical realm of another, forcing me to redefine my rules.

A hand drawn style of varying script, thickness of line, and color, all based on motion capture data from dancing performed by Bill T. Jones, animated the figures and their movement. As the script of the figures shifted, the sound, as well as the parameters of the virtual space, also changed. Always spare, the virtual space at times depicted a room, at others a wide expanse, and in still other moments, a void of endless space. Watching this flexible, virtual world, I wondered, do we sympathize with this virtual body in the same way that we relate to a real body?

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76 When I speak of script, I am referring to the drawing style of the animated bodies. The fact that the bodies look hand drawn rather than realistic is central to the artistic vision of the work of Kaiser and Eshkar (The OpenEnded Group). Kaiser's article "Steps" describes the process behind his choice to draw the animated figures. Paul Kaiser, “Steps,” OpenEnded Group, accessed on June 24, 2013, http://openendedgroup.com/writings/steps.html.
The original seven-minute animated video *Ghostcatching* (1999) presents the two-dimensional seed material for *After Ghostcatching*. Excerpts of this video can be seen online. This work outlines the main ideas of the later version in a condensed form. *Ghostcatching* abstracts the body through motion capture-based animation and facilitates new ways of understanding and empathizing with the animated form.

*Ghostcatching* begins with the virtual dancer (Bill T. Jones) in an outlined rectangular box performing a series of movements. The body arrives in a position and we hear Jones's voice, "A," as if he is defining this physical position as the letter A. The position changes and we hear the sound of a moving body, an airy, mechanical movement where the noise suggests friction between air and skin. "B." His voice is a resonant, warm baritone. Jones holds each pose for five seconds and then moves to the next position/letter.

The body does not completely fit in the box. There are moments where it seems as if the hand is passing through the corner or wall of the container when it should bump or bend awkwardly. It is either that the perceived barrier isn't real, or that the body is not solid, or both. A movement vocabulary becomes apparent, as the audience watches letters A-F unfold and repeat. At letter C, during the second repeat of the A-F series, a clone—or spawn, as the animators refer to it—escapes from the box. Almost like smoke, the spawn, made of the same...
body and similar drawing style as the original form, easily passes through the enclosure into the wider space. The spawn moves in silence and whispers the letter names as he arrives at them.\textsuperscript{78} He completes two poses before fading away. Not long after, another spawn appears. This script shows us a new, curlier Jones. The supple, curly spawn performs the same "letter" poses but adds improvised dance material when transitioning between letters. There is a beautiful moment when the two Joneses face each other in pose D, as if seeing each other for the first time. Again, this spawn fades away.

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{figure3_2.png}
\caption{Joneses face each other in pose D, as if seeing each other for the first time. \textit{Still from Ghostcatching (1999)}\textsuperscript{79}}
\end{figure}

The third spawn has a greater vitality than the others and breaks away from the box, leaving trails from his hands as he moves through the air. The alphabet recitation by the spawn continues in full voice. The spawn moves through the forms but now our attention is focused on

\begin{flushright}
\textsuperscript{78} I am using "he" to describe the dancer and clones because they are based on Bill T. Jones's male body.
\end{flushright}
his hands and feet as they write in the air. Another spawn enters, bold, golden yellow with spastic movements that leave thick trails. Recorded samples of Jones humming and singing accompany the movement. The trails collect and overlap onto one another forming an enclosure of what looks like graffiti. Spawns appear, one at a time, moving and then melding into the drawn enclosure. Cinematically, the viewpoint travels into the graffiti, a new environment built from the artifacts of movement etched in air. This new space defines the second section *Ghostcatching*.

![Figure 3.3. Figure within drawn graffiti, still from *Ghostcatching* (1999)](image)

Song fragments, sung by Jones that accompany part of the second section, are edited together connecting melodic fragments in various, unrelated keys. Jones’s voice fills in the missing musculature. The listener hears his flesh through the resonance of his wide chest cavity, raised sternum, long neck, lifted palette, open nasal cavity, and cheekbones, all of which produce a sound that can only come from his body.

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The movement duets with the music: breath and movement weave together and fill in vacant sonic spaces. Panning and volume of Bill T. Jones's voice highlight entrances and exits and guide the audience’s attention. As one voice pans right and fades out, another voice/character enters loudly from the left. The voice hard pans right, then left again, accompanying the entrance of a new spawn with thick lines and a webbed grid. The close up view pulls back, and in the widening shot, the scribbled graffiti becomes an enclosure that seems specifically jail-like in its grayish-blue color. The spawn performs a series of pull-ups in counterpoint to muffled cries and text about a house filling with light.

A cable leads into a new space where the view is limited to the lower half of the body and focused on the quick movements of the legs and feet. The whole body moves to the floor. When it rises, the visual field expands and the room suggests a traditional ballet studio with a mirror and bar. The body is reflected, presenting the most "dancerly" section in the work. Jones hums a quick "ditty" and the body moves skillfully in coordination with the music. The final scene shows an ensemble in a chain gang-like arrangement. Jones's voice is granulated, cutting in and out as if he’s speaking through an old fashioned, temperamental megaphone, but remaining intelligible in its instructions, "...grand plié, lift the right arm up, right arm maintains position, straighten both legs..." The dancers, drawn in angular lines and moving with precision, are connected by tethers, which shorten and lengthen as they move. The forms are reminiscent of the opening letters, but somehow the number of spawns and the tethers that bind them, surrounded by a pale bluish-gray world and the mechanized sound, create a dystopic aura.
Danielle Goldman, in her article "Ghostcatching: An Intersection of Technology, Labor, and Race" published in Dance Research Journal, questions the choice of removing Jones's body in Ghostcatching. Placed in context with much of Bill T. Jones's earlier work that emphasizes body politics, she questions why he would choose to work in a medium that erases what is perhaps the most important element to his work and artistic voice, his own body. Goldman focuses on the removal of skin and sweat as fundamental markers of what is most salient in a discussion of cultural power — signs of labor and race. In what reads as a harsh criticism of Kaiser, Goldman questions the underlying intention behind his statement, "one of the things that interests me, in particular, is the abstraction of movement from its physical basis. I think that might clean our eyes in many ways. I think that looking at performers on the stage we are seduced by the

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charisma of the body rather than by the beauty of the movement." She writes that, according to Kaiser, "race and labor had to be removed in order to 'clean our eyes out' and get at the 'beauty of pure movement.'" She closes her article saying, "however beautiful the resulting movement may be, he [Bill T. Jones] suggests that the act of 'cleaning out one's eyes' by wiping away markers of difference could easily become a brutal hygiene." Goldman's fear of erasure begs the question of what we recognize or rather, what is meaningful in the animated figures.

Goldman's discussion concerning the body is also about technology, aptly titled "An Intersection of Technology, Labor, and Race." The motion capture technology used in *Ghostcatching* does not erase in a complete way, but, instead, leaves traces of the original material so that the work becomes a palimpsest, where the virtual body exhibits elements of the living body so that it is both foreign and new. *Ghostcatching* can be viewed as a four-dimensional palimpsest where we see not only traces of three-dimensional space, but of movement in time. In fact, the creators prioritize the accuracy of these traces of movement. The OpenEnded Group's artistic application of precise motion capture information to generate scripted, hand-drawn lines presents a new art form that Kaiser is quick to explain, is not dance. "I think it's a new form, a separate form. I see it as being as much about drawing as about dance. And I also see it as being as much about filmmaking as about dance or drawing." Is Kaiser advocating a new media form that, in its multidisciplinary structure, releases him from a responsibility to present the body or qualify his erasure of it?

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84 Goldman, "Ghostcatching: An Intersection of Technology, Labor, and Race," 86.
Within discussions of power dynamics, race, and cultural privilege, any erasure, removal, or silencing evokes questions of who is removing, who is being removed, and how this reaffirms or disrupts traditional systems of power. At first, *Ghostcatching* can look like an African American man who serves as the body (traditionally a less empowered role), being monitored, collected, and then removed by the controllers of technology, Bill Kaiser and Shelley Eshkar. Kaiser and Eshkar play a God-like role in their behind-the-stage animation and final sequencing of *Ghostcatching*. It is difficult to look beyond this first impression, but, if that were truly the power relationship behind the collaborative effort, why would Jones agree to such a project, considering

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88 Bill T. Jones is the choreographer of the original motion captured material and is credited as choreographer of the work as a whole, but Eshkar and Kaiser pieced together fragments of the captured movement to create the final work, which Kaiser describes as sequencing. “The sequencing was something that Shelley and I did, without Bill.” de Spain and Kaiser, "Digital Dance: The Computer Artistry of Paul Kaiser," 20.
his previous commitment to confronting various forms of inequality in his work. Why would he use this piece as a core artistic work in his teaching program with the Lincoln Center Institute? Why would he agree to create a second, longer, 3-D version eleven years later? What does *Ghostcatching* offer artistically, that is neglected in this first impression?

Jones was well aware of this possible first reading and the potential problems related to it. Upon entering into the collaboration with The OpenEnded Group, Jones was tentative. He defined his limits with Kaiser and Eshkar before agreeing to collaborate, saying, "I do not want to be a disembodied, denatured, de-gendered series of lines moving in a void." In Kaiser's description of Jones's first trial of motion capturing, he acknowledges Jones's uncertainty.

Before we could start, Bill had to have twenty-four markers taped to his body. He looked balefully at these markers, and then at the lights, the cameras, the tripods, the screens – at all the technology of reproduction surrounding him – and said he felt he was breaking a taboo. "Dancers have a strange piety," he said, "a romantic notion that only the ephemeral moment of performance counts." To the purist, recording was a blasphemy – like some people not wanting their picture taken for fear of losing their soul. He said we were "ghostcatching," and the name stuck.

Clearly Jones had concerns about the process of "capturing," but possibly some curiosity as well. In fact, this project aligned well with his decision to create work using a more abstract, formal language than his previous politically conceived pieces.

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91 Bill T. Jones interview quoted in Kaiser, *Steps*.
92 Kaiser, *Steps*.
93 Unfortunately, this word reasserts problematic aspects of the motion capture process and has an especially negative connotation in reference to slavery.
Kaiser also questioned whether the twenty-four sensors would be enough to capture the nuance of Jones's movement. The Openended Group was specifically interested in working with Jones in order to try the technology with a choreographer that Kaiser describes as being "about liquidity of flesh and muscle rippling" and "a choreographer of himself: of his own body, of his own identity." This was a significant departure from their previous work with Merce Cunningham, and Kaiser was concerned about the limits of motion-capture, admitting, it's true that motion-capture is a process of subtraction, of taking away. The infrared cameras have eyes only for the reflective markers worn by the performing bodies, and not for the bodies themselves. Right away we lose all vision of muscle and flesh, and with that all sense of effort as well, since we can no longer make out the actual and sweat of the performing body. The face also vanishes, and with it the expressions that signal intention and feeling. Thoroughly stripped away are the dancers' stage presences: their physical beauty and charisma.

Yet this quote is misleading, for if motion capture was truly this limited, how could Kaiser succeed in communicating gender, body, and nature using numeric data plotted as twenty-four white dots moving on a screen? Where and what is "the body" in this data stream?

After the first motion-capture session, Jones was surprised to find that, when I saw the dots swirling around on the computer screen later, I was mesmerized, and I was quite moved. Because, though there was no "body" there, that was my movement. It was different than video, it was disembodied, but there was something "true" in it, and I was respectful, more respectful, then.

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94 Perhaps his choice to move to a more abstract language was in response to the criticism of his work as "victim art," as defined by Arlene Croce in her review of his work "Still/Here." Arlene Croce, "DISCUSSING THE UNDISCUSSABLE," The New Yorker, December 26, 1994, 54.
According to Kaiser, Jones "could see that the moving dots on the computer screen had caught some sort of essence. 'Who am I looking at?' was his first question, as if Jones was seeing himself after an extreme makeover. In these moving dots, new details, based on the accurate recording of his movement, present a new kind of naked Jones, one who is only movement in time.

FILLING IN THE BODY WITH MOVEMENT

I believe that Bill T. Jones’s "body" (his spirit, creative intention, and experience that define his artistic voice) resides in the virtual movement and sound of Ghostcatching. Specific technological and compositional choices fill in Jones's missing body and help to redefine "body" in a way that challenges traditional concepts of race, labor, and identity. In Kaiser's article, "Steps," he describes his working process with motion-capture technologies and emphasizes his team's dedication to accurate data collection and animation of the moving body.

[Susan Amkraut and Michael Girard] had gone beyond what moving bodies looked like (the focus of traditional animators) to how they actually operated (the province of robotics, whose lessons they studied deeply). They came to understand the rhythms and patterns of gait-shifting across a variety of possible bodies (from the human biped to the insect centipede), re-creating how a walk turns into a run or a canter into a gallop. They learned how to depict the intricate play of forces on the body, such as acceleration and gravity. They figured out how to simulate the complex dependencies between all parts of the anatomy, calculating multiple joint rotations and limb extensions moving simultaneously at different rates and intensities.

The choice to prioritize accurate movement acts as a kind of curation. The viewer recognizes the body through the accurate animation of movement whose derivative details suggest weight, gravity, density, and the affects of physical laws of motion. For example, there is a moment when

98 Kaiser, Steps.
99 Ibid.
Jones reaches up and swings on a trapeze that feels almost weightless, except for the tension depicted in the contraction of his arms at the elbows, the lowered shoulders, and his controlled core muscles. The sense of it as weightless is a sign of his experience as a dancer. Yet, simultaneously Jones demonstrates the byproducts of looking weightless in the force and strength suggested by the tempo and rhythm of the contraction and expansion of his animated body.

In another moment, a little over two minutes into *Ghostcatching*, the figure dances a solo, leaving fleeting trails from his hands and feet. We are aware of the figure's contact with the floor through the reflection of the feet and lower legs. We do not hear contact with the floor, but we see it and see the impact of this touching on the movement of the body. We are aware of the movement necessary to balance as the body sways, one arm circling into another. The solo ends with a controlled balance on one foot with the other leg contracted at the knee. As if slowing a big step, the figure crouches over, touches the raised foot and then the hand stretches forward leaving a trail while the raised foot extends back to a lunge position. Balance, gravity, and force are communicated as Jones simultaneously lunges back while stretching the arm forward.
Rather than noticing a lack of or removal of body, I am struck by how the motion-capture in combination with the hand drawn image allows one to engage with Jones's body in a way that prioritizes a new hierarchy of senses. Without facial expression, sweat, or the detail of skin to show me work and effort, I look for signs of effort in other details like rhythm, weight, and change in movement. This is what the motion-capture techniques of Kaiser and Eshkar are best at recording — the movement itself. "Where we sought complete realism was in the motions themselves.... Eshkar and I [Kaiser] kept abstracting our figures further – into dots, sticks, curves, poles – but we took care not to distort the underlying motions." They also prioritized the connection between the figure and the ground, communicating environment-organism

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101 Kaiser, Frequently Pondered Questions.
interaction through touch. Early on, while working with Merce Cunningham, animator Michael Girard realized that footsteps were the answer.... He saw that you could start your animation by specifying the footsteps – a set of patterns in time and space – and build up from there, adding upper body motions to the sequence. Bending or stretching a “footpath” (as Merce would come to call it) would alter the movement, as the simulated body recalculated its center of gravity and adjusted its balance.  

The data provided by the motion sensors describes the physics of a moving object in an environment, including its force, direction, weight, and friction. The viewer uses their own intimate knowledge and experience of living in a moving body to sympathetically understand the animated being and imagine or predict the intention or desire of the moving object or body.

The abstracted movement also suggests Jones's unique personal history, memory, and psychology. The detailed re-creation of Jones's posture, body language, stylistic choices, and gesture through animation evoke his previous work, teachers, dance partners, parents, race, gender, and identity. It is difficult to isolate exactly which elements of Jones's movements are hand-me-downs. Instead, perhaps, it makes sense to think of Jones's movement as another kind of palimpsest, one where traces of his experience and relationships are suggested within the movement. Danielle Goldman may question whether we are able to see Jones’s experience as a black, gay choreographer within the motion-capture, but I wonder whether masking the blatant markers of race and identity might support a more subtle listening for a more nuanced expression of Jones's experience.

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102 Kaiser, Steps.
FILLING IN THE BODY WITH SOUND

In *Ghostcatching*, sight is limited to the spare, animated figure and virtual space. As discussed above, attention to movement provides important information about the missing body. Similarly, sound also defines the hand drawn figures and the surrounding environment. The sound score, including the environmental soundscape and Bill T. Jones's voice, informs the virtual world and the beings that inhabit that world.

The composed electronic soundscape, made from synthesized sounds, serves as diegetic sound in this new, virtual world and sonifies the tactile presence of Jones's body. For example, in the opening sequence, juxtaposed to the dead silence of the soundtrack when the body is still, the audience hears the figure's movements as if being forced through air. Made from sound synthesis rather than sampled recordings of live movement, these sounds describe a mechanical, non-organic world. The audience does not hear the rustling of cloth, brushing of skin, or footsteps on the floor. Instead, the synthesized sound environment, with its low-pitched movement noise, suggests thick air. Similarly, the absolute silence of the figure's stillness suggests large, heavy air molecules, where sound does not travel easily. There is no ambient sound of other life systems humming alongside the hand drawn figure. The virtual landscape is stark, like a pristine, anaerobic lake.

Motion trajectories\(^\text{103}\) made by Jones's hands and feet, in the second section, are sonically reinforced to suggest friction and dense air, as if movement etches the air. The sound connotes a

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specific kind of touch — one that carves into, like keying a car. The etching sound guides the audience's attention to the motion trajectory movements and the interaction between the figure and its environment. Here, sight, sound, touch, and movement are entwined.

The non-diegetic sound accompaniment to Ghostcatching is mixed together from studio vocal recordings of Bill T. Jones. Unlike earlier OpenEnded Group dance works with soundtracks composed by Ron Kuivila and Gavin Bryars, Eshkar and Kaiser composed Ghostcatching's score by excerpting and collaging text and song fragments together. This method of sound composition mirrors how Kaiser and Eshkar sequenced together the motion capture movement phrases.104

The decision to use Jones's voice is significant and also fits with Jones performance style — it is not unusual for him to sing or speak during his solo performances.105 In Goldman's analysis, she compares Jones's use of his voice in his evening length compilation of solo pieces, The Breathing Show, presented between 1999-2002. Specifically, she compares a live solo where he sings and dances with Ghostcatching. Goldman remarks on the difference between the heavy breathing that accompanied the live performance of simultaneous song and dance and Ghostcatching's austere lack of bodily breath and sound of physical exertion. It is true that the audience does not hear Jones's labored breath; still, his voice communicates other details about his body and being that inform one's interpretation of the hand-drawn figures.

105 In the larger dance world, this is not a standard practice.
As a viewer, I learn about his voice, beginning with Jones's recitation of the letters A-F—its deep rumble, clarity, maleness, and projection.\(^\text{106}\) In his whisper, I feel the throat and the flow of air through his mouth. In his deep, resonant voice, I can hear the vibration of his large open chest and the muscular frame. I can hear his forward placement, and the vibration of his nasal cavity, and what singers call a mask resonance (the buzzing on the bridge and around the nose). I can hear that the tongue and jaw are dropped and loose. I hear his clear annunciation. The tongue is quick and light, yet deliberate. Jones's voice helps to fulfill his requirement that he not be "a disembodied, denatured, de-gendered series of lines moving in a void."\(^\text{107}\) His voice identifies the protagonist and the various spawns as Bill T. Jones and tells us about his real, physical body, including the body's gender, resonance, size (length of vocal tract), and shape.

His voice asserts his identity, race, history, environment, and experience through tone, accent, and vocal placement, as well as the content of what he chooses to speak and sing. Amidst the enclosure of the motion trajectories, the soundtrack includes text and song fragments. The only song sung with lyrics is an excerpt of the folksong "Dink's Song," first recorded by John Lomax in 1908 as sung by an African American woman, Dink, in Texas.\(^\text{108}\) The text describes a woman left by her lover when she is pregnant and connotes race and a southern, African American experience. Speech excerpts such as, "'I want you to look in the trunk. I have some cornbread waiting for you.' 'Where, mama, I don't see nothin'? 'Stretch, honey, you gotta look way in there'" also reinforce a southern geography with language like "cornbread," "mama," and "honey," as well as the spoken intonation and accent. In this instance, the movement mimics the

\(^{106}\) I am speaking for myself here because, as a trained vocalist, I am particularly aware of and able to articulate details about the physiology of Jones's sound production. As every person has a personal, physical experience of sounding, I believe that the audience recognizes these details, even if they are unable to articulate them.

\(^{107}\) Kaiser, *Steps*.

text, with the figure stretching and looking. In the final section, we hear Bill T. Jones as if through a distorted megaphone. The soundtrack returns to the compressed, mechanical, air sounds of the opening, accompanying the spawn ensemble's movements. Jones is directing the dancers to move in specific ways using terms from ballet and modern dance and so communicating another part of his experience, history, and knowledge.

Because Ghostcatching erases skin and sweat, it forces the audience to gather information from other aspects of the body. As described above, the audience relies on the visualization and sonification of haptic interactions with the environmental space. Similarly, Bill T. Jones's voice brings the listener into his body. The way that he chooses to use of his voice as well as his text and song define both his body and his identity. As if returning to one's first language of sound and touch, Ghostcatching encourages the audience to pay attention through their less dominant senses and, because of this, inspires a new way of looking at traditional tropes of race and labor. At the root of this is one's recognition of the virtual body as similar to the viewer's body. To plant the seed for a later discussion, if a virtual body can inspire sympathy, empathy, and recognition, perhaps we can use similar methods to relate to more abstract variations of body, such as a body of water or sound or visuals that represents a running body or a flying body. Below, I will look at contemporary research that explores how physical perception frames our understanding of art and music.

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110 In chapter four, I will explore these ideas in a detailed analysis of Wager's Tristan und Isolde.
EMBODIED COGNITION AND MUSIC ANALYSIS

We understand much of our world through physical experience and interaction. When one thinks of the signs that define a friendship between two people, attributes such as physical contact, facial expression, tone, manner, and eye contact qualify the relationship. Most people communicate with and respond to physical signs unconsciously, often recognizing them only as vague feelings. Physical signs are an important part of how people communicate and, related to this discussion, guide the interpretation and understanding of art. Just as motion capture techniques were used by Kaiser and Eshkar to accurately recreate Jones's movements, these same technologies can be used to measure physical response, such as the small lift of an eyebrow, a deepening of the voice, or a darting of the eyes. By looking at the analytical potential of these recording technologies, we can see both what these technologies and the body give to artistic creation, communication, and interpretation.

Marc Leman, in his book *Embodied Music Cognition and Mediation Technology*, offers a method to record, analyze, and apply physical engagement to music analysis. Leman proposes that a researcher can objectively quantify physical expression by using motion capture techniques, video recording, and various forms of data analysis to collect and measure a listener's physical engagement. Using this data, music analysts can describe a listener's physical response to music. Leman examines what this information tells us about musical communication and meaning. After reviewing his basic tenets, I will show how these ideas can be applied to the study of multimedia arts.
Leman relies on four tenets of embodied cognition philosophy in his study of physical response. First, he describes how the human body facilitates a common experience of perceiving the world. Second, he shows how a person's physical articulations display intention. These articulations, which suggest a listener's unique relationship to musical expression, can be recorded with the aid of technology. Third, Leman proposes that the listener's body creates a sympathetic internal performance in response to music. Music analysts can study these inner sympathies, which give objective clues about a listener's relationship to a piece of music. Finally, Leman explores the translation of physical energetic content into different sensorimotor modalities (for example, sight to sound or sound to touch). Although Leman's work describes using physical experience to inform our understanding of music, these basic tenets can also be used to understand the varied and complex kinds of physical engagement possible with multimedia works of art.

**SHARED BODY**

*Actions indeed are subjective: they can be learned, they often have cultural signification, and they are based on the biomechanics of the human body. In that sense, actions may form a link between the mental and physical worlds.*

The biomechanics of the human body mediate our perception of the world. The physical capabilities and limitations intrinsic to being human guide a person's experience. Individuals, for example, experience different ranges within every parameter of perception: some are capable of hearing slightly lower or higher frequencies than others, some discern soft sounds that others find inaudible. Still, if one focuses on how the body frames our perception, we can emphasize the

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shared experience of living in a human body with similar limitations, abilities, needs, and therefore, experiences and how this influences the construction of cultural meaning.\textsuperscript{112} Perhaps this is why the accurate and detailed re-creation of Jones's movement is so fundamental to \textit{Ghostcatching}. The viewer recognizes the abilities and limitations presented by the moving animated figure as being within the human range of ability. Because the animated movement never challenges this assumption, for example, there are no 360-degree head twirls or flying, the viewer trusts in understanding the body as a shared frame of possibility.

The study of physical signs is constrained by our technological capacity to monitor and record different types of movement and different aspects of musical content. In the early twentieth century, work on musical perception by researchers in Gestalt Psychology created a "cognitive account of music perception based on the idea that musical meaning emerges as a global pattern from the processing of information patterns contained in sound."\textsuperscript{113} This premise formed the basis of information theory, which facilitated an objective description of musical content. Computers inspired this line of thinking because they are able to create a detailed description of musical content. Computers can sort and record massive amounts of data about the physical attributes of sound, including frequency, dynamics, rhythmic content, tone, harmonic frequency, and strength of formant frequencies. By studying objective sonic information, analysts are able to create precise and complex descriptions of musical moments that would be too difficult to analyze and compare without the help of computers.

\textsuperscript{112} I find the idea of shared experience incredibly comforting. After years of studying post-modern theory at Wesleyan University for my undergraduate degree, I found the inherent loneliness of its fundamental emphasis on our unique experience disheartening. Post-modern theory did not align with my experience performing music. I have always felt that music provides me with a moment of togetherness with others and Leman's research suggests that that unity lies in the body.

\textsuperscript{113} Leman, \textit{Embodied Music Cognition and Mediation Technology}, 30.
With modern technology, we can limit complex descriptions through "computer modeling based on feature extraction" in order to make the information more relevant to our experience of music. Feature extraction describes the process of replacing global patterns and rules of information theory with known human physical capacities of perception. For example, using a system of feature extraction, a sound sample may be constrained by real physical limitations such as human auditory frequency limits (20 - 20,000 Hz). In this way, the system "focuses on those aspects of physical energy which are relevant for human behavior."\textsuperscript{114} The ability of researchers to organize and limit information according to shared human capabilities brings us closer to understanding the body's role in musical perception.\textsuperscript{115}

**HUMAN PERCEPTION AS ACTION-ORIENTED PROCESS**

*Knowledge does not emerge from passive perception, but from the need to act in an environment.*\textsuperscript{116}

Time-based art requires understanding the relationship and active physical response between music, player, listener, culture, and environment. Researchers struggle with the problem that perception based feature extraction is "too restrictive because it does not allow enough room for subjective involvement with music or for the action-oriented bias of human perception."\textsuperscript{117} In other words, **perception based feature extraction prioritizes the elements or objects being studied over the process or ways that those objects are interacting.** Embodied

\textsuperscript{114} Leman, *Embodied Music Cognition and Mediation Technology*, 35.
\textsuperscript{115} Still, this is only one way of using the body. Because feature extraction prioritizes quantification and lists of attributes, it does not utilize the power of the body to communicate complex information interweaving cultural, individual, emotional, physical, mental, and psychological elements.
\textsuperscript{116} Leman, *Embodied Music Cognition and Mediation Technology*, 43.
\textsuperscript{117} Ibid., 41.
cognition philosophy's theory of organism-environment interaction offers one way to consider the symbiotic relationship between subject and environment.

How can we study organism-environment interaction in music making? Leman approaches this problem by integrating his action-reaction cycle\textsuperscript{118} with the hypothesis that one can quantify a listener's inferred action by capturing physical signs of their intention.\textsuperscript{119} For Leman, intention communicates predictions made by a listener about what the music will do. This information gives the researcher clues about an individual's relationship to the piece of music including their musical knowledge and their engagement with the work.

Traditionally, there are two ways of describing intention. First person descriptions refer to music's ability to act like a person (personification), with motives, desires and expressive needs exhibited and understood through its moving sonic forms.\textsuperscript{120} Third person descriptions are objective, "repeatable measurements of phenomena"\textsuperscript{121} that can be used by researchers without having to consider cultural constraints or symbolic meaning (quantitative attributes). For example, the heart rate of various listeners taken while listening to a piece is a third person descriptor. Leman proposes a possible second person description, which quantifies intention. Second person descriptions "show, express, and articulate the private experience from one subject to another."\textsuperscript{122} Using the body as a shared constraint, the data shows which actions are shared physical responses and which are subjective responses. For example, Leman videotaped a number of subjects from different cultural backgrounds and varying musical experience who

\textsuperscript{118} This is a model for understanding organism-environment interaction as process by studying action, perception, judgment, and change. Leman, \textit{Embodied Music Cognition and Mediation Technology}, 53.

\textsuperscript{119} This discussion extends ideas about intention from chapter one, pp. 27-34.

\textsuperscript{120} Leman, \textit{Embodied Music Cognition and Mediation Technology}, 79.

\textsuperscript{121} Ibid.

\textsuperscript{122} Ibid., 82.
were "asked to move an arm along with three short pieces of Chinese guqin music."\textsuperscript{123} All the subjects performed some movements, which suggests that humans have an instinctual response to move in sympathy with basic musical attributes. Other movements revealed the subject's knowledge of music, as well as their involvement with the music, through their anticipation of musical events such as cadences or repetitions.\textsuperscript{124} This shows how one can scientifically measure intention through physical articulations. Second person descriptors provide a doorway into prioritizing relationship, process, and the body in music analysis and composition.

Using this same research, one can also argue that physical perception, sympathy, empathy, and participation with art are essential components to what the artwork means and how it communicates. Physical engagement becomes a part of the process that allows a person to align with, attune to, and learn about an artwork. When we sing along with a piece of music, dance to it, or begin to harmonize with it, these practices help us explore the work. For example, while watching \textit{Ghostcatching}, the audience can mimic the body, view through Jones's eyes, sing along with Jones, and imagine what it feels like to move in that virtual space. A researcher could record breathing rates, muscle contractions, and eye movement to examine sympathetic engagement and look for physical signs of alignment or awareness of intended action. Such a study could provide information about what the audience experiences, how this is influenced by their relationship to their own body (dancer, non-dancer), and how this data relates to the construction of cultural and cross-cultural meaning. In this way, the body provides a meeting ground, facilitating the gathering of both subjective and objective data about one's experience of music and art and creating a valuable space for discussion.

\textsuperscript{123} Leman, \textit{Embodied Music Cognition and Mediation Technology}, 124.
\textsuperscript{124} Ibid., 124-127.
TRANSLATABLE ENERGY

As summarized above, Leman suggests that contemporary technology allows us to quantify a listener's physical response (physical articulations or movement, however small) to a piece of music. Contemporary technology also allows us to examine varying aspects of an artwork in terms of its physical energy (the real energetic content of sonic vibrations in terms of frequency or amplitude or the quantifiable energy of light or color). For Leman, physical energy presents a "transparent technology" that will "give a feeling of non-mediation, a feeling that the mediation technology 'disappears' when it is used."125 This is true because physical energy can be studied, described, and quantified objectively. For example, the Star Spangled Banner can be defined by its energetic content, as a certain frequency (or combination of frequencies) at a certain volume for a certain amount of time. Jimmy Hendrix's version of the Star Spangled Banner is expressive for many reasons, including when and where it was performed and the use of non-standard instrumentation and variation. Still, it is possible to limit one's study to the quantifiable, energetic attributes of the work measured through elements such as frequency, amplification, and timbral quality like distortion and noise.

Part of what is exciting about studying sound's real, physical energy is that it can be translated into different perceptual modes (visual, tactile, etc.) while retaining its fundamental quantity of energy.126 For example, someone with synesthesia may hear a symphony and unconsciously translate the sonic physical energy into an experience of the piece as color, light, or

126 Ibid., 21.
physical movement. Similar to the way that NASA scientists sonify video of the sun, described in the second chapter, translating sonic energy into light or movement provides new information about the original material. Such information is useful to both analysts and creators. For example, some composers who have synesthesia use this ability to guide their compositional process, choosing keys and chords that connect with specific colors to visually guide their musical choices. This has been important to the development of contemporary composition because it has allowed composers to expand the musical language while still organizing their choices around something that supports compositional cohesion. In this way, translating between perceptive modes allows both composers and analysts to explore the original content through translation while retaining fundamental, quantifiable physical attributes of the material.

Through translation to different perceptive modes, music can be understood in terms of its sonic energy alone. Still, music, as a live experience, is a multimedia event that is tactile, visual, sonic, physical and changing over time. Leman's analysis is exciting because it offers a method to weave together subjective and objective information into a body centered discussion that provides a platform that opens music—as a multi-dimensional experience—to an objective and inclusive study. This method lays the groundwork for acknowledging the body as an active, vital component in the process of interpreting music and art. His ideas also create a bridge to discuss dance, theater, and other multimedia practices that benefit from a multi-sensory, body-centered approach.

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128 Jan Broeckx, director of the Institute of Psychoacoustics and Electronic Music in Germany, has suggested theories of expressive meaning in music that rely on the basic ability to translate perception between sensory modes. According to Broeckx's theory, we experience musical expressiveness based on synesthetic processing (auditory qualities translated into multisensory impressions), kinesthetic processing (musical dynamics via ideometer processing leading to impressions of movement), cenesthetic processing (translating synesthetic and kinesthetic input into linguistic terms), and analogical thinking or association. Leman, Embodied Music Cognition, 93-94.
APPLYING LEMAN'S IDEAS TO *GHOSTCATCHING*:

**DESIRE, INTENTION, AND PERSPECTIVE**

Leman's ideas suggest that our experiential knowledge of the body helps us to predict the intentions of the hand drawn figures. In an interview, Kaiser comments how, "the thing that has interested him [Bill T. Jones] most about *Ghostcatching*, after seeing the final product, is that he feels like the figures in it have 'desire.'" Kaiser mentions this as something odd and new, and that makes sense considering that Kaiser's previous work with Merce Cunningham was about movement that did not display intention. Cunningham's movement was made to be modular. His dancers quickly transition between movements with a detachment that prioritizes the present moment. Bill T. Jones's movement is different. Desire and intention can be found in the cellular structure of his original movement material because of the way his body anticipates and prepares movement that is meant to be fluid. The "liquidity of flesh" that attracted Kaiser and Eshkar from the beginning is exactly the quality that creates the continuity, connectivity, and desire within Jones's use of his body.

The fact that desire is still palpable in the final animated version means that Kaiser and Eshkar have succeeded in retaining the aura of the intention within the original movement and created motion transitions that fulfill our physical expectations of preparation and consequence. *Ghostcatching*'s prioritization of the exact details of Jones's movement, as well as realistic and stylistically compatible transition material supports the viewer's ability to perceive intention and sympathize or attune to this movement. The audience's recognition of the intention of the hand

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129 See description of inner model creation and intention in Chapter 1, pp. 29-32.
drawn figures grounds their ability to co-create a mental, inner model of the intentions of the animated figures and empathetically engage with the work.131

TECHNOLOGY AND THE SPIRIT

Still, there are elements of Kaiser and Eshkar's *Ghostcatching* world that are fantastical. For example, we see and hear the impact of the body on the surrounding space through the sound of motion trajectories. Defined by sonic scraping and visual trails, the traces accumulate and grow into architectural spaces that dominate the virtual environment. Such traces are not a normal human's experience of everyday movement. Instead, Kaiser and Eshkar use the motion trajectories to highlight the way that a body can draw when it dances, something that a choreographer or dancer might pay attention to as a compositional aspect of their work. By overtly visualizing and sonifying this imaginative skill, Kaiser and Eshkar help the viewer to see through the choreographer's eyes and understand how the choreographer imagines the movement. Similar to how Diamanda Galás's vocal processing helps the listener (and her) attune physically to the body's illness or impaired state, the visual and sonic trails in *Ghostcatching* help the audience attune to the choreographer's vision of dance as sculpture. Here, the animated trails help to convey how Jones imagines space and air to be sculpted through dance.

The decision to visualize the motion trajectories was inspired by Kaiser's earlier collaboration with choreographer William Forsythe. Kaiser explains:

At our first meeting in Frankfurt, Billy [William Forsythe] tried to convey to me how he derived unexpected kinds of movement from the vocabulary of the classic ballet. As he described his methods, he began drawing imaginary shapes in the

air, using all the parts of his body – not only his feet and hands, elbows and knees, but also his skull, shoulders, butt, and even his ears and chin. He talked and moved rapidly, building up a complicated and invisible geometry of dance that I had no ability to visualize or follow. As a non-dancer, I had little awareness of the body’s kinesphere – the total volume of a body’s potential movement. This was an awareness that Forsythe and his dancers had developed to an extraordinarily acute degree.  

Technology provides a way to make overt what is often too subtle for the untrained eye to see. Technology can help the creator express their intentions through embodied means that previously relied on metaphor and imagination. I have never danced in a house made of the remnants of my movements, but the presentation of the accumulation of Jones’s motion trajectories physically communicates to me the feeling of being over-stimulated, enclosed, and a lack of control. Is this not similar to Messiaen's light organ, which made his experience of synesthesia visible? By aligning complementary media (light that connects to a specific sound, sonifying specific visuals, or making movement visual), the creator is supporting physical sympathy and attunement with both the detail and the underlying metaphoric content of the work. The trails literally show accumulation and the way that the past can linger around us as a cage. In this way, the motion trajectories are a strong artistic metaphor that is essential to expressing Jones, Kaiser, and Eshkar's collaborative exploration of freedom. Building on Leman's study of translation between physical energies and perceptive modalities, the doubling of content through multiple senses is a powerful compositional tool that helps to communicate what is meaningful.

Returning to our previous discussion, perhaps what lies beneath Danielle Goldman's aversion to the disappearance of sweat and skin, and Bill T. Jones’s apprehension about not

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wanting to be "disembodied...lines moving in a void" is the deep-rooted fear that technology will remove what is most human about us. This fear becomes especially acute in the arts because the arts are often described as expressing a community's culture and values. What does it mean if technology supplants the human body in our artistic practices? Both Goldman and de Spain seem apprehensive of what technology offers in return for what it replaces. The traditional John Henry folktale of a powerful railroad worker who competes against a steam drill to dig a tunnel, dying just as he breaks through and beats the machine, demonstrates our underlying cultural fear of technology. The vision of a machine pushing us forward to the point of death and exhaustion in a competition for one's livelihood and integrity has remained a defining story of the working class's (and really everyone's) battle to remain meaningful in an increasingly technological world. Although most embrace technology in all aspects of life, it remains a distrusted other in our cultural ethos. So, what is technology "doing" in Ghostcatching? Is it erasing or silencing Jones's body or human-ness? Is it removing his race, history, or experience? Is technology merely an excuse to erase unwanted signifiers, creating what Goldman suggests is a "brutal hygiene"?

I would argue that it is not erasing or silencing. Technology does not make us forget that Bill T. Jones is African American. Whether we know this because we know of Bill T. Jones, or we sense it through is voice and his choice of song and text, or whether we are aware of the questions of freedom, captivity, restraint, and assimilation suggested by the video, the aura of the African American experience is present. Similarly, the technology does not make us ignorant of the kind of exertion (labor and sweat) necessary to move as the animated figure. In fact, the animators have worked to retain and communicate the figure's tension, force, work, and power as discussed earlier. In Ghostcatching, technology has become a tool to help us align with the perception of the creators (see through their eyes) through the motion trajectories, as well as listen
to dance in new ways — through sound, movement, and touch. For me, this is a work that proves that technology is not what threatens our human spirit. The things that keep us human are our relationships, observations, curiosity, engagement, and care. These qualitative forms of experience rely on our ability to perceive the world around us; relate, align, or attune to that world; and continually learn about and grow with our surroundings. Physical perception inspires our sympathy and empathy for the hand drawn figures. Curiosity, inspired by our limited visual perception, guides a new understanding of Bill T. Jones, dance, and the body. In this new, virtual world, the body is defined by movement, sound, and touch; dance exists as abstract points in space and time; and Bill T. Jones is a man who risks not recognizing himself, trusting the integrity of collaboration and his spirit, in order to discover something new.
CHAPTER FOUR:

THE TRISTAN PROJECT AND THE KNOWING BODY

Figure 4.1. The Tristan Project. Photo by Ruth Walz

BODY SIGNS

The orchestra fills the stage. They prepare to play a new production of Richard Wagner’s 1859 opera, Tristan und Isolde, titled, The Tristan Project. For this multimedia endeavor, two large video projection panels tower above the stage. During the five-hour performance, specific instrumental solos emerge from various locations around the hall and singers seem to be everywhere: sometimes onstage; sometimes in the rear, right, or left balconies; sometimes moving

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134 An early draft of this chapter titled "Sympathetic Vibrations: Connecting With the Audience Through Images of the Body" was presented at the Music and the Moving Image Conference at NYU, NYC in 2009. A revision of this same paper was presented at the (Re)making (Re)presentation Conference at CUNY, NYC in 2010. In 2012, a longer version of this chapter, including most of the theoretical elements of this dissertation, titled "Spirit in the Flesh: Physical Engagement and the Creation of Meaning" was presented as a works in progress talk and published online through Princeton’s Center for Arts and Cultural Policy Studies program. This paper can be found at http://www.princeton.edu/~artspol/workpap48.html.
down the aisles. The hall teems with the mythic world and action of Tristan and Isolde’s ill-fated love.

Presented as a duet between live music and video, this unconventional retelling carries the opera into the twenty-first century. Here, the video actors perform slow rituals in simultaneous action with the opera. They become windows into the subtext of the narrative. Bodies do inhuman things: they fall in slow motion, emerge from fire, and levitate above the stage. There is a synergy between the live performance and the virtual world that is intriguing, as if the video panels display a parallel universe where time, bodies, and elements such as water and air, are fundamentally different.

![Figure 4.2](image-url)  
*Figure 4.2. The Tristan Project, Liebestod. Photo by Ruth Walz*
In the last minutes of the opera, Isolde stands by Tristan's lifeless body and sings her final aria, "the Liebestod" (fig. 4.2). Here, she calls for Brangäne, her maid, and King Marke to come near. A single, looming video panel hangs above the platform. As the reality of Tristan's death becomes clear to Isolde, she sings about how she feels his lingering breath and hears his haunting melody. The music swirls around her, as if she is swimming in turbulent waters. At the musical climax, as she sings about succumbing to and merging with the "universal stream of the world breath," her melody rhythmically elongates while, simultaneously, in the video, a female body bursts from the sea.

With arms outstretched, singing her aria in full voice, Isolde's posture mimics that of the rising video body. On the screen, a woman, body dripping with water, slowly levitates, ascending above and away from the world from which she has broken free. The video is curious: a light emanates from the water, seeming to illuminate a path from below. Although the female body bursts from waves, she remains in a water-like world, as if there is a sea within a sea. As the body rises, a trail of bubbles descends down away from her head — a draining of air, like the draining of blood. In the video, air is heavier than water. The body slowly rises upwards as water replaces air. Her clothing flows languidly as the body rotates by a quarter turn. Accompanying the orchestra's final repetition of Tristan's plaintive motive and its resolution, the body passes beyond the edge of the video screen, up, out of sight. The oboes persist, creating an expanse of space. Simultaneously, the last fragments of life trickle down as glimmering air bubbles falling through water. The orchestra plays their final iteration of the resolution and there is a collective sigh.

135 Throughout this chapter, I will refer to the vocalists by their roles in the opera. Although the video actors sometimes take on roles that parallel these characters, I will always specify that they are the video actors.
After witnessing this performance live at New York's Avery Fisher Hall in 2007, I experienced an ongoing sensation of slight shaking and tingling throughout my body. These sensations continued from the end of the matinee performance through the night and would return whenever I mentally replayed parts of the performance for a number of months. I have never experienced such a dramatic physical response before or since. What was it about *The Tristan Project* that inspired such a strong, physical reaction? This question has haunted me for the last seven years and the following discussion and analysis is my attempt to explain how this piece inspired such a strong response from my body.

*Figure 4.3. The Tristan Project, First Act. Photo by Ruth Waltz*
WHY VIDEO & WHY VIOLA?

*The Tristan Project* is a multimedia adaptation of Richard Wagner’s opera *Tristan und Isolde* co-produced by the Los Angeles Philharmonic and the Paris Opéra. The work premiered in 2005 at the Walt Disney Concert Hall where each act was presented as an evening program with other pieces that could not have existed without Wagner's *Tristan und Isolde*. Later the same year, the opera traveled to the Bastille in Paris and was presented as the full, continuous, original opera with its multimedia additions. In 2007, the production was remounted in New York's Avery Fisher Hall. The production was publicized as an impressive collaboration between contemporary video artist Bill Viola, director Peter Sellars, and conductor Esa-Pekka Salonen. What, in particular, makes this collaboration and their interpretation of an opera written in 1859, ripe for success?

Bill Viola's video complements Wagner's opera for a number of reasons. First, Viola and Wagner share an artistic aim to create transformative work. Wagner's opera, which illustrates his goal of creating a complete music drama synthesizing all art forms (Gesamtkunstwerk), models transformation through the narrative action and musical material, providing Viola with content he can reinforce through video. Many of Viola's solo works explore life process, transformation, and transitional states of being (such as the space between life and death or waking and sleeping). Viola has developed a specific language to express and explore transitional states. His work with slow motion video, archetypal elements and environments, video actors, and

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various effects of texture and color give him a vocabulary that complements and expands Wagner's artistic aims.\textsuperscript{138}

Secondly, in presenting ritualized routines enacting the archetypal thematic underpinnings of the opera, Viola adds nuance and depth to the narrative. The video begins with a man and woman disrobing. At times, the video is slowed to 1/10th its original speed. The slowed movement suggests ritual while, simultaneously, the new visual detail of the slowed action provides a new interpretation of a familiar activity.\textsuperscript{139} The slow pace of familiar, everyday actions suggests that the video is a process that is task oriented and informs the content of the opera rather than creating its own competing narrative. Through the juxtaposition of the semi-staged opera with the video, the viewer experiences a complex, layered reinforcement of themes of transformation modeled through video actors articulating aspects of the opera's central themes of preparation for love, love, and loss. The choice to utilize the video as an abstraction of the content, creating unique real yet metaphorical worlds of water and fire, that would be impossible to achieve through other media, validates not only the need for video but also for Bill Viola.

\textit{THE TRISTAN PROJECT AND THE BODY}

Returning to my original question, why did I leave the performance tingling and shaking and how does Bill Viola's video that portrays bodies in action together with Wagner's opera about love and transcendence speak to the body? Through these questions, I will continue this

\textsuperscript{138} Viola has presented the video from this collaboration independently from the opera in gallery exhibitions, in pieces titled \textit{Fire Woman} and \textit{Tristan's Ascension}, suggesting that he sees the video for \textit{The Tristan Project} as an integral part of his larger body of work.

\textsuperscript{139} Viola's video remains pristine, even when played at 1/10th the original rate because it is recorded at 300 frames per second instead of the standard 30 frames per second.
dissertation’s exploration of the role of experiential, physical knowledge in the creation and communication of meaning. Whether it is present in sympathetic engagement with Jill Sigman's wrapped beef heart; Diamanda Galás's reverberated and confused, computer-processed vocals; or Bill T. Jones's animated virtual spawns; all of these works rely on the physical experience of living to communicate and inspire audience engagement and curiosity. So far, I have discussed this engagement as the byproduct of the common experience of having a body, but in this chapter, I would like to look more closely at contemporary research regarding the relationship between body knowledge, perceptual experience, abstract understanding, metaphor, and the communication of meaning.

Using the theoretical ideas of Mark Johnson, Eugene T. Gendlin, Peter A. Levine and others working in embodied cognition philosophy and somatic psychology, I will explore how physical perception (what we see, hear, feel, taste, and touch) both guides and is guided by past experience, memory, imagination, and emotion. I will describe how full-body, multi-sensory participation facilitates the creation and reinvigoration of meaning. Full-body participation can also inspire individual peak experiences\(^\text{140}\) and transformational, cathartic experiences. In this chapter, I will demonstrate how a body centered analysis highlights the specific compositional elements that engage the knowledge of an independently knowing body. Through an analysis of text, sound, and video during Isolde's final aria, I will explore how \textit{The Tristan Project} uses this body knowledge to support a communal investigation of love, loss, and transcendence and also provides the possibility for collective transformation and healing.

\[^{140}\text{Marc Leman, }\textit{Embodied Cognition and Mediation Technology},\text{ }154-160.\]
INDEPENDENT BODY KNOWLEDGE

PIERRE JANET (1859-1947)

The body has its own independent knowledge. Contemporary research in somatic psychology and embodied cognition philosophy describes how the body is an actively knowing entity whose knowledge is formed from an integrated and continuous, multi-modal perception of the environment. For example, the body sweats or shivers in order to maintain homeostasis without thinking about it. In a more abstract example, each cell finds its own balance of fluids through osmosis, independent from conscious thought.

Independent body knowledge was first proposed by somatic psychologists who study the role of the physical self as a determinant in our behavior. Pierre Janet, the founder of somatic psychology, is considered the first psychologist to emphasize corporeal knowledge in his exploration of mind/body synthesis. Janet proposed that all feeling and sensation is dependent on movement. For Janet, everything was a conscious activity, but these activities could be instigated by a subconscious awareness known by the body but not necessarily knowable to the mind. Janet believed that body knowledge precedes any other knowledge. In other words, physical interactions with the world are one's primary source of knowledge that ground the basis of all other knowing. As Mark Johnson articulates in his book, *The Meaning of the Body*, "we have to learn the meaning of physical objects, which we do by watching them, handling them, subjecting them to forces and seeing how they can be used – in short, by forms of interactive inquiry that are at once bodily and reflective."  

Although much of Janet's research (and other somatic psychology study) revolves around trauma, illness, and non-normative behavior, this research is valuable in

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understanding the body’s relationship to one’s understanding of the world and creation of meaning.

**EUGENE T. GENDLIN (1926-)**

Contemporary psychologist and philosopher Eugene T. Gendlin similarly emphasizes that independent body knowledge and the physical self are essential to a balanced and healthy psychology. In studies conducted by Gendlin at the University of Chicago between 1953-1968, he found that successful recipients of psychotherapy exhibited moments of release that indicated a change in awareness that was lasting. The release was not only internal, but was always accompanied by the recipient making a sound, shifting their physical alignment, and/or shaking. Gendlin used these external, physical actions as signs of internal, psychological action, suggesting that the physical movements were both signs of release and psychological shift, where the two are woven together and dependent on the other.

Gendlin used this research to create a therapeutic method called *focusing*. *Focusing* helps a person achieve moments of release by allowing the practitioner to become aware of what he named “the felt sense.” The felt sense is an integrated and complex understanding of our selves and our environment through physical experience.142 Continuing the work of pragmatic philosophers, including William James and John Dewey, Gendlin proposed that felt sense is only possible through our multi-sensory, physical perception. For example, ocean waves have a sight,
smell, sound, and feeling that are understood through physical perception as one unified, experiential moment. When thinking of the ocean, one does not extract the glimmer of light from the sound of moving water, or the salty smell from the wet stiffness of saltwater spray. Even more, for me, memories of sailing with my father, various trips to the beach, and a medley of random moments with the sea color my understanding of ocean.

For Gendlin, abstract knowledge is derived from our experience of living. Our interaction with the world around us forms the basis of all knowledge. The following example from Gendlin's Wikipedia page is a particularly clear description of his philosophy.

When a pen falls off a desk, that seems to be proof that gravity exists, because gravity made it fall. But what is "gravity"? In 1500, "gravity" was the pen's desire to go to the center of the earth; in 1700 "gravity" was a force that acted at a distance according to mathematical laws; in the 1900s "gravity" was an effect of curved space-time; and today physicists theorize that "gravity" may be a force carried by subatomic particles called "gravitons." Gendlin views "gravity" as a concept and points out that concepts can't make anything fall. Instead of saying that gravity causes things to fall, it would be more accurate to say that things falling cause [the different concepts of] gravity.

We have all experienced the reality of gravity. We feel the impact of a bruised hip bone when we fall; we hear the shattering of a broken plate when we drop it by mistake; we see the leaves flutter as they fall in the autumn; we taste our physical chemical shift of intense fear when a roller coaster plummets downward; and we smell the dust that rises when a backpack falls off after a long hike. Whatever word signifies this reality, we know gravity physically, through our perception, and this bodily knowing creates and modifies our understanding of “gravity” as

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language or concept. We each have a detailed and complex knowledge of gravity because it is defined experientially through all our senses.\textsuperscript{145}

**PERCEPTUAL EXPERIENCE AND EMBODIED COGNITION PHILOSOPHY**

Similar to somatic psychology, embodied cognition philosophy studies the importance of perceptual experience and the role of the body in the creation and understanding of meaning. We make sense of our bodies first and foremost. We make sense of them in and through movement, in and through animation. Moreover, we do so without words. This primordial sense-making is the standard upon which our sense-making of the world unfolds.\textsuperscript{146}

Where somatic psychology primarily focuses on the relationship between physical experience and mental health, embodied cognition philosophy is interested in the connection between physical experience and the construction of meaning. Embodied cognition philosophy proposes that, from the moment we are born, our physical experience creates a foundation for how we understand language, metaphor, and meaning. In this way, physical experience is central to our active creation, renewal, and adaptation of meaning both individually and collectively.

Embodied cognition philosophy stems from the work of philosophers William James and John Dewey. As mentioned in chapter one, philosopher William James defines one's unified, complex, evolving experience as "percept" and the ideas and patterns abstracted from experience as "concepts."\textsuperscript{147} Mark Johnson describes this relationship, saying, "objects emerge in an experience out of the background of a pervasive qualitative whole...Those objects are saturated

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\textsuperscript{145} Gendlin, "The responsive order."
\textsuperscript{147} Johnson, *The Meaning of the Body*, 71-78.
with the meaning present in the whole situation."¹⁴⁸ According to embodied cognition theorists, over time a person begins to recognize patterns of experience, which they abstract as concepts. Through the process of abstraction, one is able to identify relationships between similar experiences and begin to predict the future consequences of specific types or groups of experiences.¹⁴⁹ Independent of their degree of abstraction, every concept is abstracted from physical, perceived experience. Concepts cannot be severed from experience. Furthermore, meaning becomes unclear when its relationship to the continuous and complex flow of experience is weak.¹⁵⁰

¹⁴⁸ These ideas complement Gendlin’s theories about felt sense, which prioritize the importance of environment interaction, perception, and a whole, connected, living experience. Johnson, *The Meaning of the Body*, 75-76.

¹⁴⁹ William James defines concept as having two parts; first, a sign or symbolic expression (ex. word “dog”) or an image or sensory presentation (ex. dog); second, what the concept leads to in thought or action (ex. petting, happy, loyalty). More concrete concepts have stronger signs or sensory presentations, while more abstract concepts rely more on future implications. Johnson, *The Meaning of the Body*, 91.

¹⁵⁰ Gendlin describes how abstract meanings become stagnant, brittle, and flat when they are disconnected from the body and experience. He works to revive the precision of language found when concept and percept remain connected. For more information, go to the Gendlin Online Library, http://www.focusing.org/gendlin/gol_intro.asp.
PERCEPTUAL EXPERIENCE IN *THE TRISTAN PROJECT*

Returning to our original question, how is physical experience engaged through a performance of *The Tristan Project*, I will illustrate how perceptual experience is guided and physical engagement is encouraged through specific compositional choices. Elements, such as the spatialization of sound sources, a libretto that calls to and includes the audience, Wagner's musical creation of the swelling sea, and common physical actions described in the narrative and depicted through the video (i.e. face washing, swimming, or falling) all support a physical, full body listening. Through metaphors derived from and reconnected to physical experience that are communicated through the libretto, music, and video, *The Tristan Project* investigates loss and love via a whole, *felt sense*, engagement.

**SPATIALIZATION**

![Spatialization and engagement diagram](image)

*Figure 4.5. Spatialization and engagement*

The use of spatialized sound sources in *The Tristan Project* directly engages the audience in the dramatic world.\textsuperscript{151} The listener learns about the space and action through moving sound.

\textsuperscript{151} Surround sound is one of many compositional elements that support physical engagement through multi-sensory perception. Works that use public space as dramatic space support physical engagement: for example, street theater
sources. By listening for reverberation and sound reflection, one learns about the dimensions of the space — its shape, acoustic properties, and the materials present in the environment (such as thick, sound dampening fabrics or hard, reflective surfaces). The audience also learns about their relationship to the action, such as who is included in the action, and what kind of action they can expect in the future.

Spatialized sound sources bring the audience member into a shared experience with the performer, where certain musical moments define the performance space, including the audience, as a living space. Director Peter Sellars succeeds in establishing the whole auditorium as the location of action and the audience as participants in the narrative. For example, because the crewmen sing from various parts of the hall, it is as if the ship spans the entire auditorium and the audience becomes members of the crew aboard the ship Tristan and Isolde first sail on. Later, with certain members of the orchestra spatialized around the hall, Sellars creates a sounding forest that permeates the space from all directions, so that the audience is also in the forest where Tristan and Isolde meet in secret. The use of spatialized elements creates an environment that mimics the listener's real perception of the world. Pioneer Pauline Oliveros has explored the intricacies of listening as a full body endeavor through her practice, "Deep Listening." She explains how listening is not limited to the ears. Instead, she proposes that the senses work together to support attention, so that cues of sight, smell, touch, taste, and movement and sound walks. Similarly, the use of environmental sound, shared sensory input such as weather (humidity, rain, heat), and physical proximity to the action (perspiration of an actor, smell of a gun shot) support physical engagement. One element that inspires physical engagement is that the participant does not distinguish their reality from that of the performer's. The audience experiences real, direct perception of life. This is an example of William James's idea of percept.

152 Seeing the production live from the far right balcony, I was surprised to have an instrumentalist play a short section from the doorway directly behind me.
153 This is in contrast to the usual performance situation where the performer is in the dramatic world and the audience voyeuristically observes the drama (separated by drama's fourth wall).
support listening and are entwined with one's ability to perceive what is happening around and within. The body instinctively relies on such multimodal perception to help explore and understand the surrounding environment.

Surround sound inspires an instinctive state of active listening, or full body listening, recalling days when humans were hunting or being hunted and listening was essential to survival. This type of listening is marked by attention to detail, sensitivity to direction and proximity, as well as other attributes of sound that alert us to danger or procuring a meal. In her book *Deep Listening*, Oliveros defines the distinction between listening and hearing. "To hear is the physical means that enables perception. To listen is to give attention to what is perceived both acoustically and psychologically... sound pressure patterns assist hearing but cultural history and experience influence listening." The brain filters incoming sonic information according to collective and personal experiences. Because of these filters, some of what one hears becomes what is listened to, in that it is imbued with cultural, psychological, and experiential content and meaning. Spatialization is one way *The Tristan Project* inspires full body listening and, in a reciprocal relationship, full body listening supports psychological and emotional engagement. Through the duration of *The Tristan Project* (4.5 hours), the audience becomes ever more involved in a whole and connected way — physically, emotionally, mentally, psychologically — integrally immersed.

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156 The performer can model full body, inclusive listening and initiate a space where one is both listening and being listened to. As Oliveros describes, "My performances as an improvising composer are especially informed by my Deep Listening practice. I do practice what I preach. When I arrive on stage, I am listening and expanding to the whole of the space/time continuum of perceptible sound. I have no preconceived ideas. What I perceive as the continuum of sound and energy takes my attention and informs what I play." Oliveros, *Deep Listening*, xix.
THE LIEBESTOD

In this multimedia production, listening is a full body, multimodal experience. What one sees, hears, imagines, remembers, feels, tastes, and smells all shape what is heard and how that is meaningful. Below I will begin with a musical analysis of the Liebestod followed by an exploration of how Viola's video helps to guide what we are hearing. Nicholas Cook, in his book Analyzing Musical Multimedia, describes music as a medium that "sops up" the meaning around it. With this statement, he implies that music has no concrete meaning of its own and relies on the more concrete signifiers of visual information and text to define it. Yet, I would suggest that in The Tristan Project, each medium reflects into the other, coloring, imbuing, filling in, and shading the work's meaning. Similar to how sound fills in the bodies of Bill T. Jones animated beings, The Tristan Project exists as a whole work where each medium illuminates the others. To begin this exploration, I will start with the libretto.

How softly and gently he smiles, how sweetly his eyes open - can you see, my friends, do you not see it? How he glows ever brighter, raising himself high amidst the stars. Do you not see it? How his heart swells with courage, gushing full and majestic in his breast? How in tender bliss sweet breath gently wafts from his lips - Friends! Look! Do you not feel and see it? Do I alone hear this melody so wondrously and gently sounding from within him, in bliss lamenting, all-expressing, gently reconciling, piercing me, soaring aloft, its sweet echoes resounding about me? Are they gentle aerial waves ringing out clearly, surging around me? Are they billows of blissful fragrance? As they seethe and roar about me, shall I breathe, shall I give ear? Shall I drink of them, plunge beneath them? Breathe my life away in sweet scents? In the heaving swell, in the resounding echoes, in the universal stream of the world-breath - to drown, to founder - unconscious - utmost rapture!

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157 Cook, Analyzing Musical Multimedia, 3-23.
158 Wagner, Tristan Und Isolde, CD booklet libretto.
Wagner first engages the body through his libretto. In the Liebestod, the text invites a physical, perceptual experience. All five senses are engaged as Isolde asks the audience to see, shouting, "Look!" She asks the listener to smell the "blissful fragrance" and "sweet scents." They are told to listen, to "give ear" and notice the "resounding echoes," "aerial waves resounding," and "his melody." The libretto engages the audience's sense of taste with the word "drinks" and asks them to "feel" the "sweet breath from his lips." The text initiates a full body experience, and through Isolde's invitation, they are asked to share her perceptual experience and memory.

In this way, the text calls the audience to participate. Isolde's call to her friends, "can you see, my friends, do you not see it...Friends! Look! Do you not feel and see it?" are inclusive. Wagner invites the audience into the realm of action (this is reinforced through Sellars's spatialization of sound). Isolde calls not only to Brangâne and King Marke who stand nearby, but also to the audience. In her moment of absolute loss, when she is completely broken and humble, she asks the audience to join her and, so, invites the audience into her experience. "Do I alone hear this melody so wondrously and gently sounding from within him?" No. Literally, the audience hears it too. Like Isolde, the audience is "pierced": with this word, the oboe that has been lightly doubling the voice descends a step and cuts through the texture with a crescendo. Simultaneously, the bubbling texture of the harp drops out while all the strings, except the first violins, play sustained half note chords. In this moment, the music is distilled in preparation for the first climax, as if contracting into a crouch. The sonic piercing and contraction aligns with the text, woven with sexual undertones, where "to pierce" suggests that the body is entered and physically changed.
When discussing perceptual experience that is more abstract, such as the movement of a musical body rather than a human body, how do concepts remain connected to physical experience? Mark Johnson, in *The Meaning of the Body* and earlier writings published with George Lakoff, asserts that metaphor provides a connection between embodied experience and abstract concept. In the example above, the listener understands the meaning of "pierced" through experience first, such as shooting an arrow into a deer, sticking a fork in an orange, or getting one's ears pierced. An individual's life experience defines this verb in language. In art, ideas can be communicated through musical demonstration — the oboe metaphorically pierces through the orchestral texture, becoming a type of perceived metaphor.

Mark Johnson coins the term "image schema" to describe a metaphor (such as pierce) that articulates abstract processes or relationships. For example, he uses "center-periphery" as an example of an image schema based on the biomechanics of human visual perception, where one focuses on a specific point (center) and sees the periphery less clearly. As a metaphor, center-periphery describes the relationship between a central focused object and less important subsidiary details. This image schema can be used to describe the relationship between a main motive and a secondary theme in a musical work or the relationship between the main and side plot in a novel. Image schemas are powerful because they prioritize relationship and process over an exactness of situation and event.

Leonard Talmy's "force dynamics" are also examples of image schemas based on physical knowledge. Johnson describes these metaphors, saying:
Because of our ongoing bodily encounter with physical forces that push and pull us we experience the image-schematic structures of COMPULSION, ATTRACTION, and BLOCKAGE OF MOVEMENT... The bodily logic of such force schemas will give rise to specific inferences that we draw, based on the internal structure of the schemas. For instance, objects move at varying speeds, they move along trajectories, there is a rhythmic flow to their movement, they start and stop, etc. Based on these and other characteristics of moving objects, the internal structures of the image schemas for forced movement support and constrain the precise inferences we make about our experience.\textsuperscript{159}

"Magnetic attraction" describes people being drawn to each other and "mental block" defines an inability to think of something. These metaphors communicate because they relate to a general knowledge based on experience, such as the physical interaction of a magnet and a penny or an experience of movement thwarted by a barrier. There is also something intrinsically musical to Johnson's description of force dynamics. Perhaps it is the reference to a "rhythmic flow" or "trajectory," these qualifiers describe music as a moving entity and even as a moving being. A musical phrase is often described as having gravity or movement, such as flying, limping, or stagnant. Metaphors of embodiment describe a piece's movement and style as if it were a living being. Such analogies are useful because they prioritize process, change over time, and, I believe, help to connect music to physical experience.

In \textit{The Meaning of the Body}, Johnson gives an example of the common musical metaphor of being "carried away" or "moved by" a piece of music. He suggests that this metaphor is derived from an infant's experience of being carried.\textsuperscript{160} Although the particulars of these early memories of divine movement (moved by a being greater than us, in this case, a parent) are unique, they are also, except in extreme cases of neglect, a universal experience. Every person is cared for by

\textsuperscript{159}Johnson, \textit{The Meaning of the Body}, 137.

\textsuperscript{160}I love imagining that when I have been deeply moved by music, I am also, somewhere in my unconscious, remembering my parents' hands and voices. When I hold my daughter, I wonder what faint traces of our time together will be present when she feels moved by a piece of music.
being held, cleaned, and fed during infancy. The specific biomechanics and development of the human body mediates shared physical experiences. Biomechanics shape both how one perceives the world (such as Marc Leman’s use of perception based feature abstraction in computer modeling discussed in chapter 3) and also specific types of life experiences based on human development (such as caretaking during infancy). Mark Johnson suggests that these physical, life experiences inspire fundamental, shared, embodied metaphors that form the basis of how meaning is created and communicated through art.

EMBODIED METAPHORS IN THE TRISTAN PROJECT

In The Tristan Project, the different media elements work in concert to communicate a perceptual experience of a series of metaphors supporting the main themes of preparation, love, and loss. For example, in the Liebestod, text, sound, and video work together to communicate a multi-sensory experience of ocean and ascension. Merging these themes, we can think of the overarching metaphor for the aria as a rising wave of water. The rising wave is described in the text, visualized through the video, and animated through the music. The text describes Isolde's immersion in the surrounding ocean: the “aerial waves... [surge] around me,” “...shall I plunge beneath them," ... "to drown?" Through compositional details, Wagner creates the aerial waves and notates their shift from "gentle," to "seething," to "heaving swell" over the course of the aria. Wagner's creation of musical water brings one's body into a physical relationship with the sound, where the musical mimicking of water's density, movement, and power engages one's experienced, perceptual knowledge of water. This is also supported by the visual presence of

161 The details of these early experiences of care differ drastically, but they are a common experience based on human development and needs.
water in Viola's video. The time stretched illustration of a woman's body ascending in water during the Liebestod reinforces the musical depiction of how water moves and how things move in water. These different media work together to communicate the feel of water through sound, sight, and memory.

WAGNER'S MUSICAL WATER

![Figure 4.6. Tristan und Isolde, Isolde’s Final Aria m. 1621-1624](image)

How, specifically, does the audience perceive Wagner's musical water? In the Liebestod, the audience hears wave-like melodies. For instance, the opening motive outlines the form of a double crested, rising wave: the ascending perfect fourth is followed by a descending minor second (a resolution to the third) which falls another minor second only to climb again by two consecutive major seconds, where it either sustains, or descends a perfect fourth (fig. 4.6). The rising and falling pitch content both paints the form of the wave and also communicates a force of gravity acting on the melodic line. Unable to retain the original leap up a perfect fourth, the

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motive resolves down a half step, and then another. The next build, creating the second crest, is more gradual, yet it too falls back, ending a whole step above the original starting pitch. In this sonic depiction, the listener feels the weight of water and how hard it is to lift and sustain a mass of water (in this case represented by pitch).

![Figure 4.7. Transposition of the Melodic Motive, Isolde's Final Aria m. 1621-1631](image)

The rising wave theme is reinforced structurally when the original motive is reiterated, transposed by rising minor thirds five times, with one final transposition up a perfect fourth, in the first eight measures. The repetition and transposition of this motive suggests that each iteration of the motive is a unique wave — the form is repeated like waves rolling towards the shore. Looking at figure 4.7, one can see that the series of transpositions also creates a wave-like structure. The rising transposition of the motive, combined with the shortening of time between repetitions, builds like a wave. Then, to fall in measure 1628, dissolving through a descending, fully diminished

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163 The perfect fourth feels inherently unstable, wanting to resolve to the major third below. The half-step pull of the perfect fourth to the major third has a cadential quality that traditionally makes the descent a form of resolution.

164 One might argue that the idea of pitch being affected by gravity is not intrinsic to the sound but created by western notation. I would respond by saying that frequency has an intrinsic implication of energy in its cycles per second and we innately understand the energy required to sustain these faster frequencies versus something lower, creating the feeling of gravity.
seventh chord accompanied by overlapping incomplete versions of the original motive. What was built dissipates quickly, like a crashing wave.  

**MOVEMENT OF WATER**

Waves are forceful. They not only rise and fall, but they envelop, push, and pull across space. Water moves in all directions in a blurred and contagious way. There are eddies and swirls; motions overlap and intermingle; and changes in direction are lumbering and confused. The audience feels this movement of water through the imperfect alignment of the motive sung by Isolde and the doubling of that line by the clarinet. In the first two measures, the vocal line is broken with a rest and the transposed repetition of the motive is rhythmically displaced by an eighth note from the form iterated by the clarinet. In both phrases, Isolde falls from the highest note down a perfect fourth while the clarinet sustains (fig. 4.6). These musical details speak directly to the body's physical experience of the plurality of water.

Wagner not only compositionally creates the rising waves as a distant, observed landscape, but also, like a film director, composes a point of view. If one thinks of the music as film, the aria begins with a distant shot of Isolde floating in the water. Between measures 1621-1664, the vocal line is at times iterating the main melody and at other times, supporting this melody through more static pedal tones. As shown in figure 4.6, although they are not perfectly

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165 To differing degrees, we recognize rising and falling pitch; repetition of motives and melodies; dynamic crescendos or decrescendos; when things are together, in canon or homophonic relationship, or not together; and the shortening or lengthening of rhythmic periods through motive length or by interruption. The specificity of musical detail that a listener notices is dependent on training and attention. Roger Shepard, "Cognitive Psychology and Music," in *Music, Cognition, and Computerized Sound*, ed. Perry R. Cook (Cambridge: The MIT Press, 1999), 21-37.

166 Water implies a collective or mass. For example, an individual doesn't move like water, but a group of people may move like water.
synchronized, the lines move together, like a buoy rocking on the water or rather Isolde calmly floating in the musical waves. At measure 1664, the first mention of "aerial waves," the relationship between voice and instruments becomes more adversarial (fig. 4.8). The orchestral waves are interrupted by vocal waves. Isolde is no longer bobbing along, but instead, is actively interjecting her own agency on the water. This creates the first climax, where the vocal interjections create asymmetrical rhythmic gasps, as if she reaches her high notes only when her head is above water. In this moment, the camera zooms in and Wagner composes melodic lines that express both the proximity and power of the musical waves as the listener becomes intimately aware of Isolde's struggle to stay afloat.

Figure 4.8. *Tristan und Isolde*, Isolde's Final Aria m. 1664-1666

* denotes high point of the melodic line
In measure 1667 (fig. 4.9), the perspective shifts. The crashing waves are no longer illustrated. Instead, Wagner prioritizes communicating the feel of the water from Isolde's perspective within the swelling waves. Where previously, the large arching waves were depicted through the pitch content, now the vocal and orchestral lines move by meandering steps, ever rising, and with a strong sense of pull and force. Here the text refers to the water as "surging." The vocal line retains its urgency and desperation in the leaps and falls that begin, end, and interrupt her phrases, accentuating the cadence of the text, augmenting the wave-like character of the lyrics (fig. 4.9). The listener feels Isolde's immersion in the water through the force and movement of the musical water surrounding her vocal line. She is fully immersed in the water as her melody merges with the instrumental flurry around it. The text "seethe[s] and roar[s]" and Isolde asks, "Shall I plunge beneath [the aerial waves]?" At measure 1681, she merges with and is submerged in the water, depicted through a rhythmic slowing of the vocal line with mid-range pitch material that lies within the orchestral texture. As she becomes one with the water, everything slows: the waves, that were swirling and tossing and crashing, stretch in time as if there has been a fundamental shift in the earth's alignment to the moon.
WATER

Let us pause for a moment and consider how a person knows water. Water is meaningful from the first moment of conception. As an image schema, water connects to one's first imprint of physical knowledge: of swimming in utero. This physical experience exists before any conscious meanings or concepts. It inspires early brain topography and establishes a universal foundation for the water image schema.\(^{167}\) Although nuance within the meaning of water is shaped by the particularities of individual experience, physical acts such as bathing, swimming, and cultural uses of water, such as baptism, reconnect a person to their original, in utero experience of water.

One also understands water and wave through human body rhythms and biology. A person knows the properties of a wave through their own blood flow; feeling the cycles of the pulse, hearing the pumping blood, seeing the throbbing vein during a migraine, and feeling the waves of sexual orgasm.\(^{168}\) This broad, multi-sensory, perceptual experience of wave fills Wagner's musical ocean with meaning. Innate human experiences of wave and water establish a metaphoric relationship between ocean and life (blood flow/in utero), ocean and love (orgasm), as well as ocean and death (in utero as a transitional life experience).\(^{169}\) These meanings cross cultural boundaries because of their connection to human physiology. Wagner's musical water is evocative because it draws on the depth and strength of an embodied, integral, "felt sense" experience and understanding of water.

\(^{168}\) Sound waves are also a primary way that we understand cycles and sound.
\(^{169}\) Water as an attribute of transitional space before or after life or between life stages is common to many mythologies, religious ceremonies, and cultural practices. The "waters from the abyss," described in the Voudoun reclamation practice discussed in chapter 2, is one example of water as a transitional space. Christian baptism practices (originally submerging in a river) as well as the description of the five rivers surrounding the underworld in Greek mythology are some of the many examples of water as a transitional element between life, (re)birth, and death.
Compositional detail connects one's embodied memory to the water/wave image schema. Through precise compositional choices, Wagner communicates to the mind and body that there are waves and through this, creates an immersive physical experience of ocean. The music feels right, because, in concert with the story, video, and costumes, it accurately conjures the natural, physical dimensions of water. The music acts as water and so, supports our physical acceptance and connection with the metaphor of water.

TRAUMA

While Wagner sonically communicates musical water and waves, Bill Viola's video depicts first Tristan and then Isolde's ascending bodies. Aligning with the first climax of the final aria at measure 1664 (fig. 4.9), a man depicting Tristan is shown lying on a large raised platform. Water is pouring onto the body, like a very heavy rain. On second look, it seems that the water is actually pulling upwards, slowly taking the body with it. As Isolde's vocal line slowly pushes, pulls, swells, and rises (fig. 4.10), Tristan's video body levitates with his arms released and chest open, as if he were lifted from the soul housed in the heart. The body rises beyond the upper edge of the video screen.

The image schemas of water and gravity are present in my thoughts. As I review documentation of the production, I sympathetically feel my own physical immersion in water.


171 To view this video, see "Bill Viola's *The Tristan Project* - Tristan's Ascension (Act III, Scene III)," YouTube, accessed October 8, 2013, http://www.youtube.com/ULfxvb7LRCI.
and ascension in parallel with the video and sound. I am deeply aware of Isolde's loss as my own loss. I feel separation as both Tristan and Isolde's video bodies ascend beyond the panel frame. The water, as a transitional space between life and death, surrounds me sonically and visually. What began as a love story has transformed into my own personal ritual exploring death and loss.

The trauma of a violent death, such as Tristan's, is an event that somatic psychologists work to explore through the body. For example, returning to somatic psychology founder Pierre Janet, he proposed that the body facilitates healing after a traumatic experience. This happens when the patient gradually connects and synthesizes the traumatic experience (loss, physical violence, mental abuse, etc.) with their other lived experience. According to Janet, this work is essential in order to retain one's mental health.

Janet's assertion that the body is an important part of how we relate to trauma has been further developed by Dr. Peter A. Levine. In his work, Levine finds that humans, like animals, exhibit the "fight, flight, or freeze" response to dangerous situations. As the moment of danger approaches, the body prepares itself for conflict through a quick and complicated release of chemicals meant to aid awareness, strength, and agility. This "fight-or-flight" chemical shift is utilized when the body engages in activities such as running, climbing, fighting, or sounding. When the person is unable to act and exhibits the "freeze" response, the "fight-or-flight" chemical shift is unutilized, creating a highly mobilized state with no release. Levine noticed that animals that "freeze" to survive danger would, later, shake, run, or engage in some kind of intense

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172 Tristan is gravely injured by one of King Marke's knights, Melot, after being found romantically involved with Isolde, who is married to King Marke.
173 Levine, Waking the Tiger, 95-98.
physical movement. This action releases the chemical buildup that has accumulated during the animal's freeze. In instances where the "fight-or-flight" buildup is not released, such as in captivity or cases of immobilization, animals begin to form repetitive behavior patterns that mimic the moment of danger. For these animals, the traumatic experience is physically locked into the body. This behavioral repetition compounds the chemical build up of the traumatic experience creating a cycle where the trauma is continually reinforced.¹⁷⁴

Levine connects research on the "fight, flight, or freeze" animal response with observations in his private practice as a psychotherapist. Observation through his practice supports Janet's theory that excessive repetition is a sign of psychological imbalance and unincorporated trauma. Inspired by Janet's theories, Levine explores ways to change harmful repetitive behaviors related to trauma by facilitating the patient's use of their body to physically act out a cathartic ending to a traumatic event. This can happen through guided re-enactments so that the body acts not only as a carrier of trauma but also as an important player in the healing process.

Considering this, perhaps the enduring power of Tristan und Isolde is that it asks the audience to intimately witness Isolde's loss. The audience is literally called to her side to stand by as Tristan's spirit departs. In some ways, this performative enactment of trauma resembles or touches (as Laura Marks would say) how a somatic psychologist guides an imaginative re-enactment of a traumatic moment. As one stands with Isolde, is it not possible that, for some, the opera becomes a communal grieving practice — a means to relive and possibly release the death of a loved one?

¹⁷⁴ Levine, Waking the Tiger, 95-98.
TRAUMATIC SYMPATHY: ART AS COLLECTIVE CATHARSIS

Returning to my original question concerning my physical reaction to the performance of *The Tristan Project*, perhaps what inspired my post-performance feelings of "tingling and shaking" were Wagner, Viola, Salonen, and Sellars's successful communication of Isolde's trauma. Perhaps through my sympathy with Isolde's character, I was able to release small traumas held within my own body, inspiring a physical sign of release (i.e. shaking), the same sign of felt sense that Gendlin observed fifty years ago in his therapeutic research.

![Figure 4.10. Tristan und Isolde, Isolde’s Final Aria m.1664 and 1681-1682](image)

In the Liebestod, the coordination of Bill Viola's video and Wagner's music equally support the re-creation of trauma. The clarity of detail and our access, through the time-altered video, to a "super human" perception simulates an altered state of perception, one that is similar to what some experience in traumatic moments.\(^\text{175}\) The music works in tandem with the video. At measure 1681, the familiar motive from the first climax (m. 1664) now stretches two full beats longer and the music seems to hang endlessly at the mention of the "universal stream of the world-breath" (fig. 4.10). This augmentation of rhythmic content implies an expanse of time that is either truly happening or perceived. It is in this moment, that I wonder if one's body imagines

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\(^{175}\) This is similar to the body's confusion with Diamanda Galás's use of vocal processing in *Vena Cava* described in chapter 2, where the body's interpretation of reality (health, sanity, or trauma) can be manipulated by the artwork.
the time augmentation of video and music as a byproduct of its own chemical and biological change — the piece has not changed instead one's perception of time has shifted.

This change in time perception is understood by the body to be similar to a neurological response to trauma. What if the body is triggered into a sympathetic moment of trauma because it imagines the rhythmic augmentation, a type of time distortion, to be a symptom of its own response to trauma? Research on the perception of time and space by those suffering from Post-Traumatic Stress Disorder, suggests that during periods of stress and fear, the brain loses functionality in the cerebellum, causing unreliable time and space perception. The slowed, time stretched video that accompanies the Liebestod, and other sections of the opera, has already suggested the presence of traumatic perception, and the music now confirms it. Based on my personal experience of the work, this is my hypothesis for why this moment is transformative. At measure 1681, the convergence of sight, sound, and story affect the audience at a deep sensory level: they breathe more slowly, see details more clearly, feel the lifting of time, the expanse of the universal, and the wide openness of death. Perhaps, in this moment the listener is flooded with memory, similar to one having their life flash before their eyes. The audience is not only present, they are open and in a receptive state for transformation. They feel this as their moment of danger. The audience's empathetic response to the music, text, drama, and video provokes an

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177 Early twentieth century philosopher, Walter Benjamin proposes the possibility of a fragment (something out of context or broken apart) to bring new understanding to an idea. Benjamin describes it as an action where the mind “seizes hold of a memory as it flashes up at a moment of danger.” A moment of danger is where what is known and defined can become new and can inspire transformation and change. Walter Benjamin, “Theses on the Philosophy of History,” *Illuminations*, (New York: Random House, 1968), 257.
experience of drowning and merges them with the "universal stream of the world-breath" in empathy with Isolde.178

REINVIGORATION OF CULTURAL CONCEPTS

While The Tristan Project guides a personal exploration of trauma, it simultaneously reinforces and reinvigorates larger social or cultural meanings and beliefs. Mark Johnson defines cultural concepts as meanings formed over time, through generations of shared, embodied experience.179 According to this definition, metaphors, such as being "carried away" by a beautiful musical line or "falling in love," are examples of cultural concepts. These concepts intertwine physical, emotional, and psychological attributes that are communally investigated and redefined through story, myth, language, theater, music, dance, and all art forms. What is essential about this investigation is that it is not solely intellectual, but also physical. We test these concepts individually and collectively through our embodied experience, assessing and refiguring the meaning of these ideas.

A myth, as Johnson explains, "remains dependent on our ability both to sustain it and to extend it creatively as part of processes of inquiry."180 The inquiry Johnson describes is physical, embodied research, similar to Sigman’s investigation described in chapter one. As another

178 Similar methods of time stretched movement and sound can be seen in ritualized dance and theater. For example, honor guard processions and military funeral ceremonies use time-expanded movements taken from the military vocabulary, such as saluting or gun bearing. Perhaps, in their slowed state, the gestures suggest heightened, traumatic perception. It is also interesting to note that shivers are a common response to art and something that non-professionals often mention as an important part of their experience of a performance.
180 Ibid., 107.
example, each new adaptation of Wagner's *Tristan und Isolde* redefine the main themes and questions presented in the work both intellectually and physically. This dynamic web where perception, concrete objects, abstract concepts, and action mingle and change each other create and develop our individual and collective meaning. As Johnson suggests,

> Meaning requires a functioning brain, in a living body that engages with its environments - environments that are social and cultural, as well as physical and biological...[socio-cultural objects, practices and events] become meaningful only insofar as they are enacted in the lives of human beings who *use* the language, *live* by the symbols, *sing* and *appreciate* the music, *participate* in the rituals and *re-enact* the practices and values of institutions.\(^{181}\)

It is through the process of living that meaning is made and the arts are an important part of this process. As John Dewey states in his writing *Art as Experience*, "art matters because it provides heightened, intensified, and highly integrated experiences of meaning, using all of our ordinary resources for meaning-making ... [the] arts help us grasp, criticize, and transform meanings and values."\(^{182}\) Each piece of music or multimedia composition provides a small world in which to explore how a physical experience of art translates into meaning and how this impacts what is already meaningful to the community. When these meanings pertain to traumatic, fundamental life experiences, art becomes a vital form of social healing.

> Catharsis is possible because, during the performance, each audience member weaves together their understanding of the work with their personal memories and physical selves to creatively perform the content within (creating an internal model), producing an embodiment of the work. Embodiment is significant because of the growth it implies. The joining of archetypal performance content and personal experience, transform both bodies of knowledge. The

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\(^{182}\) Ibid., xiii.
archetypal content in *The Tristan Project* finds a retelling through one's own memories. In this retelling, the material is vetted, compared with real experience, and molded accordingly so that, for example, the love of Tristan and Isolde becomes my first love as experience in 1994, and my second love in 2001, and my current love in 2013. All these experiences and memories swirl around each other, widening and complicating the passion displayed by the performers, the passion I have felt, and what I imagine love to be. Through out the work, there is constant negotiation between personal experience, manifested through physical memory, and the opera. Not only am I creating a new understanding of my own experiences, I am participating in a communal re-signification of archetypal elements.183 This rejuvenation is essential so that our stories, our myths, and our culture remain relevant and vital.

The archetypal content lives in and through the listener, meshing with one's memory, body knowledge, and experience to create simultaneous growth in the myth content and the audience member. This growth is transformation. As Bill Viola states so eloquently, “What is on the screen can become part of the life process, it can seep into your body and you can take these things and use them.”184 *The Tristan Project* facilitates the exploration of a shared experience of life and death on this earth; through physical sympathy, *The Tristan Project* becomes a ritual to renew shared metaphors and also guide a form of catharsis. I left Avery Fisher Hall feeling that I had experienced the breadth of life, a tribute to the glorious and difficult path that is our time here. I had shared that glimpse of the fullness of life with everyone around me and listening deeply, could hear our stories all together.

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183 This is similar to the Haitian Voudoun “flesh to principle” process described in chapter 2.
CONCLUSION

Fig. 5.1. Sideband performing *From the Waters* for Laptop Orchestra by Anne Hege
Photo by Stephen Taylor

As Donna Haraway foreshadows in her 1991 book *Simians, Cyborgs, and Women: The Reinvention of Nature*, technology and the body are integrating one into the other. The woman who wears her Bluetooth earpiece all day, the child with a pace maker, and the student who relies on Evernote to trigger their memory mid-conversation about the lyrics of their favorite song are examples of the cyborgs we have become. Returning to embodied cognition theory’s proposal that the body and environment are key players in any philosophy of mind, one can see how technology that influences our perceptive abilities, such as hearing aids, recording devices, megaphones, Google Glass, and binoculars, shape what we perceive in this world and thus

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change what and how things are meaningful. Andy Clark and David J. Chalmers push the relationship between technology and meaning or the idea of mind further when they postulate in their article "The Extended Mind" that tools and technologies, from a notebook, to a smartphone, to bodily implants, can be considered extensions of mind. Clark and Chalmers argue that there is no meaningful difference between a person who relies on their memory and a person who relies on their notebook to establish their beliefs. For them, the notebook is equivalent to a mind, and the notebook could be exchanged for a smartphone or other mental aids. Considering these two views together, what we know is intricately woven together with the technology and tools that surround us. Technology is changing how we think, what we perceive, and how we create meaning from our interaction with the world. It is also changing what we consider intrinsically human.

Entwined within the second, third, and fourth chapters of this dissertation are descriptions of the role of the body in relationship to the technologies that are involved in these contemporary multimedia works. The technologies used in these works visualize the body, analyze the body, record the body, manipulate the body, and augment the body. Technology is the means by which internal experiences are augmented externally (Galás's drugged perception), imagined or metaphoric experiences are presented as real (the levitating or floating body in Composer and thinker Pauline Oliveros describes the tape recorder as a machine that revolutionized her perception of sound. She received her first tape recorder as a gift in her early twenties and she began to record the world around her. Upon listening back to these recordings, she realized that her live listening greatly differed from what she heard on the tape playback. This realization began her lifelong pursuit to improve her listening and attention. In this way, the tape recorder inspired, modeled, and became a method to practice a different way of listening. Sherry Turkle’s research, and specifically her article “Authenticity in the Age of Digital Companions,” has also influenced my thinking on our ever-evolving relationship with technology. Sherry Turkle, “Authenticity in the Age of Digital Companions,” Interaction Studies: Social Behaviour and Communication in Biological and Artificial Systems Volume 8 Issue 3 (2007), 502-517, accessed on February 27, 2014, http://web.mit.edu/sturkle/www/pdfsforstwebpage/ST_Authenticity%20in%20age%20of%20digi%20comp.pdf.

Viola's video), and movement is recreated in a new body (Jones's animated body). Diamanda Galás, Bill T. Jones, and Bill Viola rely on contemporary technologies to help communicate the nuance of a moving, living body in a way that explores what the body means. Perhaps we can conceive of these multimedia works as more than an aesthetic past time, but a form of “epistemic action,” as defined by David Kirsch and Paul Maglio,\textsuperscript{188} where “epistemic actions alter the world so as to aid and augment cognitive processes such as recognition and search (italics in the original).”\textsuperscript{189} These art works form a collective, cultural research of who we are and what we value. Through this investigation, one can see how these beliefs are indeed impacted by our new tools.

Similarly, the theoretical work used to defend much of this dissertation, such as the work of Marc Leman and Mark Johnson, is based on contemporary scientific studies that rely on technologies that enable increasingly complex ways of recording and analyzing the body. In both science and art, technology is stretched through use, demonstrating the true potential and power of these tools. Although they are often posited as a duality, man vs. machine or technology vs. the body (as demonstrated in the traditional John Henry folktale), multimedia works play a crucial role in exemplifying the reality that what we know of both technology and the body is known through the means of the other. In the studies above, artistic research brings technology into a performance setting that prioritizes empathy, connection, and relationship.

\textsuperscript{189} “The Extended Mind,” 3.
Over the past fifteen years, I have practiced my own form of compositional research through my study of the role of the body as a vocalist, performer, and multimedia composer. I have explored the body and technology in performance, with my early ensembles *Folk3000*, *Mythologues*, and *Wisdom of the Heart*, and more recently with performance duos *New Prosthetics* (with video artist Harrison Owen) and *Sidecar* (with pianist, composer, and writer Heather Heise), as well as my work creating music for Carrie Ahern Dance productions *SenSate, Borrowed Prey I*, and *Borrowed Prey II*, and composing for and playing with The Princeton Laptop Orchestra (PLOrk) and the affiliated touring ensemble *Sideband*. With all these projects, I have been searching for seamless and meaningful ways to meld technology and the body together within a musical performance.

My latest work for laptop orchestra most directly speaks to the relationship between body and technology. As an artistic medium, the laptop orchestra balances technological and musical possibility, and so, is a particularly rich and important form of artistic expression for contemporary society. As a musical and multimedia medium, works for the laptop ensemble demonstrate many possible ways to weave technology and art together. My works for laptop orchestra have been shaped by a lifetime of choral singing, extensive training as an acoustic and electronic music composer, eight years of experience writing and performing laptop ensemble

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190 An earlier version of the following description of my work for Laptop Orchestra was presented at the Symposium on Laptop Ensembles and Orchestras and published in the proceedings publication as "Middle Passage: Reclaiming what is Lost as Performance and Practice" pp. 47-50, in 2012 (https://ccrma.stanford.edu/~ruviaro/texts/SLEO_2012_Proceedings.pdf). A revised version of this paper was presented at the Conference on Contemplative Practices for a Technological Society at Virginia Tech, Blacksburg, VA in April 2013.
music, as well as extensive studies in political science, social theory, and embodiment practices. My work is guided by my compositional commitment to the idea that music has social and political significance and that a composition demonstrates a way of interacting and more, becomes a form of modeling social possibility or reality. Because the laptop is such a powerful tool, the laptop orchestra becomes an especially interesting socio-musical phenomenon that represents our social relationships with each other as well as our relationship with technology.

TECHNOLOGICAL POTENTIAL

There is immense technological and musical possibility within the laptop orchestra. At the heart of this diverse potential is the laptop. The laptop is more than an instrument: it can be a conductor, composer, performer, listener, or any combination of the above. As an instrument, the laptop can synthesize sounds, use samples, or record live input and can process or combine any of these sound sources. The laptop's power and versatility is based in its ability to abstract sound from its source. As Marc Leman explains, in "electronic music, electricity is independent from haptic biomechanical energy...the controller is decoupled from sound production."

To say it another way, the laptop allows for disembodied sound production. In acoustic music, biomechanical energy directly transfers to sound energy. For example, the weight of the bow being pulled across a violin string directly creates the tone of the instrument. Electronic instruments can be designed to mimic this coupling of physical and sonic energy with the use of various sensors and specific programming, but it is difficult for these instruments to be as nuanced or sensitive as an acoustic instrument.

In electronic music, sounds are not only free from embodied physical production, but also free from time, place, sound source, quality, tone, musical style, tempo, or any attribute can become a variable through synthesis, processing or sampling. The ability to mash up different musical styles, time periods, and players creates immense musical possibility and meaning. Sonic energy is no longer bound to an embodied source. We can pump up the volume with the adjustment of a knob without breaking a sweat. Networking allows for collective compositional control where any compositional parameter can be controlled by any connected laptop. Musicians may play the same instrument while being thousands of miles apart. Sound output also becomes a variable where a laptop may send its sound to a specific location or many locations or nowhere. Multiple players may be run through a single PA system or each player may have their own speaker system. All this allows for immense compositional and technological possibility.

What restrains this massive possibility? For me, the electronic potential of the laptop is reined in by musicality — what communicates musical meaning and relationship.

Except in the marvelous example of Our Lady of Detritus (2009) a piece by Jill Sigman with music by Kristin Norderval where all the energy needed for the piece is made by the audience or performers during the piece using crank generators and solar panels. I have also seen wonderful examples of solar powered electronic instrument systems by Perry Cook and Skot Smallwood.
For me, musicality is defined by the presence of listening, interaction, response, and virtuosity, or the potential to improve any of the previous elements (fig. 5.2). At the root of these attributes is the ability to learn about sound and sounding, both alone as well as with others. If musical potential is dependent on one’s ability to learn about sound,\textsuperscript{193} technological advances that break the innate relationship between biomechanical energy and sound energy disrupt embodied learning. One can still appreciate the physics of sound, but sound is no longer directly related to the body. This abstraction of sound energy means that the listener is not given the same kind of clues about how the sound is made or what it means. For example, the violinist who forcefully pulls the bow across the strings making a fortissimo sound with a strident tone coupled with aggressive physical action communicates tension and force through sound, sight, and touch.

\textsuperscript{193} This learning is not limited to sonic input, but formed through vision, touch, movement and all embodied senses.
Here, sound and physical gesture complement each other.\textsuperscript{194} Similar to one’s experience of screaming or yelling, most are familiar with the relationship between force and energy in sound production. The complementary relationship between body and sound is very important to musical meaning and communication. How then, do we understand what music means without these physical clues?

\textit{RECLAIMING WHAT IS LOST: PERFORMANCE}

While struggling with these questions, I wrote \textit{Middle Passage: Reclaiming what is Lost} for the Princeton Laptop Orchestra (PLOrk) in 2010 and reworked elements into a new work, \textit{From the Waters} in 2012. Inspired by Maya Deren's study of Haitian Voudoun practices, \textit{Divine Horsemen: The Living Gods of Haiti}, I decided to try to create a ritual practice for laptop orchestra. Specifically, I was interested in the ceremony of reclamation.

The gros-bon-ange [soul of a person], as the repository of a man's history, his form and his force, the final resultant of his ability, intelligence and experience, is a precious accumulation. If, after his death, his descendants were able to provide this disembodied soul with some other means of manifestation to substitute for the flesh which perished, they could salvage this valuable legacy. One of the major Voudoun rituals is the ceremony of retirer d'en bas de l'eau, the reclamation of the soul of the deceased from the waters of the abyss.\textsuperscript{195}

My goal was to construct a modern reclamation ceremony. My compositional choices were guided by my decision to prioritize body language and choreography that would support a sense of ritual. I used archetypal movements to communicate a world of conjuring and calling. I structured the piece around two formal elements, the circle and the line, both of which are used

\textsuperscript{194} According to Nicholas Cook in his book \textit{Analyzing Musical Multimedia}, complementary movement and sound communicates clearly to an audience and is one of the ways that we have learned to interpret multimedia interaction. Cook, \textit{Analyzing Musical Multimedia}.

\textsuperscript{195} Deren, \textit{Divine Horsemen}, 27.
in traditional Voudoun practices. Finally, I tried to take advantage of the benefits of abstracting sound from its physical source (such as the way this represents the disembodied spirit) while supporting embodied musical behaviors like listening and responding.

THE ROPE INSTRUMENT

![Figure 5.3. The rope instrument in *Middle Passage: Reclaiming What is Lost*](image)

In *Middle Passage*, the circle first arises with the use of a rope approximately twelve feet in diameter. The rope is a collective controller. It is attached to six GameTrak Tether controllers placed evenly beneath the rope. Each tether controller triggers and controls the playback of various samples by sending tether location information to an individual laptop that outputs sound to a hemispherical speaker and subwoofer. There is no networking of the laptops. All coordination is created through the rope controller. The piece begins with the entrance of the ensemble, humming a single tone, lifting the rope, and pulling the rope from side to side with

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196 Deren, *Divine Horsemen*, 27.
resistance, as if pulling to lift an anchor. Through practice, the undergraduate PLOrk ensemble perfected the slow, even, collective pull needed to play the rope instrument and the specific body language that I was looking for. In my instrument design, I was aiming for a dynamic relationship between collective movement and sound production where getting the rope to sound would not be automatic. I was also hoping to support an attention to movement, so that they would have to have a strong collective awareness of movement, change of direction, and the rate of pull necessary to keep the rope taut and the instrument sounding.

The rope instrument reconnects physical energy with sound energy in two ways. The first is that the sound originates as acoustic singing. The audience understands the sound as coming from our physical bodies. The rope plays through a sample that reinforces the acoustic singing so that it is not completely clear what the balance is between acoustic and sampled sound. There is a period of time where the audience believes the sound to be embodied when it is not. Secondly, the movement of pulling the rope mimics the tension and resistance found in string instrument sound production. It is reminiscent of the movement used by players of Ellen Fullman's Long String Instrument.197 We understand tension and friction as a sounding movement. We also understand this as a listening movement. We know that the movement must happen in unison for the rope to remain taut and to sound. There is a musical subtlety implied by the required listening and awareness of the movement of the other ensemble members. Finally, it is a working movement that has cultural and mythic significance denoting hard, collective work, like pulling up an anchor or sail. As the piece aims to call a spirit from the waters of the abyss, this movement is fitting.

THE DUAL VOCODER INSTRUMENT

Figure 5.4. Tether pole extensions in *Middle Passage: Reclaiming What is Lost*

Over time, the rope instrument crescendos until it is the dominant sound so that what starts as human voices becomes otherworldly. The piece continues with vocal solos, a solo by my live analog cassette looper, "the tape machine," and finally the addition of pitch consistent sampling. For this sampling, I used an instrument developed by Dan Trueman called the "dualvocoder." This instrument uses tap delay lines to play through a sample so that the playback speed can be varied without pitch shifting the sample. The length of the tether string (z axis) controls where the player is in the sample playback. Sonic moments can be elongated, repeated, frozen, or played quickly.
The dualvocoder is a wonderful instrument that is immediately playable and something that players can practice and perfect.\textsuperscript{198} The tether controller inspires a fluid and graceful duet between player and tether line. As the player improvises through the sample playback, their intent listening is performative and musical. When two dualvocoders are played simultaneously, the players are both listening and watching, responsive to sound and movement. This observation and responsiveness is innately musical. The player is learning about the instrument, the other player, their own body, and the body's of others while performing. As reviewed in chapter four, embodied cognition theory suggests that this learning through interaction and a cycle of observation and response is central to how something becomes meaningful.\textsuperscript{199} The dualvocoder tether line is the linear structural element of the piece. The tether line dynamically interacts with the circle. In the end of the piece, players use poles to extend these tether lines so that the heightened line visually balances the large rope circle (fig. 5.4).


\textsuperscript{199} Johnson, \textit{The Meaning of the Body: Aesthetics of Human Understanding}.
After the premier of *Middle Passage: Reclaiming what is Lost*, I did not feel that I had answered my original compositional challenge to create a piece that could call a spirit from the waters of the abyss. Following the suggestion of fellow composer MR Daniel, I designed and facilitated a workshop on loss based on *Middle Passage*. The workshop was held at the Oakopolis Gallery in Oakland, California in the summer of 2010. I asked participants to bring a sonic memory (5-10 seconds) and a physical object relating to their loss. I taught the basic elements of playing the rope instrument and, during the break, recorded their sonic memories and prepared the sound files to be played by the dualvocoder. We began by placing our physical objects in the center as an altar. We publicly stated whom we were calling. Then, we began singing the drone and pulling the rope. When this became strong, one by one, workshop members played the dualvocoder instrument in the center of the circle as an aural altar.

It was a very different piece. There was an intention to the pulling of the rope and singing that felt both cathartic and supportive as we each entered the circle. The attention and listening to others was not limited to sound and movement, but also included an emotional listening. The memories from the center aural altar were beautiful, like thoughts or prayers; it was as if we were hearing the inner voice of the player. I had a deep feeling of connection with the ensemble members and my personal loss as well as the loss of others.²⁰⁰

²⁰⁰ I have since continued my research on this work as ritual. I presented the revised version of this piece titled *From the Waters* as a workshop at the First Annual Deep Listening Conference (2013) in Troy, NY and hosted four private rope playing gatherings in California and New York.
The workshop allowed for a sharing of the grief experience that was not language based, but centered in movement and sound.²⁰¹ The rope supported connection without the discomfort of direct contact. The movement and exertion demanded while playing the rope became a physical and sonic mantra that helped to focus each individual and the collective ensemble energy. The dualvocoder instrument provided personal input into the sonic landscape. My compositional focus on connection and listening helped me to make technological and musical choices that established the role of each player and what was expected of their participation. This experience gave me a broader view of the potential of laptop ensemble works as ritual practices.²⁰²

**CULTURAL POTENTIAL**

Music has a fascinating way of communicating very subtle cultural values. As a relatively new musical practice, there is great potential for diversity in laptop ensemble music, as it has yet to be canonized. Laptop ensemble composers and players explore this cultural potential and this is important. It is important because these pieces model a balance between the spirit and our mechanical tools, a relationship that we have struggled with for centuries.²⁰³ There is an exciting moment of re-signification when, in a laptop ensemble piece, people bend down to deeply listen to their speakers or, as in Perry Cook’s *Lux Aeterna*, they gracefully tilt the laptop, singing to it and to each other. Creative and playful interaction with the laptop reinvigorates both what the laptop

²⁰¹ As discussed in chapter four, research in somatic psychology by Eugene T. Gendlin, Peter A. Levine and others suggests that psychological trauma can be captured in the body and must be released physically as well as psychically. Gendlin, *Focusing*. Levine, *Waking the Tiger*.

²⁰² LOrk pieces are especially accessible as ritual works because they are often constructed for elementary players so that the instruments can be adequately mastered within a limited amount of rehearsal time.

²⁰³ Stories like Icarus, John Henry, and 2001 are examples of attempts to understand this balance.
can mean and how we use technology and our collective resources to make something meaningful together.

**RELATIONSHIP AND HOW IT ALL FITS TOGETHER**

When studying music through the lens of the body, it becomes a multi-disciplinary art form. According to Nicholas Cook, in his introduction to *Analyzing Musical Multimedia*, music "sops up" what is around it. Music adds nuance and depth to meaning attributed to the surrounding media and the other media do the same for music. Analytical methods that emphasize each discipline's autonomy, be it through completely ignoring the presence of another (for example, analyzing a ballet score independent of any choreography) or through a semiotic dissection of “instances of multimedia,” comparing each media component, leave no room to talk about what has been sopped up, what has oozed over, what has been infected, what has merged, or what has married. As the language implies, the space of conjoining is messy and our cultural attitude towards togetherness is complicated. Barbara White, in her article “‘As if they didn’t hear the music,’ Or: How I Learned to Stop Worrying and Love Mickey Mouse,” adeptly points to our cultural fear of merging. When discussing “mickey mousing,” a parallel or synchronized alignment of movement and sound, such as when a sound glissandos down at the same time that a body or animated character falls, White proposes that "the concerted but often unconsidered effort to dispel the shadow of Mickey Mouse stems in part from fear about what

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206 Barbara White’s discussion of the varying attitudes towards media interaction and the metaphors used to describe the relationship between dance and music in dance works highly influenced my writing and ideas on this subject. Barbara White, "'As if they didn’t hear the music,' Or: How I Learned to Stop Worrying and Love Mickey Mouse," *Opera Quarterly* Vol 22 Issue 1 (Winter 2006): 65-89, accessed February 27, 2014, doi: 10.1093/oq/kbi108.
happens when dance and music partner each other." Perhaps, it is the loss of self that is threatening to our cultural propensity for autonomy, individuality, and ego. I agree that there is a fear of real partnership between disciplines. Something grows in that space that is foreign. Our objectivity, authority, and dominance are threatened when we are forced to consider interactions outside our discipline's specialty, and in those works, the analyst may feel the insecurity of witnessing a new being coming to life. By approaching a multimedia work without our powerful tools of traditional musical analysis, with only our bodies, one must question what exactly we do know; what we know as living, embodied people, who not only allow disciplines to partner, but allow ourselves to partner, to change, to merge, to relate, and to open with vulnerability to the magic of a beautiful composition.

Relationship is always present and what I would like to emphasize from somatic psychology, embodied cognition, Mark Leman's application of embodied cognition, and Nicholas Cook's ideas on multimedia analysis is that there is a physical, bodily aspect to understanding relationships in artistic works and this is essential to our understanding of meaning. Audiences perceive through the body, engage physical memory, and, in the end, create meaning that is intricately woven with one’s life in their body. More than this, art works have their own bodies and relate to players and audiences as physical beings that inspire physical relationship through empathy, attunement, synchronization, and mirroring. There is a real, physical interaction between an artwork and an audience that is fundamental to the life and growth of both beings. This interaction does not occur "detail by detail," but rather, is a relationship predicated on an acknowledgement and respect for both the participant and artwork

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207 White, "'As if they didn’t hear the music,'" 67.
208 Are individual disciplines truly unique bodies living within a multimedia state, or is this understanding of discipline autonomy perhaps harmful to our appreciation and respect for an integrated work of multimedia.
as integral beings. With such a focus, the whole of the work comes forth as a unified, complete wonder.
There's a Spirit in the Flesh

For 4-channel surround sound tape track, trombone, voices, movement, GameTrak tether controllers, rope, and sticks

Directed, conceived, and composed by Anne Hege
Created in collaboration with Jen Baker and Donna Costello
Performed by Jen Baker, Donna Costello, and Anne Hege
Lighting by Christopher Gorzelnik

Premiered March 22nd, 2011 in Taplin Auditorium at Fine Hall, Princeton University
DVD of performance included in back flap

There's a Spirit in the Flesh exemplifies my compositional exploration of the ideas in this dissertation. My experiments in weaving together movement and sound began with my earliest compositions and has recently grown through my collaborations with the vocal trio Celestial Mechanics (Lainie Fefferman, Anne Hege, and Sarah Paden), Sideband: the touring ensemble of the Princeton Laptop Orchestra, Sidecar with pianist Heather Heise, New Prosthetics with video artist Harrison Owen, and choreographers Carrie Ahern, Elena Demyanenko, and Jill Sigman. In all these collaborations, my goal has been to compose music where multimedia elements are integrated together because they are grown together through a creative process that is participatory. My work is composed around the bodies, abilities, experiences, and practices of the performers involved in the creative process.

There's a Spirit in the Flesh was created through a lengthy process of collaboration, experimentation, and revision. Over the course of five months, weekly rehearsals with the performance trio (trombonist Jen Baker, dancer Donna Costello, and vocalist Anne Hege) supported a natural trial and error process for the material of the work. Movement and sound

209 A low resolution version of the DVD of the live premier is linked to the online version of this document on ProQuest (http://www.proquest.com) as well as on the Princeton dataspace site http://dataspace.princeton.edu/jspui/.
elements were constructed from our specific bodies, life experiences, and synergy together as an ensemble. We each offered the best of our talents: Donna Costello leading our movement work, Jen Baker leading our instrumental work, and myself guiding our vocal work and use of electronic instruments. Simultaneously, we extended our talents into vulnerable spaces by performing in disciplines and on instruments that were outside our expertise.\textsuperscript{210} The conjoining of ability and vulnerability supported the integration of disciplines, our interdependency, and intimacy.

In the conclusion of my dissertation, I consider the messy and imperfect space of collaboration that borders the area between disciplines. There’s a Spirit in the Flesh is a work that demonstrates this space. What I find most satisfying in this work is the way that it illustrates the relationship between the performers. There’s a Spirit in the Flesh captures who we are, as a unique and particular collective of individuals that has become an ensemble. This work highlights how we witness each other, listen to each other, lean on each other, and build something together. In the following documentation, I present artifacts from the production of the work: a short description of the compositional process for the “necks” section, a short description of my compositional vision and creation of the sonic environment for the entire work, an outline of the piece that was used by the performers and production staff, “There’s A Spirit in the Flesh” score, “Inuit Song” score, and the “Fort Music: Building an Altar” score. I am not including a description of the GameTrak tether technology used with the rope instrument or Dan Trueman’s dualvocoder application, as this is described at length in my conclusion (see pages 151-153).

Reviewing this work after finishing the body of my dissertation, it is clear how closely it mirrors

\textsuperscript{210} I am very thankful to Jen Baker and Donna Costello for their willingness to grow together, their giving spirits, and their bravery. I am also grateful to the Princeton Music Department for financially supporting this work and the extensive rehearsal time this process demanded from my collaborators.
my theoretical studies and delves into the creation of relationship, community, ritual, and meaning within a technological landscape. As the title proclaims, the body remains at the heart of it all – *There’s a Spirit in the Flesh*.

“NECKS”

![Image](image_url)

**Figure 6.1.** “Necks” section of *Spirit in the Flesh*
Anne Hege and Donna Costello (singing and moving) and Jen Baker on trombone

“Necks” is the third section of *There’s a Spirit in the Flesh*. It was composed through the ensemble’s collaborative rehearsal process. This process began with a discussion of our personal experience with the physical embodiment of emotion. Starting with my awareness of my neck as a location of emotion and energy, Donna Costello and I began working with the neck as a location of connection and merging in our movement. We worked standing. Due to our height difference and my lack of flexibility, the entwining of our upper bodies was limited. Changing our orientation so that we were connecting in a yoga tabletop position (a flat bridge position lifting our hips and middle up with the chest open, see fig. 6.1), we could rest our heads on each other.

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211 This discussion was inspired by Peter A. Levine’s book *Waking the Tiger: Healing Trauma*.
212 Due to my personal experience, I will often hold the left side of my neck as a calming practice. I think that the base of the skull is also a powerful place because of the generative capacity of this location, where stem cells can be found.
We moved from this place of rest, to a more active physical engagement using simple head movements and vocal sounding. The unusual, horizontal, tabletop body position reframed our bodies as a new, united being. For this specific posture, I composed, through working with Costello, a moving/sounding duet where Costello and I listen to each other through both the vibration of the body (felt through the shoulders and neck) and the close sounding of the other (mouths right next to the other’s ear).

The moving duet, trombone, and 4-channel ambient track align together in this section. Transitioning from Jen Baker’s trombone solo into “Necks,” the trombone functions as a conjurer and incites the merging. Baker is positioned behind the movement duet, playing towards Hege and Costello’s entwined bodies. Pre-determined elements in Baker’s guided improvisation cue our movements to begin and develop. These cues are aligned with the fixed, 4-channel, ambient track. The ambient sound track, along with Baker’s playing, supports the growth of Costello and Hege’s movement and interaction. The simultaneous crescendo of sound in the ambient track, trombone, and voices is also embodied in the rising of the two conjoined bodies. In the duet, Costello and Hege slowly move to standing through the force, resistance, and balance of their two bodies pushing upwards. This force dissipates out through a whirling motion when the bodies reach standing and move apart.

ENVIRONMENTAL SOUNDTRACK

From my earliest works, I have composed electro-acoustic compositions with electronic soundtracks. I imagine these soundtracks as environmental spaces where my acoustic and electro-
acoustic works live. My most recent works, including *There’s a Spirit in the Flesh*, explore the creation of a more complicated environmental composition with two components: spatialized, independent, electronic elements or “sonic pods” and an ambient component that is played through a PA or quadraphonic “house” sound system. Inspired by Dan Trueman’s hemispherical speaker and laptop orchestra model, these pods are constructed to be stand-alone sonic instruments, each with their own speaker system, computer or playback mechanism, and, if needed, independent controller or way of triggering sound.

In *There’s a Spirit in the Flesh*, three hemispherical speakers, each attached to a computer and a GameTrak tether controller, act as independent sound sources and provide localized, synthesized or sampled sounds. These “sonic pods” are composed to be aurally distinct from the 4-channel surrounding tape track that weaves in and out of the piece. The acoustic sound, house sound, and localized electronic sound interact in a kind of counterpoint.

The piece begins with localized synthesized sounds coming from the three hemispherical speakers onstage. This sound is accompanied by localized light (the performers are within a single spotlight), small movements, and later, acoustic vocal sounds from the three performers singing onstage. Overtime, the 4-channel “house” sound is slowly integrated into the piece. As the sounding world expands from points on stage (through the sounding pod and acoustic

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213 My earliest works, *Folk3000* (2000) and *Mythologies* (2001), are comprised of arrangements of folksongs and original vocal pieces accompanied by an ambient, fixed tape track. I developed my use of tape tracks as a way to present contemporary art songs in a continuous musical and theatrical setting in my collaborations with pianist, video artist, and composer, Heather Heise, for our performance duo *Sidecar* (2004-2008).

214 Dan Trueman, founder of the Princeton Laptop Orchestra with Perry Cook, uses hemispherical speakers with each laptop station in the laptop orchestra to create independent instruments, much like one would find in an acoustic orchestra. By making each player an independent sounding agent, musical priorities derived from orchestral playing, such as responsive dynamics, individual responsibility for one’s rhythm, tone, and pitch, and flexibility to make independent decisions are supported and possible due to one’s ability to hear their own sound.
player/singer/movers) to the entire performance space (quadraphonic playback with speakers surrounding the audience), the audience becomes included in the sounding space.²¹⁵

The inclusion of the audience in the sounding space is essential to the world-space that I strive to create in *There’s a Spirit in the Flesh*. In this world, the melding of localized and ambient sound is balanced by weaving together acoustic and electronic sounds. As in the natural world, the ambient and discrete sounds blend together and seem of the same place.²¹⁶ I think of my compositions as constructed from layers of sound that are always shifting in importance and attention. The background layer includes ambient sounds (live and from the tape track), movement sounds, audience sounds, and real life sounds (sirens or traffic). On top of this, I compose different types of discrete sounds including traditionally composed elements or uses of text. In this construction, I work to weave the different types of sounds together naturally. For example, the localized electronic sounds from the sonic pods help to bridge the difference between electronic and acoustic sound because the hemispherical speakers provide a body and place for the electronic sounds that mimics the body of an acoustic instrument. Similarly, I use acoustic sounds in the creation of the ambient, 4-channel track. For example, in the final section, I add pre-recorded, composed vocal tracks to the 4-channel track in order to expand the vocal presence throughout the entire performance space.

²¹⁵ My hope, compositionally, is that the audience’s inclusion into the realm of action is so gradual that they are only subconsciously aware of a feeling of inclusion, integration, and closeness to the piece. Although I have intuitively used these practices over the last twenty years, the formal idea of expanding the realm of action was inspired by Peter Sellars’ spatialization of instrumental and vocal solos in *The Tristan Project* (see chapter 4).

²¹⁶ It is often difficult to combine electronic and unamplified or processed acoustic sounds because of their different natures — they can sound different, enter the space differently, and have very different “bodies” or no bodies at all. Most composers avoid these issues by reinforcing the acoustic instruments through the sound system so that there is an even mixture of acoustic and electronic sounds. In this piece, the acoustic instruments (voices and trombone) are not reinforced live and are meant to project their natural, localized qualities. Yet, I think that the use of localized electronic sounds creates a spectrum of different types of sounds – localized acoustic, localized electronic, quadraphonic electronic – hopefully avoiding the binary acoustic/electronic sound conundrum.
I think of my soundtrack work as a type of musical choreography. The stage is set through the ambient world sounds composed in the surrounding track, but there are also bodies. Each sound has a body and these bodies move, expand, contract, and live within the space as acoustic bodies (voices and trombone), composed elements of the ambient 4-channel soundtrack, electronic sounding pods, and futuristic, new instruments (tether instruments and the rope). Through the choreography and composition of sounding bodies and spaces, the work lies somewhere between theater, dance, and music.

PROGRAM ORDER, TECH INFORMATION, AND CUE SHEET

key:  

- **boxed** = tech/computer info  
- **orange** = lighting cues  
- **blue** = house sound cues  
- **green** = performer movement and computer placement  
- **italics** = what to stay centered on

Donna, Jen and Anne on computers:  
1. Donna opens awakeningright.ck, Jen opens awakeningcenter.ck, Anne opens awakeningleft.ck.  
2. start the virtual machine  
3. add shred (the green plus)  
4. check that 3 files are running in the virtual machine

move to center, get into rope (lift from above - anne aware of double side)

**lights fade up, center small spot on performers (rest of stage dim rose color)**

*Awakening to the life cycle* very slowly, anne begins to move (*think of moth breaking out of a cocoon*) stretching, tangled in rope, anne begins singing lightly, but not too slow, jen adds vocals in next as she adds movement, donna joins in the unison last with her movements, very slow moving. We should be just opening up, stretching out the rope for the repeat with 2 parts.

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217 This is the original cue sheet. I have not revised it in any way.
cue to fade in track 1 on house sound - repeat of basic melody (when the 2nd part comes in)

the spot fades into center stage lights as the rope extends and the circle widens

This is also slow, so that only on the last phrase are we all the way extended and pulling into a triangle. The rope slowly comes to the floor.

_We are free and moving. We have shed the night and past and we can feel the energy pulsing through every cell. We move, aware of this energy._

**JEN'S SOLO - a call to begin the merging** Jen moves to stage right (actor's perspective) and begins solo

simultaneously light fades from center to stage right (this can be timed from Jen's movements and can be a slow fade).

_Donna and Anne prepare and are aware of the energy and work needed to prepare what is to come. We are listening to Jen as we work._

First we tend to the rope, slowly and carefully, then attach tethers. Anne moves tether to a good spot for tether 1 set. Anne sets up dualvocoder on right computer. Donna sits by the rope, Anne then joins sitting by the rope. Listening. We do one rotation around the rope, crossing by each other, then circle around Jen and then whirlpool before sitting.

Anne and Donna at computers:
1. in virtual machine monitor - remove all shreds
2. stop the virtual machine (but leave window open) before attaching tether, shape and size the rope slowly
3. attach center and left tethers to the rope
4. anne - prepare right tether for dualvocoders single tether - spiritvocal sample

donna and anne fix the rope so that it is in a circle, this can be very slow

_our walk around is both bringing the energy of the rope towards Jen and bringing Jen's energy to the broader stage and trying to circle that energy to consolidate it as we move to sit, preparing to merge._

donna and anne walk around rope and around Jen (review) in circles bringing the energy of the middle to the right. Anne and Donna whirlpool and sit in preparation for Necks section (eyes are closed? - concentrated on touch and contact with donna) Jen is thinking about conjuring, stirring our creature.

_everyone is listening to sounds and energy._

**NECKS MERGING - most important here is the movement, the focus on touch and the belief that we can unify - fusion. melting into and through the other. - loss of sense of self - aided by the sound - trust and listening.**

Necks - movement score (for me) eyes open with first vocal (D#) anne's head goes towards audience first then begin turning away from audience, keep legs in, constant crunch, creature
begins with the eyes, long tones, as we head into vining, legs move out, sense of searching for attachment, moment of locking moving into the bridge - constant support of hips moving upwards, thirds in the voice, crescendo, building, pushing through the shoulders and back, make sure the head does not lift forward, push to standing (try to sync this perfectly with a cresc. in track!) Jen supports the push to standing with a long tone and crescendo. When we are up, silence and release into spinning, orbiting, listen for high A drone. Jen slowly backs up and takes a drink of water during the spinning. Anne and Donna think of building a whirlpool of movement, this floating in the spinning current be conscious of placement of tether/moving towards tether, as we separate, we move against this whirlpool to face each other and sing in close proximity there's a spirit in the flesh (not too slow) - jen on multiphonics, track in a drone recognition of the other and yet oneness in face to face singing, we are now joined. We perform the single tether as if joined - as if we can't help but have the same movements and think the same thoughts (more that our thoughts are broad enough to include each others - our awareness has widened). Listening continues through movement.

light stage right and center

SINGLE TETHER Move directly into Anne and Donna playing right tether (Jen shadowing) trade, Jen and Donna on tether, playfully interacting. playfully listening - duet - together in harmony

Anne sets up left and center computers for ropeplayer while singing harmonies.

every time you hear "there's a spirit in every cell" it is a reminder of all the energy throughout your body - vibrant flowing energy so powerful it radiates through you - you are glowing

we move with this energy to...

ROPE - RECLAIMING - full ensemble energy - beyond the individual, we are conjuring together a merging of time past and present and of our spirits and ancestors - this is a continuation of the merging energy that has already begun, our energies are compounded, the force of the circle and the focus on the movement guides this mounting of energy. We are calling on something greater to be with us, we are opening ourselves and a space in our tribe for something greater - (I think of the wisdom of my past and family, but this is broad) - recognizing that even with all our energy we are under and always in balance with what is greater.

Light fades to large spot on center (full rope).

Donna attaches tether 1 (right computer) to rope and resets tether in spot that will work for final tether section, while Jen opens and ropeplayer.ck and does following below.

all prepare computers
1. open ropeplayer.ck
2. start the virtual machine
3. on cue (ritualized) add shred on ropeplayer.ck (big green plus)
4. check to see that 8 things have sporked in virtual machine monitor.
stand - look, and in unison grab rope together, right hand just to the right of the tether piece. With feet to the right and slightly behind the tether controller, extend to the right and then pull to the left (humming a B)

Basic score, hum and pulling, steady motion, anne sings a vocal solo on top, as vocal solo subsides, sensing our shared, ensemble self, the rope as our collective self and movement, our guiding self. To end, rope comes up directly above the tether and slowly descends. As the rope comes down, we move into a side squat. We hold the tether center bottom for about 10 seconds for the strong low tone and then to the side so that the tone fades out.

On low tone house sound fades in track 2: hum to hut building

*Ritualize the tech below, unplugging the machine, yet it still lives. sense that the circle is still alive.... we are broadened by what we have called and contacted through the rope and reclaiming. Our energy is not just our own, but in balance with all things making it both stronger and fuller (warmer, I imagine that pre-rope our energy was like a sharp, piercing, bright tone and it has matured and stretched open into a round, warm full tone - inclusive of broader things). We are fuller people - we move with a new strong gentleness.

We undo tethers from rope, making sure that the controller stays to the side.

While building the fort, we individually prepare the computers, Donna first, then Jen, then Anne leaving the fort building for a moment to get this done. This should help the fort remain a task as well as help make this transition smoother.

computers:
1. in virtual machine monitor we hit the Remove All button to remove all shreds.
2. stop the virtual machine
3. quit miniaudicle
4. open dualvocoders (application with a 5 in a circle in the TSIF folder)
5. on top level hit replace and open tethervocal1 from TSIF folder
6. on lower level hit replace and open tethervocal2 from TSIF folder
7. on lower left hit dsp status and check to see that you are on the right driver (U46 or firebox) and output.
8. close the dsp box
9. hit start window
10. set volume with sliders (first slider sets all) at 2/3 height.

FORT/ALTAR BUILDING: - creating a home together, sweetness, nesting warm flowing energy lots of smiling

light slowly fades to stage left.

we begin with the form (first 3 sticks) locking together, and then playfully adding others. Watch that there is not too much weight from behind; watch that rear original stick remains locked in. Decorate with personal objects. Go to rope, wait. When everyone is ready quickly bring rope from center up and around the hut.
light quickly fades to full stage as we move to the tethers

we move to the tethers quickly, in unison, step forward and begin the tether sequence.

3 TETHERS - celebration! evening play, really enjoy this, listening, playing off each other. power of 3 tethers and our own energy and ability to be flexible and changed by this ritual - enjoying our larger/new self and tribe.

Anne stage left, Donna center, Jen stage right. 1 time through, Anne and Jen moving to long tones on tethers (might cut this)

INUIT SONG lullaby and ode to dusk, the fullness of the day and the coming day, hope in "the light that fills the world" - satisfaction, gratitude, respect and acknowledgement for this thing that has just happened, vulnerable, present and listening.

Anne begins inuit song. Donna begins to dance,

"great day that dawns" first time cues entrance of track 3: inuit song.

we all sing, in the end looking out.

Lights fade out

lights up and we bow - exit stage right if needed enter and bow again
There's a Spirit in the Flesh

Returning Melody for voices and Tether Instrument

Anne Hege

Soprano

Alto

There's a spirit in the flesh. There's a spirit in all the body. There's a spirit in the flesh. There's a spirit in every cell. There's a spirit in every cell.
Inuit song

Melody

\begin{music}
\begin{notation}
\begin{align*}
&\text{and I thought o\text{-}ver a\text{-}gain my small ad\text{-}\text{ven\text{-}tures} \\
&\text{as with a shore wind I drift\text{-}ed out in my Ka\text{-}yak and thought I was in dan\text{-}ger my} \\
&\text{fears those small ones that I thought so big for all the vi\text{-}tal things I had to get and to} \\
&\text{reach and yet there is only one great thing the only thing to} \\
&\text{live to see in huts and on journeys the great day that dawns and the light that fills the} \\
&\text{world} \\
&\text{pp}
\end{align*}
\end{notation}
\end{music}

Soprano 1

Soprano 2

Alto 1

Alto 2

Harp

Trad. Inuit Poem

Music by Anne Hege

\emph{Inuit song}

\emph{Music by Anne Hege}

\emph{Trad. Inuit Poem}
only one great thing
the only thing

one great thing
only one

only one great thing
the only thing

only one great thing
to

only one great thing

only one great thing

only one great thing

only one great thing

only one great thing

only one great thing

live to see in huts and on journeys

the great day that

the great day that

the great day that

the great day that

journeys the great day that

the great day that
dawns and the light that fills the world and yet there is

dawns and the light that fills the world

dawns and the light that fills the world

dawns and the light that fills the world

dawns and the light that fills the world

gradual increase in reverberation of backing tracks and tail length of reverb. Very reverberant by final measure.

on ly one great thing

on ly one great thing

on ly one great thing

on ly one great thing

on ly one great thing

on ly one great thing

The only thing to do

The only thing to do

The only thing to do

The only thing to do

The only thing to do

The only thing to do

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live to see in huts and on journeys the great day that

the great day that

the great day that

...ly thing the great day that

the great day that

the great day that

to see the great day that

dawns and the light that fills the world

dawns and the light that fills the world

dawns that fills the world

dawns and the light that fills the world

...n the world

dawns and the light that fills world
Picc.
Fl. 1
Fl. 2
Ob.
E. Hn.
Bsn. 1
Bsn. 2
Hn. 1
Tbn. 1
Tbn. 2
Hp. 1
Pno.
Vc.
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