SENSUOUS MACHINES:
EMBODIED MECHANICS
OF CINEMATIC PERFORMANCES

by

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Abstract

This essay will chart a geography of machines, bodies, and memories that is broad and far-reaching. The reader will travel through this terrain along a single winding path, via the tracks of film machines and dance machines (human bodies), taking extra time to pause, breathe, and reflect where the two intersect.

A description of sensuous geographies as mediated through engagement with anachronistic machines (such as trains and film equipment) will prepare the reader for a journey in which the human body becomes implicated and integrated with the mechanical body. The impact of the machine on the body of the operator leaves traces that trigger memories; the human body itself becomes a machine in performance that excites memories in both the performer and the viewer. Our journey ends with the ephemeral and fleeting nature of these machines and media that are preserved in the transparence of our senses and memories.

Keywords: Sensuous Geographies; Expanded Cinema; Experimental Film; Cinematic Performance; Embodied Cinema, Contemporary Dance, Embodied Mechanics

Subject Terms: Film; Dance; Expanded Cinema; Experimental Films; Motion Pictures – Philosophy PN1995 s544
Dedicated in loving memory to
Helen Wingard Hill
1970 – 2007

Thank you Helen,

For helping me to process my first roll of super-8 film in your bathtub:
Your voice calling careful instructions through the door, as I sat on the bathroom floor.

For inviting me to join the Ladies’ Film Bee:
An afternoon of tea, cucumber sandwiches, chitchat and film animation.

For teaching me that all you need for a Scrappy Film Festival
Are a few sharpies, some clear film leader, a projector, and an empty parking lot.

For your brightly coloured mittens, your pigtails, your pet pig, and your passion for life.
   For encouraging me when I thought I was not a filmmaker.
   For your beautiful films and your precious words.
   For you smile and for your optimism.

Without these things, I would not be making this work today.
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Chapter 1:
Introduction

Machine, Body, and Memory

I massage the knots in my right arm as train whistles signal crossings in the distance. Standing in a dark room with my hand on the camera body, ripples of mechanical quiverings from the optical printer penetrate the skin on the palm of my hand and travel the venous track from hand to wrist to shoulder to spine, finally taking up residence in the small of my back where the whirr and hum of the machine linger and resonate like the deep bass rhythms of loud music and passing trains. In this way, I engage my body with filmic machines that have fallen into disrepair; machines forgotten about and pushed aside to the back rooms of labs, schools, and co-ops making room for newer, “cheaper”, “more versatile” digital technologies. These older machines ride on the heels of an industrial age once said to alienate the worker from direct production; looms, canneries, presses, steamships, and trains where fathers worked amidst oil, smoke, squealing brakes and the grinding of gears; where they stood as operators while levers and drive shafts stepped into the line of direct production, alienating efforts from results. Ironically, the analogue and mechanical descendents of these industries now draw the operator back to her bodily senses. Contemporary digital technologies, on the other hand, reduce the range of bodily movement even further than the industrial technologies of the last two centuries; where once we used our whole bodies - raking, hoeing, hoisting, pulling, pushing - now we sit statuesque in posture, only our fingers moving on the
keyboards in set carpal tunnel choreographies – our kinesphere growing smaller and smaller with the advent of each new technotoy.

To revisit these mechanical processes now that it is not actually necessary to engage in them -- now that there are more “efficient”, less physically demanding/engaging modes of production -- can actually perform a sort of anti-alienation, triggering and exciting our physical bodies as they inscribe maps of remembered experience and sensuous geographies into the flesh, through the skin which serves as a thin penetrable film between the sensor and the sensed, baring traces, lines, and scars of past contact.¹

As I work, perform, and view, the machine draws a map of memory on my body; the machine has a body and my body is also a machine. The memory of the mechanics of my body merges with the rhythm of that machine. This rhythmic memory travels along the geographical lines of my body stopping at the landmarks where mechanical relationships have left traces in the flesh.

The train and the film projector share more in common than the parallel origins of their rotating wheels and pull down claws. Their presences resonate in the human body with the full force of audible rhythms, oily smells, and tactile vibrations. Sensuous shockwaves and subtle shivers from these machines ripple through the bodies of operators, performers, and viewers to take residence in the form of visceral trigger points. These sensuous resonances then trigger memories in the body both directly and indirectly related to the machine itself.

The machine leaves traces, scars, and bruises: memory marks on the body that trigger mental links to other times and spaces in personal temporal geography.

Figure 1-1 Mapping the Optical Printer on my Body

©Amanda Dawn Christie 2006 in DAMP.
This essay will chart a territory that is broad and diverse in its landscape and population: a geography of machines, bodies, and memories. I will navigate a winding path through this terrain, specifically taking time to pause, breathe, and reflect at the junctions of film and dance where they intersect with the tracks of sensuous geographies and ephemeral experiences.

A description of sensuous geographies as mediated through engagement with anachronistic machines (such as trains and analogue film equipment) will prepare the reader for a journey in which the human body becomes implicated and integrated with the mechanical body. The impact of the machine on the body of the operator leaves traces that trigger memories; the human body itself then becomes a machine in performance that excites memories in both the performer and the viewer. Our journey ends with the ephemeral and fleeting nature of these anachronistic machines and media that are preserved in the transparence of our senses and our memories.

**Methodology**

My interest in this subject is deep seated, stemming from childhood when I took dance technique classes while my father worked as a heavy machine operator for CNR (Canadian National Railway). The mechanical properties of the human body and the anthropomorphic characteristics of the machine are concepts which have always resonated with my way of understanding the world, through a joint interest in the dancing human body, and the physical science of mechanics.
On an academic level, I approach this subject from three angles: from a scholarly approach of reading critical theory on related topics; from a field research approach in which I physically engage with machines and geography in order to analyze my own physical response to them; and from a creative approach in which I create artworks that consciously explore the problems, theories, and conclusions drawn from both my scholarly and field research.

**Theoretical Approach**

On a theoretical level, I focused most of my research in the areas of kinaesthetics, embodiment theory, and phenomenology (which I refer to generally as haptic aesthetics) as these theories seem to be the link that ties the physical human body to the physical human machine. This is a logical line to follow when exploring the role of the performing and viewing bodies as related to cinematic machines such as cameras and projectors. Embodiment theory focuses on the full bodied and multisensory responses to various stimuli. I am interested in the ways in which both the viewer and the performer can engage their whole bodies with dance on screen and live performance, as well as how these embodied reactions are affected when a cinematic machine is introduced into the performance space.

I also explored manners in which personal and bodily memories might be excited by sensory reactions to various stimuli in both cinematic and theatrical contexts. It is in these connecting lines between physical sensations and experienced memories (both cognitive and bodily) that I found the most
interesting encounters between analogue machines (and the geographical/architectural spaces they inhabit) and human bodies.

**Field Research**

In the summer of 2005, I had a SSHRC graduate fellowship to travel across Canada by train for the purpose of developing a graduating project. During that journey, I captured 16mm moving images, 4x5 still photographs, and sound recordings. Through my work with the older film camera\(^2\) on an older mode of transportation\(^3\), I noted my bodily responses and theorized the relationship of my body to these machines and how they affected my memory and sensuous experiences of the present moment. The film and sound materials gathered on this trip were integrated into the film work of my graduating project, specifically in the film entitled *Fallen Flags*, and the expanded cinema script entitled *Tracing the Tracks Back and Back*.

As another form of field research, I also consciously analyzed my experiences working with optical printers and other now outdated cinematic technologies, such as analysis projectors, hand-winders, and spring wound cameras. It was interesting to notice how my interactions with these machines informed my dance choreography in the studio. I spent a great deal of time in the dance studio developing a movement vocabulary that echoed the mechanical movements of the optical printer, the film projector, and the train wheel mechanisms.

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\(^2\) 16mm motion picture film camera: Bolex Paillard H16 Rex-0 circa 1956.

\(^3\) VIA Rail Canada continues to use stainless steel ex-CPR Budd passenger cars from the 1950s.
Creative Practice

My creative practice for this degree has centred on dance choreography, sound design, filmmaking, and script writing. I developed a script entitled *Tracing the Tracks Back and Back* for a planned large scale interdisciplinary performance based on my train trip across the country (and using film, photos, and sounds gathered on the journey), which consciously worked on integrating elements of live performance with projected image through the use of present mechanical technology (16mm film projectors in the performance space operated by performing projectionists), rhythm, and haptic awareness. Due to the large scale of this project I chose to reserve the actual production of this work for my professional post-graduate career and intend to secure appropriate funding and facilities for its presentation. With this in mind, I used my time at SFU to develop the script, as well as several smaller films and performance works that support the themes and concepts of the larger script.

The films created for this project were developed in tandem with the performance script and were presented at a screening entitled *Tracking the Traces*. All of the films in this program have worked with anachronistic film processes that engaged my body fully with large machines during the creation stage. Approaches to filmmaking included optical printing, experimental contact printing, hand-processing, and optical sound manipulation. It was interesting to see how my physical engagement with these machines during the production process affected the outcome of the finished works. Many of the films focus directly on the concept of memory and its connection to material objects such as
photographs and home movies: some films have more of a haptic and kinaesthetic focus on the human body and the material surface of celluloid, while others tie memory and haptics together in abstract images of the body and through the metaphor of train travel.

In terms of dance choreography I approached the optical printer as a device for composing movement, through layering, looping, and the manipulation of speed and still frames. While I spent a great deal of my first year in the MFA program developing physical choreography in the dance studio for *3part Harmony: Composition in RGB #1*, I also manipulated that human choreography further in the optical printing suite. I later took that form of mechanical choreography a few steps further in the manipulation of animal movement in *Mechanical Memory* in the alteration of speed and the looping of gestures made by the dogs in that film. In *Mechanical/Animal Memory*, I then choreographed the movement of the film frames and the optical track itself through experimental contact printing, thus obscuring the dance of the dogs and trains beneath the texture and the noise of the material celluloid record. These manipulations served as an exploration of the destruction of memory and the material fragility of material mnemonic devices such as photographs and home movies.

**Memory Maps and Machines**

The exploration of the machine and the body is only the beginning. In order to fully understand the impact of the embodied integration of performing body and mechanical device, it is important to consider memory and bodily mapping. Drawings and maps often serve as mnemonic devices and traces left
on the body and the land as a result of temporal, climatic, human, or mechanical forces. Just as topographical and road maps shift over time with the redefinition of borders and the expansion of cities, so do the surface maps of our bodies shift with the aging of skin, the strengthening of muscles, and the breaking of bones. The scar on my big toe is the bodily mnemonic landmark that directs my memory to my parents dining room in rural New Brunswick 1979, while the scar on my left calf triggers the memory of accidentally cutting my leg while shaving in the small bathroom of a hotel in Fredericton.

Chapter 2 deals with unpacking the loaded concepts of sensuous geographies and how they relate to memory and the body via the automaton (not so distantly related to the anachronistic machine). This chapter endeavours to set up a phenomenological representation of the physical interaction of the filmmaker's body with the cinematic apparatus.

**Film and Dance Paralleled through Mechanical Embodiment**

The machine's impact on the body necessarily has an impact on senses and memories that are intricately linked to our physical presence in space and time, which thereby defines our relationship to this geography. This emerges in work with film machines and the traces that they leave on the body. It is possible to view dance as the ultimate form of embodiment in art, in that the body is the primary tool for expression and identification. It makes sense, therefore, to look at the link between mechanical embodiment and dance in terms of the human body as a machine. In order to explore this link it is important to first ask how this mechanical human body interconnects with the mechanical film machine, both in
the production of dance on screen, and in the production of projected images in live performance. The next challenge is to discover how we may then enter an embodied realm of haptic aesthetics when dance is compressed into the audio/visual elements of a two-dimensional projected screen image, and how we can then work with embodied experiences when the cinematic machine is brought into live performances.

In chapter 3, I focus on the fusion of haptic aesthetics and film mechanics when it comes to dance on screen, while in chapter 4 I discuss the roll of projected images in live performance with and without present projection technologies, and how this has an impact on the embodied memory of the viewer.

**Ephemera of Sensation and Anachronistic Technologies Retained in Memory**

Finally, we come to the ephemeral transparence of not only our physical experiences and memories, but also of the material of the media itself. Just as film relies on its ability to transmit light, so do our physical experiences in the present transmit remembered experiences from the past. When we think of our bodies and phenomenological sensations of embodied experiences, these experiences must happen in the present moment that is fleeting, ephemeral and hard to hang on to. So too is the future of film technologies. With the advent of digital technologies and the democratization of the moving image through video and new media, film stocks are continually being discontinued, labs are being shut down, and the labs which are not being shut down, are selling their old
machines for scrap metal. We are standing in a time where the medium of film is feeling the full threat of the ephemerality of its technology, which is not unlike the ephemerality of an immediate sensuous experience in the present moment, or a memory that slowly changes and fades over time.

In chapter 5 I will discuss this fleeting threat to the medium of film as related to film works based on found footage and other filmic ephemera.

Figure 1-2 Geographical Map of this Essay
Chapter 2:
Bodily Mechanics of Cinematic Practice and Geographic Memory

From the Machine Room to the Dance Studio and Back Again

This past summer when I was working on an Oxberry 16/35 Optical Printer at the Cineworks Independent Filmmakers Society, I was struck by the anachronistic nature of my process. With the advent of digital technologies, these machines have fallen out of use by the motion picture industry and are primarily used only by experimental filmmakers. As I began to question my preferences for working in such anachronistic processes, I charted a territory of bodily engagement, memory, and mechanical objects.

My experience working with this particular machine is a very intimate and personal one. For forty-five days I worked in a small room with this machine that was several times the size of my person. I learned every part of its body, every sound it made, and every vibration of its process. If my back was turned I could

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4 An optical printer is a machine used to re-photograph film, frame by frame in order to create special effects. Simple optical printing devices were developed as early as the 1920s, and were developed until the early 1980s when digital special effects supplanted the need for such devices. Originally designed for the purpose of creating special effects in major motion pictures (super-impositions, compositing, time alteration, etc). This particular optical printer is a professional grade optical printer similar to the ones used in the production of major motion pictures such as Star Wars, and 2001: A Space Odyssey, and yet I've had dozens of people ask me why I bothered to learn such a useless outdated skill. The Oxberry Optical Printer at Cineworks is one of only two publicly accessible machines of its kind in Canada and on the West Coast of the United States. People travel from other provinces, and from the Western States to work on this printer. And yet, four months ago, when the Technicolor film lab in Montreal was upgrading their facilities, they threw four of these machines into a junk pile to be crushed into scrap metal (or so their lab manager told me when I asked if they had any spare parts that I could buy).

5 Not only was I working on an optical printer, but I was also creating a three-strip colour separation film based on an early Technicolor process from the 1930s.
hear if something was going smoothly or going wrong. If I was concerned, I could place my hand onto the camera body and feel the vibrations that would tell me what was happening inside the darkened chamber. Working with such a machine was like a working with another human being: a dance partner or a lover.

Later on, while working in the dance studio, I reflected on my film practices, and came to another realization about these mechanical objects that I am drawn to. There is a close link between the human body and the mechanical object as many of the earliest mechanical inventions were based on models of the human body in the form of automata. An excellent description of the relationship between the automaton and the machine, is provided by Jean-Claude Beaune:

[... machines are not always automatic, whereas automata seem invariably to be machines, whether real or imagined. In fact, the relationship between the two entities is far from simple: to put it briefly, we can say that automata represent the dream, the ideal form, the utopia of the machine, and that the gauge of their absolute perfection is their independence, which endows them from the first with an anthropomorphic or living quality. Machines, conversely, developed either according to their own norms or to norms determined by the scientific context [...]. Television sets or motorcycles are not automatic insofar as they depend on an external energy source, and to the extent that their function seems to have lost that mythic dimension which gives the word "automaton" its primary sense.]

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Early automata were often modelled after human or animal anatomies, and gradually their structure became more abstracted as innovations ensued. The difference between pre-industrial-revolution machines and more contemporary machines (including, but not limited to, digital technology) is that the former emerge at a point when the mythical notion of the anthropomorphic automaton is giving way to a more productive notion of an economical machine-tool.

When the industrial revolution got underway, the idea [of using machines in factories] was taken up again and those looms or métiers [of the textile industry] gave their name to the first “real” machine-tools. The mutation had begun.

I find that my physical body of joints, bones, and ligaments has a great deal more in common with gears, axles, crank shafts, and timing belts of these mechanical machines (the mutated-automata of the last century) than it does with the binary 0s and 1s of a piece of digital software. Meanwhile the physical interface of digital hardware is another story altogether that falls into the ergonomic realm of the industrial machine-tool and its descendents.

These mental trajectories and paths lead me from a questioning point A to a hypothesized point B in which I began to theorize that contemporary engagement with mechanical processes of the late nineteenth century and early twentieth century — machines which were once seen to alienate humans from

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7 Beaune lists various examples (with illustrated plates) including Leonardo da Vinci’s flying man, Vaucanson’s Duck, early prosthetics, as well as various mechanical animals.

8 Beaune, 463.
physical experience – can now be seen to inscribe maps of sensuous geographies and remembered experience onto the body.

In order to explore this project further, I would like to first explore some of the component elements, namely the notions of maps, geography, and multisensory experience, before delving deeper into the implications of such a statement.

Figure 2-1 Geographical Map of Chapter 2

Maps and Geographies

Cartography from the Corporeal to the Conscious

While maps help us to navigate unfamiliar territory by providing us with visual reference points to landmarks, routes, and topographies that would otherwise be beyond the reach of our immediate sense perceptions, they can also serve to reinforce and reinterpret our relationships to previously experienced and travelled terrain. Once created, a map can be used to survey the geography from without, from a distance, and from a future present. The map of known places references territory that you corporeally travelled at one point in time, and will likely trigger memories of physical experiences and sensuous perceptions of that geography: memories, experiences, and perceptions have been inscribed onto your body from your initial experience with the terrain, only to resurface when triggered by a mnemonic device such as a map.

For example, just as a road map indicates the routes that one would take to get from point A to point B, a mental map of intellectual thought might include a route from thought A to thought B, and an emotional map might include a route from experience A to emotional response B. Taking this one step further, the landscape between the physical mapping of geographical terrain, and the mental mapping of thought and emotion can be bridged as corporeal points on the body hold scars, memories, tensions, or patterns, which trigger thoughts, memories, or emotions in the mind; binding mind to body through routes, rivers, train tracks, and mountain paths that connect corporeal point A to mental point B.
It is important to remember that the term "map" need not only refer to topographical and proprietal borders of earthly and urban landscapes, but that maps can also refer to constructed architectures (such as blue-prints and floor-plans) and organic bodies (such as the mapping of the human body through anatomical drawings). In the art world, floor plans often serve as maps for the proposed temporal geographies of galleries and performance spaces.

**Landscaping on a Moving Plane**

Geography is concerned with both a physical and human world. Literally, geography is earth ("geo-") and drawing ("-graphe"). It is a representation of an experienced world, both perceived directly through the sense and mediated by the mind. [...] Sensuous geography is in fact both spatial and temporal in character.9

When thinking about geography, we must take into account that it exists in space, place, and time.10 The temporal aspect of geography is physically manifested in the changes that occur over time. Landscapes are affected by the tectonic and glacial shifts, urban developments are continually in a state of flux, and human interaction with the environment always leaves its mark. In addition to the changes that occur in geography over time, there is still another temporal aspect to geography. Our personal experience of geography necessarily occurs within a temporal framework, as we must travel through the space in time.

A fourth element, which is not necessarily integral to the existence of geography, but which is almost always implicit, is that of locomotion. The

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10 I am differentiating between space and place in that place can be seen as a specific location in space.
individual has the option of viewing a landscape from a stationary place, such as from a lookout tower, or of experiencing it by travelling through it. Geographies themselves may also contain their own internal locomotion as tectonic plates shift, volcanoes erupt, tides change, rain falls and glaciers drift while traffic moves within the city. The internal locomotion of geographies (including the movements of both the perceiver and the perceived: the individual and the terrain) necessarily affects the physical experience and mental interpretation (both of these combining to form the perception), as the interrelationship between placial/spatial elements and the individual are continually slipping and shifting.

In the realm of cinematic performance, it is important to bear in mind the geography of the performance space in relation to its moving and non-moving inhabitants and structures, such as projectors, operators, performers, chairs, viewers, and props. For example, in *Tracking the Traces Back and Back* (a script for a large scale cinematic performance), I have developed a map of the performance space (Figure 2-2) which consciously seats the audience in two sections facing one another so that they can turn to see the projection screens on one side, the dancers and the other half of the audience in front of them, and the projectionists on scaffolds off to the other side. The geography of this performance space is laid out in such a way that the audience is placed in the midst of an active location which fills both peripheral and proprioceptive spaces so that even when only one region of the space is being used, the viewer is aware of her location within the rest of the space as a whole through the memory of previous activities that have taken place in other sectors of the space. The
movement of both performers and projected images in the space serves to recall a sense of locomotion and journey in the viewer's body even when she remains seated in her chair.

Figure 2-2 Map of Performance Space in *Tracking the Traces Back and Back*

**Navigating Geographical Perception in the Multisensorium**

When discussing and analyzing sense perception, we often work in terms of distinct sense categories such as sight, sound, taste, touch, and smell. However, in daily experience, we are rarely, if ever, exposed to an object that emits only one form of stimulus that reaches only one of our sense organs. Our sense of hearing for example can be affected by our sense of sight through expectation (see dog/hear dog), and amount of other competing stimulation (sounds seeming louder in the dark).
On the other side of the same coin, most objects do not emit only one form of stimuli. For example, we often talk of “hearing” music; however, we also often “feel” music as vibrations resonate in our bodies (such as the loud bass of a passing sports car). Smell, while categorized as olfactory, can only occur when molecules come into contact and “touch” our sense receptors inside our noses.

In addition to the multisensory qualities and sensuous interactions in daily experience, one must also consider the accepted classification of the senses and how that impacts our understanding of them.

Gold suggests that there are perhaps as many as ten basic senses. “Besides taste, smell, sight, and hearing, there are four tactile or skin senses of pressure, pain, cold and warmth, and the two body senses of balance (the vestibular sense) and kinesthesis (the sense of movement in any part of the body)” (1980:50). Each of these clearly has an impact on geographical experience.  

Imagine you are sitting in the dining car of a train as it travels through the Rocky Mountains. In addition to the taste, smell, and texture of the food you are eating, and the view of the moving landscape outside of the window, you can hear the rumble, creak, and squeal of train wheels and breaks beneath you. Beyond these five basic senses, there is also the kinaesthetic experience as your body rocks back and forth while hurtling forward along the tracks at fifty miles an hour, as well as the proprioceptive awareness of other passengers around you beyond your peripheral vision. All of these senses (and more) combine to form

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11 Rodaway, 28.
12 Bear in mind that not only are you moving past the landscape, but the landscape is also moving around you, as the wind and rain moves the branches and glacial movements and tectonic shifts move the rock formations imperceptibly beneath you.

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one cohesive experience of a whole situation – a geographical understanding of a distinct place and space in locomotive time.

“Sensuous Geography” therefore refers to a study of the geographical understanding which arises out of the stimulation of, or apprehension by, the senses. This is both an individual and a social geography, a physical and a cultural geography.13

It is this form of sensuous geography, as defined by Paul Rodaway, that I am interested in applying to the viewing space of cinema and cinematic performance. As viewers in a cinema or a performance space, all of our sense receptors are actively engaged even though we may consider the presentation to be audio-visual in nature. The smell of popcorn, perfume, and body odour of fellow viewers becomes as much a part of our “viewing” experience as the sensation of our seats vibrating with the low rumble of deep sounds and the brush of air on our skin when a performer runs quickly and closely past our seat.

Our senses function as interfaces between our body and our physical surroundings: not only are our senses interpreting the stimuli provided by the geographical terrain in which we find ourselves, but our sense perceptions are also modified by that geographical terrain. Sound, and our perception of sound, for instance, is modified by the environment through which it travels (humidity, air, water, barriers, reflectors, all have an impact on sound quality). When considering the impact of geographical terrain on sense perception, one must also look at the locomotive aspect of geography and its impact on mediation and interpretation.

13 Rodaway, 5.
Of key importance to all the senses is the ability of the body and its parts to move, that is, its locomotion, and to manipulate and inspect things. We do not just sense passively but actively, sensuous experience is exploratory and this exploration marshals all the senses cooperatively.\textsuperscript{14}

We can choose to pursue or to avoid certain sensuous elements of a particular place by moving closer to the source of an intriguing scent, handling soft fabrics, crossing to the other side of the street, or covering our ears.

In addition to conscious and unconscious movements through space and place, the actual structure of the human body informs a directional/orientational understanding of geography, even from a static position. As Rodaway points out, "The posture and structure of the body generates a particular local geography – up and down, back and front, left and right [...]."\textsuperscript{15} As I stand in the middle of an open field, not only does my body impose a directional grid of front/back, left/right onto the landscape, it also serves as a measuring stick for determining scale. How many of my bodies tall is this building? How long would it take me to walk to the other end of this field?

This orientational aspect of geography was also taken into consideration in the development of the performance map for \textit{Tracking the Traces Back and Back}. The projectionists in this three-dimensional space are placed on six foot tall scaffolds, thus placing them in a region above the heads of most viewers (if they were standing), and off to one side (instead of behind the viewers as is customary in most cinematic spaces). This placement exalts the projectionists

\textsuperscript{14} Rodaway, 28.
\textsuperscript{15} Rodaway, 32.
above the level of invisible technicians through the height of their placement as well as through the orientation of their placement to the side of the viewers rather than behind. Yet because they are not placed directly in front of the viewers, they do not occupy the space of main attraction. Instead, they sit in the viewer’s peripheral vision so that she is aware of the presence of the projectors and projectionists sharing the same space with her, while not necessarily feeling the need to engage them directly.


Figure 2-3 Diagram of Projectionist Placement in Tracking the Traces Back and Back

Machines Mediating Bodily Experience

Sensuous Interfaces Between the Body and the Machine

Many mechanical objects (the mutated automata referred to earlier) from the late nineteenth century and early twentieth century, while based on relatively anthropomorphic models, were once seen to alienate humans from physical experience of production. Once the automaton, the anthropomorphic machine,
was introduced into the factory, Marxist and other socialist critics began to focus on its alienating aspects, which without question were responsible for separating individuals from the products of their labour, thus contributing to the stratification of social and economic class systems.

There is no need for any reminder of the excesses of factory and industrial organization, which is rationalized into inhumanity, leaving almost no scope for the individual; in this respect, automation has become a social – and, predominantly, an economic – idea, with the technical dimension constituting no more than a means, and man no more than a minor instrument.¹⁶

As technology advances to create more efficient, compact, and cost effective machines, the older industrial machines gradually slip into obsolescence. Now in the early twenty-first century, with many generations of technological advancements standing between us and the machines from the last century, we can now approach them in a different light. However, I would argue that this is only possible for those of us living in societies where these older machines have actually been declared obsolete and thus replaced by the softer digital technologies (which carry their own set of physical, social, and economic problems for workers). It is important to remember that in many nations and economies, these older machines are still employed in the industrial production of commercial products and therefore continue to alienate the worker from the product of her labour. As Naville points out, it’s not the machines

¹⁶ Beaune, 433.
themselves that alienate humans from direct physical experience, but rather the social effects surrounding the application of those machines.  

I would argue that through their obsolescence, these industrial mechanical objects have now been freed, in some societies, to facilitate physical experience as they act as anthropomorphic interfaces that highlight the physicality of our bodies; thus they are able to reclaim the mythical/utopian status of their automatonic roots. These anachronistic mechanical structures reinforce physical sense perception by requiring direct physical action on our part. Rather than sitting stationary at a computer or a keyboard, the mechanical operator must physically engage with the machine, pulling levers, adjusting gears, tightening timing belts, adding and removing attachments and adaptors, monitoring progress through sound and touch, and so on. The operation of these devices is an inherently physical act with an anthropomorphic object, and as such it grounds the operator in his or her own physicality as sensation – multisensory sensation – resurfaces and asserts its presence in the foreground of the process.

When looking at geography in a more general sense, as discussed above, exploring space and place in locomotive time, we realize that it is not restricted to the global elements of landscape; it can also be translated into, and used as a means for understanding more intimate environments, such as work spaces, living spaces, exhibition spaces, and performance spaces. When considering the workspaces occupied and shared by machines and their operators, it

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becomes evident that the presence of the machine in the intimate geography of
the operator necessarily mediates the experience of that geography, as all sense
perceptions are affected by its presence. Sounds created by the machine are
affected by their geographical place (small room vs. large room) while also
interfering with other ambient sounds (either drowning out or muffling the sounds
of attempted conversations, telephones, or other non-mechanical ambient
sounds). Similar effects occur with the other sensuous stimuli of the machine
and its geographical environment in relation to the operator.

This impact of sensuous geography on the machine operator can
potentially hold a direct link to creative production when looking at films made
through mechanical processes. For example, *Knowledge of Good and Evil* was
the first film that I created on the Oxberry optical printer at Cineworks, and its
style and length were directly impacted by my physical experience of working in
the geography of that room. The rhythm of that film moves much faster than that
of my earlier films due to the convenient placement of hand-winders just two
steps from the optical printer, and the ease with which the projectors could be
loaded. On the other hand, even though I did have a detailed frame by frame
script for the trajectory of this film, I wound up cutting the last four scenes (and
therefore reducing the length by an entire minute\(^\text{18}\)) due to the fact that the cold
temperature of the room and the constant whirring of the machine were far more
overbearing than I had anticipated; I simply reached a point where I could no
longer stand to remain in that small room with that large machine due to the

\(^{18}\) *The finished film is only 45 seconds long.*
headache I got in its presence; I decided to end the whole film early because of how my body reacted in the presence of that machine.

Figure 2-4 Oxberry Optical Printer

Figure 2-5 Still Images from *Knowledge of Good and Evil*

*Mechanical Memory*, on the other hand, was created on the J.K. optical printer at the Atlantic Filmmakers Cooperative in Halifax. This is a much smaller
(table top) optical printer in a much larger room (shared with two Oxberry animation stands). Unlike the cold optical printing suite at Cineworks in Vancouver, this optical printing suite was not air conditioned in August, and was unbearably hot. The optical printer itself did not have a sequencer attached and as such, I had to advance each frame (camera and projector) manually while counting. While I had intended to print at a 1:24 ratio, stretching each projector frame to 24 camera frames, due to the heat and lack of a sequencer I found myself working barely clothed, sweating, and unable to focus. The result was that I chose a much more manageable ratio of 1:6 or 1:8 (often losing count which resulted in motion that was at times more organic in its fluctuation and at times more mechanical in its choppy jumps). This change in printing ratio drastically changed the aesthetic of the moving images as well as the rhythm of the film.

Figure 2-6 J.K. Optical Printer Basics

Most recently when working on Fallen Flags, I went into the optical printer suite at Cineworks with a new way of relating to the Oxberry optical printer. This time, rather than entering with a set frame by frame script like I used with Knowledge of Good and Evil, 3part Harmony: Composition in RGB #1, and Mechanical Memory, I decided to treat the machine like a fellow body or partner in the space, and approached the composition of Fallen Flags like an improvisation in which the machine and I took equal turns following and leading one another. I began with a basic score (or temporal map) for the piece that was definitive and provided direction, but was not so specific as to dictate frame-by-frame action. I then responded to the machine throughout the process being aware of my physical relationship to its body and which movements would be most appropriate for both the film and for my body at that time. Rather than fighting against the machine to create a potential film that I had mapped in my head, this time I worked with the optical printer to create an actual film that was present in the camera and the projector, to be charted in the physical present between my body and that of the machine.
Inscribing Sensuous Geographies onto the Body

This immediate geography is extended by the body’s senses: the intimate sense of touch and smell and the distant senses of sight and hearing. And more directly, the locomotion of the body allows it, with the aid of memory and expectation, to develop a wider “map” of the environment through which it travels. Technology also extends the reach of the body and can give us a sense of experiencing a world apart from the body.19

I would take this statement by Rodaway one step further, and argue that not only do these machines and automatonic technologies mediate physical experience and extend the reaches of our bodies, but they also inscribe maps and geographies onto our bodies as we work with them. The sensuous geographies of our environment become inscribed onto the body through our interaction with the machines: sounds lodge themselves into our memories, vibrations take up residence in our veins and bones, while locomotive kinesthesis registers a trace in our body memory of remembered patterns of motion. Maps are drawn onto our bodies that point to the sensuous geographies mediated by these machines. For example, the train story mentioned earlier: maps (systems of landmark-like signifiers) have registered in my body so that I can recall the

19 Rodaway, 32.
multisensory experience of train travel when I am not actually on a train, just as I can recall my experience of a city by looking at a map. Each time I am on a train, certain sensations will serve as mnemonic devices triggering memories of past experiences of train travel. Likewise, through my experience with the optical printer, the continuous “click kachunk click” sounds of the machine have registered as landmarks in my memory bank. Hearing, or recalling, this sound on my mental map triggers the possibility of following various roads, tracks, or passages from this auditory point A to an emotional point B (the memory of a tragic phone call I received while printing, the memory of my deadline-related anxiety, or the memory of fatigued melancholy in the early morning hours) or to a mental point C (the memory of a printing mistake that was made when I didn’t notice that sound change, or the memory of the mechanical principles behind that snippet of sound and what it means).

The click kachunk click, of the optical printer when automated at a 1:1 ratio takes me to the clickety clack of the trains my father works on in the CN yards, while the smell of the machine oil on its various moving parts evokes the smell of train grease that lingered on my father’s coveralls and boots after work. My mind wanders back to childhood memories visiting my father at the train shops. The repetitive foot pattern from the hand-winder table to the lamp to the camera vaguely resembles variations on the jazz square patterns from beginner dance classes that I took as a child. While testing exposure and filtration on the optical printer, my mind is often
transported to early dance classes through the actions of my body.\textsuperscript{20}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2-9.pdf}
\caption{Oxberry Optical Printer Gate Triggers}
\end{figure}

Completing the Circle of Cartographic Transmission

For those of us who have chosen an analogue practice in a digital age, there is a direct physical impact on our bodies resulting from repetitive physical patterns, exposure to toxic chemistry, and working long hours in the dark. There is also a direct social impact on our economic behaviours, as we work on the outskirts of the capitalistic entertainment industry, scavenging for materials and supplies that are beyond our financial means. We shoot super-8

\textsuperscript{20} Christie, "Anticipation".
and cheap 16mm optical sound stock not meant for recording picture, we find short ends for free from various industry shoots, we process it all ourselves in our hidden darkrooms and bathrooms. We find old discarded equipment from schools and labs, from dumpsters and on E-bay – we restore projectors and contact printers, create mutated Franken-machines from miscellaneous parts and ply our art after dark when light-tight is easier to find. This salvaging of old machines is an act of economy and alchemical mysticism; like raising Lazarus from the dead, we can breathe new life into old machines. These resurrected bodies then breathe new life into us; engaging our sensorium through the use of muscle, joint, bone, and ligament.21

In “The Intimate Incarnate”, Roman Paska quotes a passage from Heinrich von Kleist’s “Marionette Theatre”, in which von Kleist is having a discussion with a professional dancer (Herr C) about a folk dance performed by puppets in a street theatre. Von Kleist was surprised to hear that Herr C, such an accomplished and successful dancer, took such a deep interest in something so simple as puppet theatre. Herr C explained that a dancer could learn a great deal about his own body by watching that of a puppet and its relationship to its operator.

He said that I mustn’t imagine that every limb was pulled or positioned separately by the operator during the different moments of the dance. Each movement he said, had its centre of gravity; it sufficed to control this point within the interior of the figure; the limbs, which were nothing but pendula, followed by themselves in a mechanical way without any further assistance […] But from another point of view, this line [the path of the puppets movement] was something very mysterious. For it was nothing other than the path of the dancer’s soul; and he doubted if it could be found unless

21 Christie, “Anticipation”.

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the operator imagines himself at the puppet's center of gravity – 
that is, in other words, dance.\textsuperscript{22}

This story of the puppet and the puppeteer can serve as a simple allegory 
for the relationship between almost any mechanical device and its operator. 
Indeed, the notion that the path of the puppet’s strings is actually “the path of the 
dancer’s soul” is highly romanticized: however, it illustrates the bond often 
formed between operator and automatonic device. This bond, bound up in the 
mythical romanticism and nostalgia that accompanies most automata and 
anachronistic processes, serves as a direct link, a bypass if you will, from 
conscious experience/intention to corporeal experience/action. For just as the 
machine is capable of inscribing maps of sensuous geographies onto the body of 
the operator, so the operator is capable of transferring those intimate maps and 
landscapes of sensuous memory back onto the machine in its operation and 
performance. This completes the circle of inscription and transcription of 
sensuous cartography between the operator and the operated.

\textit{The maps of remembered experience are both directly related to 
the mode of production and vicariously related to other similar 
physical experiences. As I go through the motions on the optical 
printer - two steps from the hand-winders to the lamp, three steps 
from the lamp past the aerial lens to the camera, one step to the 
computer, two steps back to the table - my mind can drift as my 
body moves through its own memory – muscle memory – like riding 
a bicycle, playing guitar, or rehearsing set dance choreography –}

\textsuperscript{22} Kleist, Heinrich von. “On the Marionette Theater” Appended at the end of an essay by Roman 
Paska entitled “The Inanimate Incarnate”. Published in \textit{Zone 3: Fragments for a History of the 
Human Body: Part One} Ed. by Michel Feher with Ramona Naddaff and Nadia Tazi. 
the body follows the repetition and engages the machine on a purely physical level. It is here that muscular engagement activates other memories of physical experience only vicariously related to current actions: the memory of physical experiences which have nothing to do with the filmmaking process, but which involve similar actions and sensations on a bodily level.

The machine, like a dance partner or a lover, leaves as much of its imprint on the operator as the operator leaves on it. At the end of the day, my feet are sore, my body is tired and the muscles in my right camera arm are a little stronger. My right eye has become slightly near-sighted from over-exertion through long black tunnels of glass and metal in dark rooms, while my left eye has remained mostly unaltered. These areas of strength and weakness, bruise and callous, are laid out on the geography of my form, like topographical indices on a cartographic travel diary of my body's journey with film.²³

²³ Christie, “Anticipation”.
Chapter 3:
Dance as a Projected Image

The Dancing Body as a Sensuous Machine on Screen

Just as the body of the cinematic machine can engage with and leave traces on the body of the operator, so can the mechanics of the dancing body leave traces on the body of the screen. To fully explore this notion we need to acknowledge both the mechanical aspects of the human body (intricate and logical functioning of anatomy paralleling the intricate and engineered functioning of machines), and the sensuous or haptic aspects of the machine as embodied on the projection screen. While the mechanical apparatus of the film or video projector is not often present in the screening room, its abilities, limitations, and characteristics manifest themselves and declare their origins through the projected moving images that land on the screen before the audience. To place a human body within these moving images, is to consciously mediate that living organic body through the apparatus of the camera and projector before projecting it as a two dimensional audio-visual apparition in the cinema. There is a translation of the mechanics and the organics of the human body, into the mechanics of the camera and projector, and back onto the screen. Invariably certain aspects of sensuous life will be altered (or altogether removed) in this process of mechanical translation from live performance to pre-recorded audio-visual stimuli. In this chapter, I am interested in exploring how the sensuous
qualities of the medium can be used to reinject haptic life into the pre-recorded image.

**Historical Origins of Dance and Film Fusions**

Since the development of film at the end of the nineteenth century, the dancing body and the moving image have had an intimate and at times tenuous relationship on the surface of a rectangular screen. Dancers were featured in the first commercial screening in the United States and played a prominent role as subject matter for many of the pioneer filmmakers, such as Auguste and Louis Lumière, in France.²⁴

From these early beginnings, dance and film continued to merge in various forms and circumstances, including but not limited to: the documentation of theatrical dances, such as *The Dying Swan* (1924) onto film²⁵; the musical film genre of the Hollywood Studio era in films such as *The Gay Divorcee* (1934)²⁶ and *Shall We Dance?* (1937)²⁷; the integration of dance into narrative films such as *The Red Shoes* (1948)²⁸ and *Saturday Night Fever* (1977)²⁹; the experimental film based on movement and choreography such as *Ritual in Transfigured Time*.

(1946)\textsuperscript{30} and \textit{Trio A} (1968)\textsuperscript{31}; and the music video of the late twentieth century. This merger can even be discerned in the complex choreographies of fight scenes in a great deal of postmodern cinema such as \textit{The Matrix} (1999)\textsuperscript{32}, \textit{Crouching Tiger, Hidden Dragon} (2000)\textsuperscript{33}, and \textit{Hero} (2002)\textsuperscript{34}. 

This chapter will focus on experimental fusions of dance on film as a genre rather than on the integration of dance and choreography into feature films, narratives, musicals, music videos, or Hollywood blockbusters. More specifically, I am interested in films that present a haptic aesthetic in a cohesive work that integrates film and dance without prioritizing one over the other. The sort of work I am referring to is in the vein of the 1940s experimental films by \textit{Maya Deren}\textsuperscript{35}, which made full use of montage and pedestrian movements to create dance, the 1950s films of Norman McLaren which used the technology of optical printing to create new choreographies in ballet\textsuperscript{36}, and the 1970s and 1980s film and video collaborations between Merce Cunningham, Charles Atlas, and Eliot Caplan, which began to integrate camera movement as if the camera itself were another dancer\textsuperscript{37}. While much can be said on the topic of editing...

\textsuperscript{30} Deren, Maya. \textit{Ritual in Transfigured Time}. Independent: USA, 1946.
\textsuperscript{31} Rainer, Yvonne. \textit{Trio A}. Independent: USA 1968.
\textsuperscript{35} Deren, Maya, \textit{Maya Deren: Experimental Films}. Video. Mystic Fire, 1986.
techniques, camera angles, and camera movements, the focus of this essay will rest in the haptic possibilities of these fusions. In order to follow a concise trajectory, this chapter will also confine itself to the moving image on the screen and as such will omit a discussion of the integration of projections in live performances (which will be discussed in the next chapter). Rather than simply looking at the history and the development of screen dance, as many have done before me, I will use this chapter as a platform to explore both the possibility and the actuality of haptic composition in this hybrid medium.

I propose that haptic sensibilities manifest themselves in screen dance through the fusion of both the technical conventions of film and video and through the viewer's kinaesthetic identification with the performer's body, and that in order to fully grasp these concepts one must first recognize this hybrid medium as more than the sum-total of its component disciplines.
Haptics

The most basic definition of the term “haptic” is that which relates to the sense of touch: that which is haptic is tactile. Recently, this term has enjoyed the attention of cultural theorists and artists alike in various modes of aesthetic discourse. In their 1987 essay, “1440: the Smooth and the Striated”, Gilles Deleuze and Félix Guattari differentiate between the haptic and the tactile in relation to their concept of nomad art:

“Haptic” is a better word than “tactile” since it does not establish an opposition between two sense organs but rather invites the assumption that the eye itself may fulfill this nonoptical function. [...] It seems to us that the smooth is both the object of a close vision par excellence and that element of a haptic space (which may be as much visual or auditory as tactile).  

Laura U. Marks applies this term specifically to the screening experience of film and video. In her book, *Touch: Sensuous Theory and Multisensory Media*, she uses the term “haptic” to refer to a sensuous form of viewing in which the sense of touch is engaged while experiencing something of an audio-visual nature. To appreciate a work on a haptic level, a work does not need to physically touch the viewer, but rather the audio-visuals of the work somehow speak to and ignite those tactile senses in the viewer.

Haptic cinema appeals to a viewer who perceives with all the senses. It involves thinking with your skin, or giving as much significance to the physical presence of an other as to the mental operations of symbolization. This is not a call to wilful regression but to recognizing the intelligence of the perceiving body. Haptic cinema, by appearing to us as an object with which we interact rather than an illusion into which we enter, calls on this sort of

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embodied intelligence. In the dynamic movement between optical and haptic ways of seeing, it is possible to compare different ways of knowing and interacting with an other. 39

For the purposes of this discussion, I am drawing from Marks’ definition of the haptic and opening it up a little further to include the kinaesthetic experience in addition to the tactile. Kinaesthesia is the ability to feel movements of the limbs and the body: kinaesthetic experiences include awareness of the body in space, muscular exertion and exhaustion, as well as physical relaxation and release. Hence, my current definition of “haptics” is one that explores the engagement of the tactile and the kinaesthetic senses of the viewer through audio-visual stimuli.

When discussing embodiment as it relates to film and performance, however, I will be referring to the integration of all of the bodily senses, haptic and otherwise.

Consider that sensation of a new lover’s skin on your own for the first time, hot water on tired feet, cool water on hot hands, a car door slamming on your baby finger; these experiences are complete sensuous experiences in and of themselves. [...] Tying them into a story or a communicable message can in fact sometimes detract from these senses by forcing the brain to contextualize and analyze them from a logical and disembodied place rather than purely experiencing them on a phenomenological level. When watching film, any film (narrative or non-narrative, Hollywood or home-movie), the viewer has an all over embodied experience, even though the medium provides only audio-visual

stimulus. The viewer cannot simply turn off her senses. She is still actively engaged – taking in her surroundings and all her senses informing one another. When you watch a horror film, your adrenaline rises, you feel your stomach in your throat, and you sometimes involuntarily hide your eyes. When you watch a dramatic film with a sad ending, you might cry, your eyes might moisten, and your nose might run. These are pure physical bodily responses to audio-visual stimuli.

If our olfactory and haptic senses can be excited like this with the audio-visual stimuli of narrative film, then why not venture one step further away from the conventional narrative and focus on the pure essence of the sense itself: the sensation and the moment. Like an abstract painting, or a fabulous meal, a film can be a beautiful moment of being or revelation that brings us closer to our intimate senses and to the geography of our bodily presence in this world without leaning on the guise of an Aristotelian story arc.

This is not to dispatch with narrative altogether, but rather to enter into a critique of the language that narrative is constructed from. Certainly, according to the most basic definition, all films are narrative in that they have a beginning (the moment the projector lamp is illuminated), a middle (film of any sort, even clear leader passing through the gate), and an end (the moment the projector shuts off and/or the house lights come up)\(^{40}\). In this sense, all films are narrative, functioning on a series of cause and effect events through a progression of one frame to the next to the next to the next one after that. The challenge therefore is to critique and expand upon the language (the audio-visual language) with which the narrative is constructed in order to incorporate a syntax of

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As the viewer identifies with the dancing body projected onto the screen through mechanical means, she enters a sort of kinaesthetic identification or mutual embodiment in which her bodily senses are engaged by identifying with the past lived experience of the performer (which has been recorded to film or tape) and by brushing a non-optical haptic gaze over the surface of mechanically altered images (be it through the aesthetics of interlaced video or photo-chemical film). The engagement of the bodily senses, leads the viewer to an awareness (or a map) of her own bodily machine and the traces of memories that reside in her flesh.

**Screen Dance**

I am using the term “Screen Dance” here - taken from Sherril Dodds’ *Dance on Screen: Genres and Media from Hollywood to Experimental Art* - as opposed to “videodance”, “cine-dance”, or “dance on film” because this term encompasses various forms of “screens” ranging from cinema, to television, to multi-channel video. I am also working with a rather broad definition of dance stemming from Maya Deren’s 1967 discussion of the relationship between film and dance:

Film is primarily a time form. When you have the arrangement of matter in time, you have movement. You begin to stylize this

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41 Christie, Amanda Dawn. *Engaging the Ephemera*. Self Published Zine: Vancouver / Halifax, 2006. (excerpt from the curatorial essay, printed in a hand-made zine to accompany the “Engaging the Ephemera” screening that I curated and presented at the Art Gallery of Nova Scotia in August 2006 as a part of the “Cinema X” week presented by the Atlantic Filmmakers Cooperative.)
arrangement, and pretty soon you are choreographing. [...] the filmmaker can leave dancers out altogether and yet follow the principle of dancing— which is the arrangement of movement. A scene where the performer’s actual movements are not dance movements at all can become a film dance when the movements are related to each other according to a choreographic concept [...]  

This definition of dance within film opens up the discussion of screen dance to non-figurative forms such as animation, optical printing, and handmade film.

Quite often, critics will prioritize one medium over the other, favouring either virtuosity in dance performance or technical prowess in televisual aesthetics, if they approve of the merger at all. Dodds comments on the diverse reactions to screen dance as she writes: "The translation of dance to screen has been met with both celebration and disdain. Whereas some critics believe dance and screen media to be mutually compatible, others see the two as diametrically opposed."  

For the most part, critics tend to prioritize the dancing body over the televisual or filmic screen, as they often write only about the choreography and fail to comment on key issues such as editing, framing, lighting, and camera movements in their reviews. Failure to acknowledge the role of the filmic or the televisual apparatus in the analysis of a screen dance is paramount to a failure to grasp the actual medium. It is virtually impossible to present choreographic work on screen without somehow affecting or distorting it through the process of

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43 Dodds, 16.
mechanical translation through camera and projector. The dancing body on the screen is processed through a mechanical device before being placed within a two dimensional rectangular frame that inevitably affects and distorts the viewer’s perception of the dancing body: the live body is transformed into a screen body.  

Whether that screen is a larger than life cinema screen, or a small glowing television screen in a living room, the proportional relationship of the performing body to the viewing body is greatly affected. Not only is the dancing body distorted through the mere translation from a three-dimensional form to a two-dimensional image, but the choice of lens used in this translation will likely distort the body further, depending on the focal length chosen. Other factors that interact with the dancing body on the screen include the use of inaccessible architectural or natural spaces such as in En Knapp's *Dom Svobode* (2000); the use of special effects such as optical printing in Norman McLaren’s *Pas de Deux* (1968); the use of editing techniques, repetition, and freeze frames such as in Maya Deren’s *Study in Choreography for Camera* (1945); the integration of extreme close ups and extreme wide shots such as in Thierry de Mey’s 21

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44 Dodds, 24.
Études à Danser (1999)\textsuperscript{47}; or in the use of extreme camera angles and points of views such as in DV8's \textit{Dead Dreams of Monochrome Men} (1989)\textsuperscript{48}.

In speaking more specifically about videodance in the late 1970s, Richard Lorber states quite concisely that

Videodance, as a hybrid art, may not be greater than the sum of its parts, but it will have to be significantly different from anything the parts have been before [...] the most compelling and definitive videodances will have to be less simulacra of a theatre experience, less representations of performance, than wholly new presentations of forms and concepts, electronically dematerialized.\textsuperscript{49}

My favourite description of this hybridity of the screen dance however, comes from Maya Deren:

[...] you get something that you couldn’t get by using either of them alone. This is what I mean by the creative dance film [...] My choreographies for camera are not dances recorded by the camera; they are dances choreographed for and performed by the camera and by human beings together.\textsuperscript{50}

This is the approach that I took when creating \textit{3part Harmony}:

\textit{Composition in RGB #1}\textsuperscript{51}. The choreography for this work was created in the

\textsuperscript{50}Deren, 7, 8.
\textsuperscript{51}This experimental dance film employs a bastardized version of the 1930s three strip Technicolor process. Shot entirely on black and white film through colour filters, the images were recombined into full colour through optical printing techniques, one frame at a time. The gestures in this dance work are an exploration of the fractured psyche which can be separated into various elements of the same self, while still recombining from time to time to form a unified whole.
dance studio with the knowledge of the colour separation process\textsuperscript{52} that would be used in shooting and the optical printing process that would be used in editing. As such, I worked in the dance studio with a metronome instead of music, and developed three variations of the same solo: a red dance, a green dance, and a blue dance. These three solos were choreographed with the intention of layering them on top of one another in the optical printing process, as well as with the knowledge that when all three were to occupy the same place, that the body would appear to be solid and full colour, while when they were separated that the body would appear to be a transparent record of a primary colour (red, green, blue, cyan, magenta, or yellow depending on the background). Because the colour separation and layering would only take place in the optical printing process (where speed and movement would also be manipulated to speed up, slow down, reverse, and freeze frame), this work was not able to be performed live in the same way that it would be projected on screen. Choreography was carefully logged with a metronome and detailed as to when one colour would hold hands with another colour, or when one movement would be printed in

\begin{flushright}
\textsuperscript{52} RGB is a term referring to Red, Green, and Blue: the primary colours of light, also known as the additive primaries. The subtractive primaries are the exact opposite of the additive primaries and they are referred to as CMY: Cyan, Magenta, and Yellow. If you add equal parts of red, green, and blue you get pure white light. Since all objects reflect light, and film functions by recording reflected light, then it is possible to separate light from the original subject into its red, green, and blue wavelengths (by photographing it on black and white film through red, green, and blue filters one at a time), and to reunite it onto colour film (by printing those black and white images on top of one another on colour film through the appropriate red, green, and blue filters). This technique was used in early photographic processes and was actually one of the first techniques used for making colour photographs. This is the same principle used in the Technicolor three-strip process which was used for motion pictures between the 1930s and 1940s before the Eastman colour negative was developed.
\end{flushright}

reverse, slow motion, or freeze frame. Just as much of the choreography took place on paper and in the optical printer53 as in the dance studio.

Figure 3-2 Still Images from 3part Harmony: Composition in RGB #1

Now that I have established that the screen dance is a hybrid medium, I would like to look closely at how haptic sensibilities manifest themselves through the most basic elements of this medium: the filmic and televisual apparatus, and the kinaesthetic identification with the dancing body.

Haptics Conveyed through the Filmic and Televisual Apparatus

As was stated above, haptic manifestations in film often have more to do with the visual image on screen evoking a sense of touch rather than actually physically touching the viewer. This interchange happens on the surface of the screen, as Marks writes:

Haptic looking tends to rest on the surface of its object rather than to plunge into depth, not to distinguish form so much as to discern

53 The Oxberry optical printer does not allow the operator to look through the viewfinder when frames of film are being exposed (when the camera is operating). Since I chose to edit this film (all 18 shots) entirely in camera in order to fully exploit the unique editing possibilities of a colour separation process, I was unable to actually watch, try or retry any of my edits. Every editing decision took place either in the dance studio or on paper, and was only seen once the film was finished.
texture. It is a labile, plastic sort of look, more inclined to move than to focus.\textsuperscript{54}

Quite often the senses are evoked through abstract images that float on the surface of the two-dimensional screen and make apparent the tactility and the texture of the medium.

It is commonly argued that film is a tactile medium and video an optical one, since film can be actually worked with the hands. Now that more films are edited and postproduced with video or computer technologies, this distinction is losing its significance. (an exception is experimental filmmaking techniques such as optical printing and scratching the emulsion.) Many prohaptic properties are common to video and film, such as changes in focal length, graininess (produced differently in each medium), and effects of under-and overexposure.\textsuperscript{55}

Given this description of the haptic as that which can float on the surface of the screen, and Deren's definition of dance that was not restricted to the figure, one can look for the haptic screen dance in abstract and non-representational films as much as in figurative works. One approach (of many) to engaging the tactile and olfactory senses with film, involves the making of the film itself. Through hand-processing and hand manipulation (such as contact printing or optical printing), the touch of the artists' hand registers on the film surface, often sending the image into complete abstraction. This trace of touch translates into a handled surface of materiality in which the viewer's relationship to the film shifts away from visual-analysis and toward haptic-experience. Instead of trying to follow a storyline or to analyze a meticulously constructed mise-en-scène, the

\textsuperscript{54} Marks, "Video Haptics". 8.
\textsuperscript{55} Marks, "Video Haptics". 9.
viewer begins to ponder and experience the celluloidal surface as waves of colour shift beneath scratches, dust, visible splices, fungus, or chemical stains.

Figure 3-3 Still Images from *This Unnamable Dream* and *Fallen Flags*

Hand-processing allows the filmmaker to dig into the film’s emulsion like an archaeologist or a sculptor bringing out the beauty in that which is already there. Scratch marks and chemical stains are only the beginning of bringing attention to film’s two-dimensional surface (not unlike the tradition of embracing the two-dimensional picture-plane in painting). The trace of touch can also be found in tinting, toning, and the use of various chemicals to eat away at the emulsion. The filmmaker can also accelerate the growth of bacterial cultures and fungus on film to accentuate the beautiful texture of natural decay over constructed images.

The number of ways in which a filmmaker can handle, attack, caress, or make-love to her film are legion. Ironically, the exact processes are generally not evident on screen – the viewer rarely has a sense of how these films are made. Even so, when watching these films, the viewer is most often hit with a sense that there is more to these films than meets the eye. These films often carry a strong physical/emotional punch that it is hard to put one’s finger on, and even harder to wrap one’s words around. Many viewers comment on having a visceral and embodied experience when

watching experimental films; be it from the pounding soundtracks or stroboscopic images. In more extreme cases, these embodied reactions can range from headaches to epileptic seizures, and from tears to hallucinogenic states of euphoric bliss.\textsuperscript{56}

It is this notion of “Loving A Disappearing Image”\textsuperscript{57} as Marks describes it, that I applied to the treatment of my body in Knowledge of Good and Evil. Through overdeveloping images of myself climbing into bed and then bathing them in Farmer’s Reducer, I created an image that slips between positive, negative, solarization, and total obliteration. The movement of climbing into bed is repeated in the film, just as I would repeat certain movements in dance choreography. Bodily images are further manipulated in this film through the use of experimental contact printing techniques in which I laid the negative on top of the raw stock in waving patterns in order to break contact and therefore focus. This results in an image of my face on the pillow, staring at the camera before pulling out of focus and apart into vertical visual streaks before sliding back together and then off the side of the screen. The intent of using these techniques was to create a moving image of the body that would slip through the viewer’s fingers, teasing the eye with a figure that would sink and surface above and below the material of the medium.

\textsuperscript{56} Christie, \textit{Ephemera}.
\textsuperscript{57} Marks, Laura U. \textit{Touch: Sensuous Theory and Multisensory Media}. Minneapolis: University of Minnesota Press, p. 91.
In the super-8 film, *This Unnameable Little Dream: Or a Traced Sketch of Two Brothers*, I chose to actually integrate a piece of fabric with the image when I rear projected images of my face and images of palm readings onto a waving sheet of silk georgette. As the sheet of silk waves back and forth, the image of my face and the hands weave in and out of focus until finally the sheet swings more and more violently to reveal the beam of light from the projector aimed directly down the barrel of the camera lens.

At times, filmmakers may attempt to force a haptic quality onto their work in an all too literal manner. This can be seen in an overemphasis of figures touching or caressing objects shot in a more informative than sensuous manner.
By "informative" I mean less ambiguous, in the sense that Umberto Eco uses this term in *The Open Work*, as he comments on the field of possibilities which opens up through the ambiguity of situations which are open to various choices and interpretations rather than through the determinacy of situations defined by specific information.  

Instances of this over-informativeness are most apparent in films that rely on the wide-angle shot: showing the full figure of the body in its full setting so that the viewer always has enough information to know who the figure is and where he or she is. By not daring to abstract or obscure information, out of fear of confusing the viewer or compromising the plot, the film sacrifices any chance it may have of inciting a haptic experience in the viewer. The informative shot distances the viewer from his or her body as the mind is engaged through the analysis and the interpretation of the information presented in the shot.

**Haptics Through Kinaesthetic Identification**

Since the screen dance is being considered as a hybrid medium integrating film and dance, it follows that we must also explore haptic manifestations in the dancing body in addition to the haptic images of the screen surface. In a live theatrical dance performance, the most obvious haptic link between the performing body and the viewing body is the kinaesthetic link: the viewer witnesses and in many cases actually senses the exertion of the dancer’s body as he or she sweats, breathes quickly and heavily, and shows evidence of

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muscular force. This kinaesthetic connection is an element of the live body that does not translate automatically into the screen body, as Dodds comments on the fact that screen dance is often filmed or taped in short takes which allow the performers to catch their breath and touch up their appearance, which then in turn distorts the presentation of their effort.59

The resulting image is often one of kinaesthetic distance, or as I prefer to call it, kinaesthetic alienation, in which the viewer watches a body that he or she does not feel: it is an inhuman body, or perhaps a super-human body which moves through space without expending any effort, executing sequences of movements that could not be recreated in real space-time. This is the antithesis of haptic kinaesthetic identification between the viewer and the performing body. Maya Deren consciously employed this technique in her *Study in Choreography for Camera*, and in fact heightened the distancing quality through reverse photography.

There is nothing very tricky about *Choreography for Camera*. The dancer rising in the air was filmed in reverse so that you do not get the sense of muscular departure. This may deprive the film of some of the kinesthetic empathy that many think the audience wants to feel. When you see a dancer pushing up and rising, you get a sense of his victory. But my statement concerned the dancer’s freedom. I filmed the jump in reverse so you would not feel the effort.60

Indeed kinaesthetic identification, and haptic manifestations in general, may not always be desirable, as in the above case. At the same time, one can use the above case to define the kinaesthetic identification in the screen dance

59 Dodds, 34.
60 Deren, 7.
by opposition. That is to say, that if you can remove kinaesthetic empathy by hiding the effort expended in the dance, then you should be able to increase kinaesthetic experience by emphasizing the effort expended. Close-up images (to the point of abstraction if you want to layer up the haptic possibilities of both mediums) of the sweating flesh, amplified sounds of heavy breathing, all will instill in the viewer an empathy and an experience of the working screen body.

This can be seen in Thierry de Mey’s 21 Études à Danser in several of the studies as the breath of the dancers is elevated and blended with the soundtrack, sometimes rising above the music, sometimes sinking into it. The viewer feels the dancer’s breath in his or her own chest and as such participates in the dialogue of movement presented on the screen. There are also several scenes where the sounds of skin brushing on skin, feet sticking to the floor, and bodies falling on hard surfaces are amplified. All of these sounds affect the viewer on a kinaesthetic level as the impact is experienced in the body.

DV8’s Dead Dreams of Monochrome Men also employs a kinaesthetic empathy in its structure at various points when lighting emphasizes glistening beads of sweat on the men’s bodies. The most poignant example of kinaesthetic empathy in this work, however, is the scene when three of the men repeatedly run toward a wall, jumping to reach an upper ledge, climbing on one another’s backs only to fall back down again, to back away, and to run and jump and climb at the wall over and over again. In addition to the sense of futility and

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desperation that the viewer experiences in watching these men try to escape their prison, the viewer also senses the physical exertion and exhaustion of these men as their breath gets faster and more shallow with each run at the wall, and their movements decrease in energy and reach as their endurance dwindles.

**Haptic Hybrids of Body and Screen**

As stated at the beginning of this chapter, these haptic sensibilities manifest themselves in the screen dance through the fusion of both the technical conventions of film and video and through the viewer's kinaesthetic identification with the performer's body, and that in order to fully grasp these concepts one must first recognize this hybrid medium as more than the sum-total of its component disciplines.

As a viewer, when I watch moving images on a screen, I want to be engaged with the work and to experience it personally. I want to feel the mechanical life of the dancer's body on the inside and outside of my own mechanical body. I want to feel that physical exertion and exhaustion pumping in the blood under my skin while feeling the surface of the screen brush the back of my neck.
Chapter 4: Projected Images In Live Performance

Mechanics, Body, and Memory

Eight musicians fall silent after an intense musical climax. The two drummers stand to their feet in the blackened room, illuminated by a single candle. The drummers begin to sing softly without amplification before two violins and a cello join them. As the music slowly rebuilds itself, two 16mm projectors are sparked up in the back of the room, throwing black and white negative images of trains onto and behind the performers while adding the whirring rhythm of the film pull down claw to the music in place of the drums that continue to sit untouched. Ten years later, the mere memory of this performance\(^{63}\) recalls the sensation of low rumbling vibrations in my lumbar spine; the way the sound of the two film projectors stood in for the sound of the trains on screen; the way the film projectionists stood in as percussionists adding the rhythm of the projectors to the music when the drummers stood singing instead of drumming.

When considering the role of projections in live performance, I would argue that it is through the revelation of the machine and its operator interacting with the performers that the viewer is brought into a tangible world of cause and effect (rather than smoke and mirrors) which excites an awareness of the

\(^{63}\) *F# Ab infinity.* by Godspeak You Black Emperor!. Aberdeen Cultural Centre: Moncton, 1997.
mechanical cause-and-effect-ness of her own body. It is this excited awareness of her own body that brings the audience member back to her embodied senses, thus creating a more tangible connection to the sound, vibrations, and smells of the machines working within the performance space. It is through this visceral experience of the smell of machine oil and the vibrating sounds of projectors that physical memories in the viewer’s body are triggered by the mechanical stimuli of the theatrical technology.

Figure 4-1 Geographical Map of Chapter 4

Absence of Technology

Quite often, artists choose to make the technology of the projection as invisible as possible. This can at times create a seamless integration between the content of the projected images and the live performers, as there are no distracting power cords, technical sounds, or signal wires. This seamless presentation of projected images is sometimes used when the artist chooses to
work with moving images as a form of visual wallpaper or set decoration in order to create a context, location, or ambient space for the performers to work within. In order to achieve this seamless integration of projected images, the artist will often not only hide the mechanical projector, but will also place it behind soundproof glass to hide the sounds as well. This creates a magical smoke and mirrors effect allowing the audience to slip into suspended disbelief placing the performers into a transient space where they appear to be working within the projected images rather than in front of them, or as if the projected image is a three dimensional window through which the performers could pass if they chose to do so. Breaking this illusion with the presence of projectors, wires, cables, shadows, and mechanical sounds can be distracting if it is not the artist’s intent.

Even when projections in live performances are integrated seamlessly with the use of hidden and invisible technologies, there are still some cases in which the technology of the projected image is made present through its absence which one could argue, actually makes the viewer that much more aware of its existence.

One example of absent-present projection technology in live performance can be seen in *Cupid’s Tail*\(^{64}\) by Rob Kitsos, as it was performed in Vancouver in October of 2004\(^ {65}\). In this work, a live narrator walks on stage among the dancers explaining the chemistry of falling in love. This body chemistry lesson points to the mechanical nature of even the most mysterious aspects of the

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\(^{65}\) *This performance in Burnaby used a live video feed, whereas the 2003 performance at the Hong Kong Academy for Performing Arts did not.*
human body and its psyche. The viewer becomes aware of the mechanical nature of both the performer’s body and her own viewing body. At a certain point, the narrator leaves the performance space of the stage, yet continues to narrate and speak to the audience via live video feed. His image is projected on the full screen behind the audience. Through the use of extreme close up (his eyes fill the entire screen, looking down at the performers beneath him, and sometimes his mouth fills the whole screen) and the night-vision (infra-red) filter on the video camera, his mechanically organic body is distorted and modified through the medium in a way that throws him into haptic abstraction. Through this process, the viewer is made aware of the mechanical translation of the performer’s body through the video camera and projection, even though his organic body was present in the flesh just seconds earlier on stage. His live organic body is translated into an electronic signal that passes along wires from the camera to the projector before being thrown onto the screen in the form of a constant image stream of light and interlaced video. This projection fully acknowledges the medium of video and its haptic qualities without trying to mimic the look of a magical three-dimensional space or the look of projected film. Even though the projector and the camera do not share either the performing or viewing space, the viewer is made aware of their absent-presence through projected images which reference the specific electronic nature of video.
Other examples of absent-present projection technology can be found in the Holy Body Tattoo’s productions of Circa\textsuperscript{66} and Our Brief Eternity\textsuperscript{67}. Both of these dance performances hide the technical apparatus of the camera and the projector, yet the audience is continually aware that they are watching a pre-recorded projected image (rather than an ambient space or magical window), and that a camera was present at one point in the past and that the projector is present in some hidden place in the present. In both Our Brief Eternity and Circa, the projection screen is a well-defined rectangle above the dancers that does not come down to the floor, thus it is framed as an entity of its own, separate and distinct from the live performers.

In the Holy Body Tattoo’s Circa,\textsuperscript{68} the physical set on stage is elaborate and luxurious with deep red curtains and live musicians upstage on either side of the centre. When projections appear, they are much smaller than the height and width of the stage (almost dwarfed by the elaborate set), and are framed by the red curtains, while accompanied by live musicians. The content of the films (black and white tracking images of passing landscape and urban architecture) adds to the direct reference to early cinematic practice, which also incorporated live performance (live music) in its presentation. The references to early cinematic practice here are only lacking the sound of the actual film projector, which in this case would have been overkill. The physical and aural absence of


\textsuperscript{68} Circa.
the film projector here asserts its absence and the waning of its technological status. When the dancers pass before this screen, their movements are slow, calculated and languid; they do not detract from or compete with the projected images, but rather contextualize the images into the theatre space in which they are being projected by working clearly with upstage and downstage blocking to explore the spaces which the two dimensional projections cannot.

**Mechanical Presence**  
**Mediating Vicarious Memories in the Viewer**

When the artist chooses to work with the presence of the projection machine, as opposed to with its seamless absence, she presents the viewer with a tangible apparatus that dispels the illusion of the projected image. In some cases, the presence of the apparatus even supersedes the emphasis of the images. Either way, the presence of the apparatus adds a new dimension to the lived experience of audience members as they are now presented with two types of physical bodies: the living physical bodies of the human performers (which as discussed earlier have their own mechanical elements), and the inanimate, albeit automatonic, mechanical bodies of the projection devices. The presence of these projection devices not only calls attention to their mechanical qualities, but like the more intimate machines of prosthetics and hearing aids, they serve as an extension of both the human body and the inner psyche projecting images like dreams onto the screen.

[...] perception is corporeal; it is mediated by our bodies and the technological extensions employed by the body (such as walking sticks, spectacles and hearing aids, and even clothes). The body is more than the site of the sense organs and the brain, but forms the
fundamental part of the perception process. Its size and orientation, its locomotion and its own sensuous capacities (balance, for instance) are important issues for perception.\(^{69}\)

The relationship between the mechanical projection device and the performer is one of a partnership. Just like a dance partner or a lover, the projector provides the performer with another body to move with or against, whether the performer is actually handling and moving with the machine, or whether she is moving with the sound and the proprioceptive presence of the machine sharing the performance space at a distance. The presence of the projecting machine in the performance space draws attention to the mechanical aspects of the performer’s body, as well as to the anthropomorphic qualities of the machine. Whether the artist (consciously or unconsciously) emphasizes the similarities or the differences between the human and the machine, the viewer is presented with a complex relationship between person and machine. It is through the observation and experience of this relationship that the viewer becomes just as aware of the projection technology and apparatus as of the projected image (and its content), and therefore is placed in a position where she must respond to the presence and performance of the machine in the same way as she would respond to the presence and performance of the human body and the content of the projected images. It is in this sense that the machine becomes either a fellow performer or an art object in the space, to be considered in tandem and on par with the rest of the work.

\(^{69}\) Rodaway, 12.
Several examples of projector performance can be found in the genre of expanded cinema. For instance, in *Parallax: 16mm x 2*\(^70\), Alex MacKenzie performs on two 16mm analysis projectors. He works at the back of the screening room, but keeps the projectors in the same room as the audience so they can hear the sounds of the machines mingling with the soundtrack. He manipulates the projected images not only through adjusting their speed manually\(^71\), but also through the use of colour filters and anamorphic lenses\(^72\) and through physically moving the projectors back and forth smoothly so that the images slide across, on top of, and next to one another. All of these aspects of the projected work, which are seen at the front of the space, are directly related to movements made by his physical body at the back of the space. While watching the images move back and forth across the screen, the viewer experiences a kinaesthetic identification with the locomotion of the image as she is forced to reconsider her orientation within the geography of the performance/screening space. For the viewers in the back of the performance space there is the added mutual embodiment of identifying with MacKenzie's expended effort and directed action when moving the projectors, which in turn move the images. The sound of film projectors provide rhythmic percussion that drives the work forward, referencing the mechanical effort and kinetic energy of the pull down claw, timing belts, and motors which may recall previous remembered

\(^70\) *Parallax: 16mm x 2*. By Alex MacKenzie. Western Front: Vancouver, January 2005.

\(^71\) Speed of the projected images was controlled through the use of two analysis projectors that allow the operator to adjust frame rate via the use of a remote control. Analysis projectors were originally used by the military for target studies and by athletes for motion analysis before the invention of video. Now, it is very difficult to find working analysis projectors, and they are primarily used by artists such as Alex MacKenzie for cinematic performances.

\(^72\) Anamorphic lenses are used in the film industry to stretch the image into a wide screen format.
experiences that the viewer may have had with other film projectors, trains, or sewing machines.\footnote{The motion of the sewing machine needle and presser foot was the inspiration for the invention of the pull down claw and pressure plate in the film projector. The mechanical principles behind these two technologies remain intrinsically similar to this day.}

John Porter, on the other hand, brings his physical presence to the forefront in his \textit{Projector Dances}.\footnote{\textit{Projector Dances}. By John Porter. Starting From Scratch Film Festival: Amsterdam, 2007.} Like MacKenzie, Porter operates the projector in a performative manner in the screening room/ performance space, however, unlike MacKenzie, Porter chooses to speak and walk around the room among the audience carrying the projector on his shoulder, thus highlighting the role of his body as a performer on par with the projector and its projected images.\footnote{I first experienced John Porter’s \textit{Projector Dances} at the Eyelvel Gallery in Halifax, Nova Scotia in 2001, however for this chapter I am specifically referring to the \textit{Projector Dances} that he performed at the Starting from Scratch Festival in Amsterdam, February 2007.} In his \textit{Projector Dances}, Porter shot the original super-8 footage knowing that he would be performing with the projectors. During performances, he holds the super-8 projector on his shoulder and moves the projected image around the room so that it looks as if the image is staying still, and only the frame lines or illuminated screen are moving, thus creating the illusion of a moving window to an exterior existing three dimensional space. Throughout the performance he provides live narration to the audience, speaking to them in a casual manner and encouraging them to ask questions. This conversational presentation develops a bond of identification through which the viewer realizes that she too has a body and a voice like Porter’s that can be merged with a mechanical projector in an act of technological union. In carrying the projector on his shoulder, he in effect merges his organic body with the mechanical body of
the projector in a fascinating form that resembles an analogue precursor to the cyborg. The projector sits on his shoulder like a second head projecting images like thoughts onto the screen, the walls, and the ceiling of the space while the feed and take-up arms of the projector function like the third and fourth arms of his own organic body, moving film through the gate at a brisk walking pace\textsuperscript{76}.

Ben Donoghue takes this image of the analogue ancestor of the cyborg even further as he disassembles and modifies the projector in his performative optical sound experiments in \textit{Exciter Lamp #2: Flashlight Picture and Sound}. He describes the work as follows:

In this piece hand-contact-printed materials (photograms) are destroyed and reconfigured through a series of chemical processes without a light source beyond a flashlight. [...] I use a hand-built sound reader to sound map various areas of the picture frame and run them through an effects pedal chain [...] The pedal sequence and number, including the number of mixers and channels varies with the performance and what the sound system can handle. If I run a full triple chain with three mixers and three pre-amps it requires a very large space and large system to work. On the other side, in a small space with a basic sound system a single pedal chain (three pedals) and no mixer will suffice.\textsuperscript{77}

His description of the work emphasizes the relationship of spacial geography and performance space mapping to the reception of the work. Even in a small room with a single pedal chain, this work is incredibly loud; the noise excites (through the audio mechanics of the exciter lamp) a haptic experience in the viewers as they cannot help but feel the loud, low rumbling distorted sounds

\textsuperscript{76} One of the Projector Dances involves footage of a young man walking back and forth while the camera follows him. As the man walks back and forth, Porter moves the projector with him at his walking pace, so that the landscape stays static on the screen while the man and the image frame move back and forth as a result of Porter’s fluid manipulation of the projector on his shoulder.

resonating within their bodies, the floor, the chairs, and the walls of the room. Some viewers have actually walked out of the room during these performances due to the intense physical sensations and loud sounds generated by this work, while others consciously choose to stand up against walls where the sonic vibrations will be transmitted in a more tangible manner from the structure of the room to the flesh of their bodies.

In *A Maternal Record Not Fully Recorded*, I project super-8 images of my mother and intertitles on the screen behind me as I play a violin on my lap. The imagery chosen for this work was taken from super-8 home movies from the 1970s. I transferred the super-8 footage to video by taping off a wall, and then re-transferred the same images back to super-8 by filming off a television monitor. This emphasized both the flicker of the initial film projection and the blue glow of the interlaced video monitor image. As such, the images themselves refer directly to the mechanics of their specific mediums. Both projector flicker and degraded blue video images point to home movies and photographs causing these specific autobiographical images to take on a more generic quality in which these could be anyone's home movies, and therefore the viewer is able to enter a vicarious identification with the images. As Giuliana Bruno writes in *Atlas of Emotion: Journeys in Art, Architecture, and Film*:

> In our own time, in which memories are (moving) images, this cultural function of recollection has been absorbed by motion pictures. In this sense, film is a modern cartography: its haptic way
of site-seeing turns pictures into an architecture, transforming them into a geography of lived, and living, space.\(^{78}\)

![Still Image from film component of A Maternal Record Not Fully Recorded](image)

**Figure 4-2 Still Image from film component of A Maternal Record Not Fully Recorded**

In terms of the actual geography of the cinematic living space for this performance, I chose to place myself beneath and next to the screen in the dark, so that my presence is sensed primarily through live audio rather than through competing visuals with the projected images. In this manner the mnemonic device of the home movie is foregrounded, thus placing the impact of remembered experience before the presence of the lived present moment. The text found in the intertitles and the sung words in this piece also work to foreground the remembered past as it relates to the present moment as they speak of home movies and photographs which document experiences that I don’t personally remember in the present, but which become memories through their records.

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Instead of playing a melancholy melody on the violin, I lay it on my lap and drag the bow across it in a squealing whine to emphasize the disconnection between the physical records of remembered experience as mediated through mechanical cameras and projectors, and the actual memory of lived experience.

**Audience Experience**

As an audience member, viewing these mechanical-bodily relationships, one is brought into a tangible world of cause and effect in which the performer's body has a direct impact on the projected images and/or sounds as mediated by the mechanical apparatus of the projector. Viewing (and experiencing the sound, smell, and vibrations of the projector's on-stage presence) draws links between

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*Figure 4-3 Still Image of Intertitle from A Maternal Record Not Fully Recorded*

*Figure 4-4 Performance Still from A Maternal Record Not Fully Recorded*
the body, the machine, and the projected image which trigger memories in the viewer's mind and refer to the already inscribed maps on her body from previous mechanical interactions.

In *The Atlas of Emotion* Bruno discusses cartographic representations of cinematic spaces as well as film itself as a form of emotional map.

The motion of emotion that takes place in this form of cartography can take us backward, and hence move us forward, for it is the modern reinvention of the old art of memory. By setting memory in place and placing it within an architectural trajectory, the art of memory was an architectonics of recollection. 79

While the map of the viewer's remembered experience with other mechanical objects (ranging from trains to sewing machines to cars to can openers) may have been more mundane than those presented in the theatrical performance, there is still an identification that one experiences when watching another human body engage physically with a mechanical object in such a way as to cause a resulting action. The unique element of watching a performer operating a projector is that she is not simply performing a utilitarian function of opening a can, or sewing an article of clothing, but rather she is projecting moving images onto a surface, which no matter how mechanical and logical, always retains a certain element of magic and mystery, even in the presence of the mechanical apparatus. Watching this body and machine interaction that results in a luminescent projection of moving images therefore fills the viewer's body with a sensuous, and perhaps at times idealized, view of mechanical embodiment. The machine is brought to life as it engages with the performer and transmits lifelike

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79 Bruno, 8.
moving images from its once cold metal body, now warm and vibrating with electrical currents.

It is through watching the performer operating the projectors, pushing them from side to side, from hearing their strained breath when lifting equipment, from smelling a mixture of sweat and machine grease, that the viewer’s full array of bodily senses is excited through the vicarious kinaesthetic identification of physical labour. The viewer identifies with the performer’s body, effort, and interaction with the machine, in such a way that she not only recalls the physical experience of her own interaction with similar machines but also imagines what it would be like to recall the performer’s experience with the machine. It is through this visceral experience of the smell of machine oil and the vibrating sounds of projectors, the mechanical stimuli of the theatrical technology, that physical memories in the viewer’s body are triggered.
Chapter 5: Conclusion: Dissipation of the Machine into Sensuous Memory

Ephemerality of Sensation, Materials, and Technologies

“Ephemera” is a loaded term in film. I am interested in playing loosely with the definitions of ephemera, expanding and contracting its borders like the surface of deep breathing skin, in order to bring the bodily senses and body of film closer together, if only for a fleeting moment.80

Ephemeral Sensations

To begin with, I am interested in the ephemerality of physical sensation. In the past few chapters, a great deal of attention has been given to haptics and embodiment theory as they relate to the viewing and listening experiences of film and live performances. While bodily senses, and the memory of bodily sense, can be excited through audio-visual stimuli and kinaesthetic identification, it is important to remember

80 Christie, Ephemer.
that at the most basic level, all bodily experiences are immaterial and fleeting. These experiences exist in the present moment, and while we can recall them at later times, even then the remembered experience is itself also just as fleeting as the initial phenomenological experience. While sensation does, at times, leave traces and maps on the body in the form of scars, muscle tension, and fatigue, the initial experience and awareness of the sense dissipates over time; it is often forgotten until a memory is triggered by another similar experience. The cartographic traces and landmarks left on the body become a sort of sensuous ephemera, lingering long after the initial experience like left over movie stubs, flyers, or photographs, pointing to an experience that has long since ended.

It is in this sense that watching a live performance, be it dance, theatre, music, film, or otherwise, is essentially ephemeral. Live performance is inherently temporal and ephemeral. A live performance cannot be purchased and owned like an object to be hung on the wall over the couch. It is experiential and fleeting. If you blink or drift off to think of your laundry and dishes (which is not necessarily such a bad thing during some performances), then you miss a part of the performance that you will never again regain (even if you attend a second time it will be slightly different). No matter how well rehearsed, no two live performances can be identical. There are variations in terms of physical energy levels, audience attendance, audience interest, technical glitches, and other unpredictable and random factors. This is especially true in the case of performances that integrate improvisation as a component of the work. "Non-performative" film screenings can also be considered as live events, given that
the material structure of the film print changes with each projection (gathering
dust and scratches like scars and wrinkles on its aging body), the projector is
invariably operated by a live performing projectionist (whose skill level will
determine our awareness of her presence⁶¹), and our fellow audience members
are complicit with us in the same rules of cinematic viewing that apply to
theatrical viewing. All of these factors combine to form a memory of the viewing
experience that remains like a ticket stub pasted onto the map of our mind and
muscle, changing and fading over time.

Ephemeral Materials

In the context of film theory, the term “ephemera” or the “cinema of
ephemera” generally tends to refer to the use of found footage that
no longer has a functional use in contemporary society.⁸² This
would include health and safety films from the 1950s, military or
office training films from the 1940s, athletic analysis and public
service films.⁸³ Most films that once served an educational or
propagandistic purpose before the advent of video are often
considered “ephemera”. Ephemera includes a large number of film
prints which exist, taking up space on shelves, in boxes, in

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⁶¹ In Standard projection, the viewers are only aware of the projectionist when she makes a
mistake, be it having to switch focus during projection, adjust the sound levels, fix the framing,
or perhaps move the whole image slightly to straighten a crooked image. As distracting as
these actions may be, they point to the inherent live performative aspect to even the most
conventional film screening. A skilled and well rehearsed projectionist will make a screening
appear as effortless as a ballerina dancing on pointe; both projection and ballet require a great
deal of training, skill, and practice, and both are expected to appear smooth and effortless in
conventional forms of presentation.

Image Archivists. 26 April 2007 <http://palimpsest.stanford.edu/byform/mailing-lists/amia-
I/2005/04/msg00025.html>

⁸³ According to Kreines, “For more than two decades, the archivist Rick Prelinger has been
collecting these kinds of educational films alongside a wealth of similarly derelict material,
including advertising, amateur, documentary and industrial movies, most made by unknown
auteurs, [...]. Over the years, Mr. Prelinger has preserved these extraordinary artifacts, which
he has poetically christened ephemeral films.” Kreines, “Rick Prelinger in the NY Times”
basements, in archival vaults, all around the world, which serve no purpose whatsoever aside from the occasional documentary film that might use a few excerpts as b-roll to illustrate a point. [...] 

Beyond the concept of ephemera as found footage, and the ephemeral nature of sensuous experience, I'd like to expand the concept a little further to include the material of film itself as an ephemeral medium. On the most basic and structural level, the material of film is transparent and relies on its ability to transmit light and shadow while continually moving through the gate of the projector. When watching a film (unlike when making a film) you cannot hold a single frame or image in your hand. Your “viewing” experience of a film relies on the fact that it is continually in motion. As a temporal medium, each image is fleeting, and unlike on your home DVD player or VCR, when seated in a cinema, you cannot press pause or rewind to savour or analyze any single frame. Like it or not, each frame whips through the gate for a fraction of a second making way for the next and the next and the next one after that. Not only does the projection of film implicate the ephemeral nature of the medium, but, the material itself is often prone to fading and decay over time if improperly stored.84

Early film prints from the last century were prone to spontaneous combustion (not unlike many laptop batteries today) due to their nitrate bases. Even after the introduction of “safety film”85 film prints continue to fade, degrade, and shift in colour. The three-strip dye transfer process used by Technicolor in the early twentieth century was the only fully archival colour process, but was

84 Christie, “Ephemera”.
85 In the early twentieth century, Kodak developed what came to be known as “safety film” which used a cellulose acetate base instead of the original nitrate base that was prone to spontaneous combustion.
discontinued by the end of the century due to the development of the more economical Eastman colour negative process. Kodachrome was the next in line in terms of archivability but is gradually being phased out by Kodak as I write this essay. All other colour prints will fade and shift to magenta over time (shifting and fading faster when stored in hot and humid conditions). At a recent animation screening in Halifax, Nova Scotia, I watched a projected print of Norman McLaren’s *Neighbours* that had drastically shifted to a faint magenta with scratches and dust, referencing a long and rich history of projection for this print. Because I have already seen restored versions of this film, I found it fascinating to see the extent of deterioration on this print and the traces (like a map) on its body (alive with organic silver halides) referencing its past experiences with mechanical projectors. Many viewers however, were outraged that the National Film Board allowed such a degraded print to be shown, claiming


87 Early in 2005, Kodak announced its plans to discontinue Super-8 Kodachrome film stocks. The last run of officially sanctioned super-8 Kodachrome processing was for film received before September 25, 2006 in Renens, Switzerland. There is currently an unofficial (not sanctioned by Kodak) lab named “Dwayne’s Photo” in Kansas which continues to process super-8 Kodachrome, but only as long as the chemicals are still available to them. When the announcement came that Kodak was about to discontinue super-8 Kodachrome, a large number of petitions were formed and articles were written in journals and periodicals around the world.


that this screening did a disservice to the artist's original intent. These viewers (speaking at the *Is Film Dead* conference at the CBC Radio Room in Halifax) insisted that it would have been better to have screened the work from DVD than from such a degraded film print. I, on the contrary, thought that the projection of the film print was perfectly appropriate for this conference (especially given its title) in terms of highlighting one of the main characteristics of the medium of film – a characteristic which many people would prefer to ignore or brush under the rug – its integral degradation and disintegration. To ignore the inevitable deterioration of the material of film is to ignore one of its inherent characteristics and to work with a fabricated ideal of what one wants film to be instead of what film actually is. Film is ephemeral by its very nature.

While several panellists speaking on behalf of the Audio Visual Preservation Trust of Canada and Kodak referred to the fact that Colour Negative film can last for 100 years if properly stored, and Black and White Negative can last for 500 years if properly stored, the key phrase here is: “if properly stored”. Proper storage for film requires temperature, humidity, and barometric pressure control in sealed vaults. Proper storage of film negatives

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89 Golitzinsky, Michael, Renee Gruszeki, and Michael Moosberger. In the panel discussion: “Depth of Field: Preservation” at the *Is Film Dead Symposium on the State of Celluloid*, Atlantic Filmmakers Cooperative: Halifax, March 23, 2007. Collected materials and a follow up commentary of the *Is Film Dead Symposium* to be published in a document titled “In Focus: A Report on the Future of Film in Canada”. All panel discussions were recorded on both audio and video materials in order to be later posted on the Audio Visual Preservation Trust of Canada Website.

90 According to the Association of Moving Image Archivists: “The recommended conditions for extended-term film storage are between 40-50°F and 20%-40% RH (relative humidity). [...] Excessively dry air (below 20% RH) can lead to film becoming brittle, while damp conditions will compromise the benefits of cold temperature and invite mold growth. Good air circulation will help prevent mold growth, but mold is possible any time the RH remains above 70% for more than a few days.”
and prints is not easily accessible, affordable, or necessarily desirable, to many film artists, and as a result, their negatives and prints tend to shift and fade while stored in basements and attics.\textsuperscript{91}

**Ephemeral Technologies**

*Finally, we are at a fleeting moment in history when film's actual existence as an artistic medium is feeling the full weight of its ephemerality. In this age of HD and digital technologies, film is falling out of favour as the key keeper of history and teller of stories. Industry directors are shifting gradually away from film, first through the use of digital intermediaries when editing, and now through the initial use of HD at the production stage.*\textsuperscript{92}

As directors, producers, and distributors shift to digital preferences in terms of shooting, editing, storing, and exhibiting moving pictures, we enter an age of obsolescence in the history of analogue film practice. Conventional film cameras, editing tables, and projectors are becoming obsolete. Like any machine, they break down from time to time and require maintenance and repair. In the face of the digital revolution, companies are no longer investing in the repair or maintenance of film technologies. Broken machines are no longer repaired, and sit broken in labs and studios until they are eventually sold for scrap metal or set out on the curb to rust with the trash. With the decrease in demand for equipment repair there is a decrease in demand for technicians. As


\textsuperscript{92}An audio visual archivist anecdotally recounted that he has been unable to convince a certain major Canadian filmmaker to store his films in the archive vaults, and that as a result, several important original negatives are currently baking in the heat of this filmmaker's attic.

\textsuperscript{92}Christie, *Ephemera.*
film technicians get older and begin to retire or die, they are not being replaced by younger technicians. Very few young people are learning or practicing the skills of equipment operation, repair or maintenance. With fewer and fewer people available to repair or maintain equipment, this is yet another reason that many studios are discarding broken equipment. Even when equipment still runs smoothly, it is becoming more and more difficult to find technicians with the skill set to operate the equipment properly. As Alex MacKenzie commented at the *Is Film Dead* conference, “It is becoming more important for film artists to become their own technicians.” It is becoming increasingly difficult to find skilled projectionists who are able to care for film prints and projectors. As a result, many high-end film projectors at cinemas and one of a kind film prints at festivals are suffering unnecessary damage due to untrained projectionists and poorly maintained equipment.

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95 At the 2006 Vancouver International Film Festival, I sat in the audience as a film print of Ten Skies by James Benning was projected silent due to a misaligned optical reader on the 16mm film projector. That same film print was later completely destroyed during its second screening at VIFF due to cleaning with an improper solvent (although the sound played just fine while the emulsion carried the image right off the film base throughout the projection of the entire film). While that print was not one of a kind, there are very few prints of that film in existence; so as a result of its exciting projection history at VIFF, I travelled to the United States in October of that year just to see it in proper projection in Portland, Oregon. Some other examples include prints of Berlin Horse (a 16mm Kodachrome print) by Malcolm LeGrice and All My Life by Bruce Baillie, which I rented from the New York Filmmakers Co-operative the “Engaging the Ephemera” program that I curated for the Atlantic Filmmakers Cooperative Cinema X week, presented at the Art Gallery of Nova Scotia, August, 2006. The Berlin Horse print arrived with a warbling sound track, while the All My Life print was filled with tape splices and needed careful attention during projection. All of these damaged prints point to the necessity of skilled projectionists and machine maintenance in order to preserve the quality of the prints themselves.
As such, some would argue that we are reaching the end of the filmic era, and that “film is dead”\textsuperscript{66}. This is not unlike the argument that painting was dead when photography was introduced. As history has proven, painting did not die; it was instead forced (or freed if you will) to reinvent itself. I believe that this is the current fate of film: exploration, emancipation, and reinvention. However, if film is to ever die, I believe that we can still work with its ghost. Once the medium of film has been buried by the capitalist entertainment industry, artists can still work with found footage, make their own emulsions, and process it all in their bathrooms and kitchens.\textsuperscript{97}

Dissipation of Experience into the Evocation of Memory

If our experiences of physical sensation and live performance are just as ephemeral and fleeting as the materials and technologies of film and mechanical film technologies, then it is fittingly appropriate to consider this ephemerality as a key element in cinematic performance. The performer presents an event to the viewer that is fleeting and intangible while interacting with a machine that is slowly fading into the back pages of technological history books. The viewer enters into a fully embodied experience of kinaesthetic and mechanical identification that may recall sensuous memories from the landscape of her body and her mind. These memories in turn will also be fleeting and ephemeral.

\textsuperscript{96} This notion that “Film Is Dead” can be seen not only in the title of the recent “Is Film Dead” symposium in Halifax, but has continually cropped up in discussion and articles for the past few decades. Examples of such articles include, but are not limited to:
\textsuperscript{97} Christie, \textit{Ephemera}. 

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The actual cinematic performance is fleeting and ephemeral in the same way that viewing and remembering a performance are fleeting and ephemeral. These experiences and memories may dissipate into the ether of time only to resurface as sensuous memories when triggered later on. It is through this dual evocation of memory (the ability of the performance to evoke earlier memories, and the possibility of the performance to resurface in memory) that the dissipation of these dying machines and materials find substance.

In speaking of this death and ghostly resurrection through memory, however, it is important to bear in mind that this is not an individual or an isolated death. These ephemeral experiences and memories are happening socially for both the viewers and the makers of these works. As audience members, we sit silent and complicit in darkened rooms where we have an unspoken agreement to share in the embodied experience of perceptive pleasures; each of us awakening to our own individual memories triggered by the performance, while collectively forming a new shared memory of the performed event taking place around us. For the artists, it is important to acknowledge that while many of us will choose to work like writers or painters in solitude, the persistence of this medium is only possible through the joint efforts of communities working to maintain accessibility to these materials (which are gradually being discontinued by major corporations\textsuperscript{98}), to these machines (which are gradually falling out of repair and being sold for scrap metal), and to these social infrastructures. It is in the communal and social practice of making and viewing these ephemeral works

that these experiences will be allowed access to the banks of our memory, through the inscription of lived experience on the landscape of our bodies.
Annexes

Annexe A:
*Tracking the Traces Documentation DVD*

DVD of video transfers of films is a part of this work.
DVD menu and encoding authored in iDVD on a Mac.
Individual source files are QuickTime movies.
This DVD was created from video transfers of original film work and videotapes of live performances. *It is for archival purposes only and NOT FOR EXHIBITION.*
These works are intended to be screened on film or in live performance only.

The original screening took place on May 16, 2007, at the Cineworks Independent Filmmakers Society Studio in Vancouver, BC.

**FILMS IN THIS SCREENING INCLUDE:**
(All films on the DVD are copyright Amanda Dawn Christie)

**3part Harmony: Composition in RGB #1**
16mm; colour; sound; 6 min; 2006.

**Knowledge of Good and Evil**
16mm; colour; silent; 45 sec; 2005.

**This Unnameable Little Dream: Or a Traced Sketch of Two Brothers**
super-8; black and white; silent; 3 min; 2005.

**A Maternal Record not fully Recorded**
expanded cinema; super-8 film projection with live performance; 4 min; 2006.

**Mechanical Memory**
16mm; black and white; sound; 6 min; 2006.

**Mechanical / Animal Memory**
This film is NOT on the DVD as it is owned by the National Film Board of Canada and not authorized for reproduction. Consult the National Film Board of Canada for purchasing and rental information.
16mm on video; black and white; sound; 6 min; 2005.

**Fallen Flags**
16mm; colour; sound; 8 min; 2006.
Annexe B:
Tracking the Traces Back and Back Script for Performance

Tracking the Traces Back and Back is a script for an interdisciplinary performance integrating film projection and live performance.
This annexe includes only excerpts from Tracking the Traces Back and Back.

Tracing the Tracks Back and Back

Prologue:
[pre-recorded narration in darkness. No film and no dance at this time. The sound track begins first with a low drone that slowly grows louder and more complex as it grows from one timbre to many. Slowly the sounds of trains join the sound track [...] Halfway through the narrated prologue, a simple violin melody enters the soundscape in the background. The violin gains in amplitude once the narration ends.]

[...]

[MALE VOICE #1:]

I stood at the edge of the embankment and watched a woman on the footpath check her watch continuously. She fidgeted nervously as if waiting for lightning to strike in the uncharted distance.

[...]

[AS THE NARRATION ENDS, IT IS REPLACED BY THE SOUND OF RADIO FREQUENCIES BREAKING UP WHILE THREE PROJECTED FILM IMAGES SHOW PASSING LANDSCAPES. THE PROJECTIONS FLICKER ON AND OFF IN ALTERNATION AT FIRST CREATING A MILD FLICKERING EFFECT, LIKE A LIGHT WITH A LOOSE ELECTRICAL CONNECTION. PROJECTORS ARE TURNED ON AND OFF WHICH AFFECTS THE SOUND, LIGHT, AND IMAGE. THE IMAGES THEMSELVES ALTERNATE QUICKLY, INCORPORATING SAMPLES FROM ALL OF THE FILM LOOPS IN THE WORK AS A FORM OF FLASHFORWARD FOreshadowing IN SHORT CIRCUIT FLICKER STYLE.]
[GRADUALLY THE FLICKER FORWARD SETTLES DOWN TO THREE SOLID IMAGES OF LANDSCAPE PASSING FROM LEFT TO RIGHT]

[...]

[THREE DANCERS WALK ACROSS THE STAGE FROM RIGHT TO LEFT AS IF WALKING THROUGH THE LANDSCAPE IN A DIAGONAL FORMATION, [...] ONCE THEY REACH CENTRE STAGE THEY PERFORM A SMALL SECTION OF CHOREOGRAPHY SOURCED FROM MECHANICAL MOVEMENTS OF TRAINS AND FILM MACHINES...]

[PRE-RECORDED NARRATION OF A REENACTED RADIO BROADCAST. [...] FRAGMENTS OF THIS BROADCAST WILL APPEAR IN VARIOUS STAGES OF AUDIO DECAY THROUGHOUT THE SOUNDSCAPE OF THE REST OF THE WORK]

[MALE VOICE #3: RADIO BROADCASTER, OFFICIAL, DRY]

CN Rail has applied for permission to bury what's left of a locomotive and rail car at the site of a fatal derailment near Lillooet in the B.C. Interior.

[PROJECTED LANDSCAPE IMAGES BECOME MORE MANIPULATED]

Two crew members were killed when the engine plunged off the track and went down a steep mountain slope two weeks ago.99

[THE TWO OUTER PROJECTIONS BEGIN TO MOVE SMOOTHLY AND SLOWLY TOWARD THE CENTRE PROJECTION UNTIL ALL THREE IMAGES ARE SUPERIMPOSED. PROJECTIONISTS CHANGE THEIR FILM LOOPS ONE AT A TIME. EACH IMAGE IS NOW A MANIPULATED VERSION OF THE LAKE WABAMAN DERAILMENT]

[...] the B.C. Ministry of Environment said the government is considering CN's proposal to bury the wreckage where it lies. He said pulling the train out may not be a viable option, as lifting the locomotive up the steep bank would be too dangerous and there are environmental concerns about building a road from below.\textsuperscript{100}

[...]

[PROJECTED INTERTITLE: WHITE LETTERS ON BLACK]

Old train cabooses turned into tourist museums and novelty diners seem displaced to her — Displaced due to their lack of displacement, stripped of movement and transport.

[...]

[A STRETCH OF TIME PASSES WITH NO NARRATION AND NO FILM. DANCE AND SOUND CONTINUE. THIS IS THE TRAIN STATION. ALL SIX DANCERS BEGIN SLOWLY, BUILD INTO A DYNAMIC CRESCENDO OF PARTNERING AND PARTNER SWITCHING. NO SINGLE COUPLE LASTS LONGER THAN 10 SECONDS AT THE BEGINNING, BY THE END, EACH COUPLE LASTS ONLY A FRACTION OF A SECOND AS PEOPLE MERELY SPRING OFF ONE ANOTHER INTO THE ARMS OF ANOTHER TO SPRING INTO ANOTHER AND ANOTHER AND ANOTHER. SOUND, MOVEMENT, AND PROJECTIONS BUILD TO AN INTENSE CLIMAX.]

[...]


[SPOTLIGHTS COME UP ON THE PROJECTIONISTS IN BACK. SHINING DIRECTLY DOWN. THERE ARE LIGHTBULBS WITH PULL CHAINS HANGING ABOVE THE PROJECTIONISTS HEADS. EVEN THOUGH THE PROJECTIONISTS CAN REACH UP AND TURN ON AND OFF THE LIGHTBULBS VIA THE CHAINS, THE ACTUAL LIGHT IS FROM OVERHEAD SPOTLIGHTS]

[THE THREE PROJECTIONISTS BEGIN TO SING (SYLLABLES ONLY, NO WORDS) IN HARMONY WITH ONE ANOTHER. GRADUALLY WORDS EMERGE.]

[PROJECTIONISTS 1, 2, AND 3]

I will turn down your bed of gravel
And press your eyelids closed.
Let your thoughts drift to creosote dreams
And your mind to coal tar pitch.
Have I mentioned you have your father's eyes?
Have you noticed I have my mother's smile?
She would sing to me, every night to sleep,
Have I mentioned this, or did it slip my mind?

[AFTER A FEW MINUTES OF SINGING WITHOUT AMPLIFICATION, THEY TURN ON CONTACT MICROPHONES BENEATH THEIR PROJECTORS AND BEGIN TO DISMANTLE THEIR FILM LOOPS AND CREATE NEW ONES WHILE STILL SINGING. THE CUTTING AND SPICING OF THE FILM BECOMES A PERCUSSIVE RHYTHM. THEY HAVE SCRAP FILM THAT THEY SPOOL OFF THE EDGE OF THEIR PLATFORMS, THEN CUT, TAPE, STAMP. REPREAT THREE TIMES.]

[....]
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