

glacies lux: ice as moving image.

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Charuk, Peter Eugene

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*glacies lux*: ice as (moving) image

By

Peter E. Charuk

A thesis submitted for the degree of  
Doctor of Philosophy

THE UNIVERSITY OF  
NEW SOUTH WALES



SYDNEY • AUSTRALIA

College of Fine Arts,  
The University of New South Wales.

January 2011

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## **DEDICATION**

I would like to dedicate this work to Charlie, Luke and Jackson whose future we hold in our hands.

## ABSTRACT

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Ice is one substance in which we can observe temporality in terms of climate change. *glacies lux* is an immersive time-based digital work, submitted as a practice-based research contribution to a PhD in Media Arts. It asks: how can ice, as moving image, move us towards poetically rethinking our relationship to the changing material landscape? What and how might urgent issues relating to a globally changing climate be understood by poetically re-presenting ice within a moving image environment? Rather than simply documenting ice and its changing status in contemporary global geography, my research captures particular aesthetic qualities in and of ice: its colour, its texture, its possible affect, and the extent to which images situate a viewer in a particular way within space. *glacies lux* is an immersive time-based digital work that is based on direct observation. It can link us viscerally to the massive scale of actual climate change that scientists, using difficult to decipher data sets, describe. Moreover, this work encourages the viewer to become a participating observer of the material landscape using their own perceptual experiences, rather than relying on mass media images to provide these for them. In so doing it becomes possible to challenge those images of ice as the only representations of climate change debate.

The prime method for the research undertaken in this thesis is practice-based. It focuses on a *blend* of investigative, experimental and theoretical research methods to determine how ice functions as image and how it functions materially within the climate change debate. The prime method of investigation uses an oscillating dialogue between the construction of images through linguistic means and optical image construction. The works generated as artefacts for my thesis use the experimental material qualities and properties of ice as documented by the physical, chemical and climatological sciences. But the lack of sensory aesthetic attribution to these materialities within these fields becomes the starting point for my investigation. Additionally, I investigate how these materialities and disciplines might be positioned differently by bringing them into contact with cultural and aesthetic imagings and imaginings of ice. I add the subtle expression of content, via media art practice, creating *glacies lux* as a contribution, at an aesthetic level, to the debate on climate change.

It should be noted that as a practice-based thesis submitted within the PhD program in the School of Media Arts, the demonstration of original contribution to knowledge lies in the practice under examination itself. This written document, however, supports, contextualizes and extends this contribution by giving the work a theoretical, aesthetic and cultural milieu. The weighting of the practice to the written document should be considered at a ratio of 60% studio work to 40% written documentation.

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## INTRODUCTION

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*glacies lux* is the title of a body of work generated through the development of the practice-based aspects of this thesis. It makes-up the physical outcomes of the research. The title literally means *frozen light*, a title which acknowledges what I see as poetic qualities in ice and its many forms. The constitution of the thesis is made up of an immersive time-based video art installation and this dissertation. Two questions were posed for this research. How can ice as moving image move us towards poetically rethinking our relationship to the changing material landscape? What and how might urgent issues relating to a globally changing climate be understood by poetically representing ice within a moving image environment?

The globally changing climate or “global warming” is a volatile topic of discussion and debate in 2011 and although *glacies lux* is embedded in that debate it does not rely solely on the conversation to ground the work. *Climate change*, to use its vernacular term, is a wide-ranging topic that encompasses many aspects of climate, meteorological, atmospheric, oceanographic, paleo-historical, chemical, and anthropogenic sciences. Because the weather and the climate that produces it as weather are such complex phenomena the summation of its ongoing effects must take into account all of the aspects that contribute to the climate as we experience it as a past, ongoing and potential (future) phenomenon. Although distinct and sometimes offering only fragmentary views, each physical science does contribute to the ongoing conversation in a wholistic manner to “paint” a picture of climate change’s totality as it affects the earth. This wholistic approach to research is something which is evident throughout my work and is expanded upon in the theoretical underpinnings of this dissertation when I acknowledge the work of David Bohm and his theory on the implicate order in Chapter 4. Bohm postulates that thought, ideas and questions should be seen as an integrated whole rather than approached as fragments.<sup>1</sup> Wholeness leads to a more complete understanding of what one experiences in the world. Most of the reports which attempt to explain “climate change” do this with a notion of that totality in mind; reports such as *The Intergovernmental Panel on Climate Change (IPCC)* and in an Australian context, *The Garnaut Climate Change Review*. What follows is a very brief introduction to “climate change” and the scientific evidence which supports its occurrence as human induced. There are literally thousands of reports and books written on the topic questioning the validity of its substantiation but here I will just point to the most prominent reports.

The IPCC is the main referential body set up by the United Nations Environment Programme and the World Meteorological Organization, “to provide the world with a clear scientific view on the current state of knowledge in climate change and its potential environmental and socio-economic impacts.”<sup>2</sup> The IPCC states that it is a scientific body with contributions from thousands of scientists around the world providing data for extensive reports and summaries of climate change’s effects on a global environment.<sup>3</sup>

Its process considers and re-evaluates the most recent and extensive research from scientists around the world who contribute to an understanding of the earth’s wider climatological processes. As stated the IPCC breaks down the whole into manageable portions with which it is then able to re-construct the whole as a model of climate change. This model is designed by scientists in order to review what is happening currently and from these models, recommendations are made to governments, countries and regions of the world to adapt to its changes.

The complexity of global warming and climate change is vast and the IPCC summarises the effects by drawing conclusions from major ecological models. These include, for example, the ocean - looking at sea temperature, salinity changes, sea levels, “biogeochemical changes” and ocean circulation, to name some.<sup>4</sup> Evidence of these changes could be seen in 2011 with the extensive rain and floods in Northern Queensland, Australia. Ocean temperature is very sensitive to change and with warming causes change in the dynamics of the rain patterns in the tropics, thus triggering “unusual” weather events. Another example of an observed research parameter by the IPCC is the “cryosphere”; that is, which part of the earth is frozen most of the time. This area has been of relevance to my body of artwork and this research. The criteria for studying change in the cryosphere incorporates changes in ice sheets and ice shelves (noting any premature melting), changes to glaciers and the dynamics of the ice in both Antarctica and the Arctic. The study of Antarctica and glaciers by the Australian Antarctic Division, who are measuring changing ice patterns and looking at the historical records from ice cores drilled into the Antarctic Ice Sheet, contributes substantially to this research.<sup>5</sup> The IPCC measures many other criteria contributing to the patterns of global warming, which constitute to climate change but it is not within the scope of this research to cover the vast complexity this entails.

In an Australian context the *Garnaut Climate Change Review* provides information garnered from the world’s scientists and reviews such as that of the IPCC to garner a more local view of what is occurring to the Australian climate.<sup>6</sup> In Chapter 2 of

his review Garnaut states that “climate change policy must begin with science.”<sup>7</sup> He acknowledges the complexity of the debate and concurs with the IPCC Review on this. He then summarises the Greenhouse Effect and how it affects the Earth. Garnaut goes on to make several projections on how climate change will affect Australia, International responses to the problem, what it may cost and his main task, Australia’s response to it as a nation, once again a lengthy and complicated argument out of the scope of my research parameters.

I attended several forums in 2010, hosted by Tipping Point Australia on “*Art and climate change – re-imagining a global future through dialogue and action.*”<sup>8</sup> Dr Steve Pekar, who is an Assistant Professor (a geologist working in Antarctica) at The School of Earth and Environmental Sciences, Queens College, NY, gave the keynote address titled, *Science from the Frontline*, where he summarised the science of climate change by saying that “[it] is a non-issue by scientists publishing in peer-reviewed journals around the world... 98% agree...” that climate change is human induced.<sup>9</sup> The study of climate change involves such complexity but this summary only points to the two most quoted reviews on the subject.

The dissertation is informed by the relationship between two distinct, yet interrelated trajectories. The first is an exploration into the materiality of ice and an attempt to expand what ice is, materially. The second is an exploration into the “mixed” materiality of images themselves. This is assisted by delving into literary, scientific and philosophical texts and concepts such as W. J. T. Mitchell’s notion that visual media are mixed media, David Bohm’s conception of “holomovement”, Stan Brakhage’s materialist experimental cinematic optics, Hans Christian Andersen’s literary pictorial practices, Lev Manovich’s conception of the digital layered image and Gaston Bachelard’s notion of imaginative spaces.<sup>10</sup> By drawing on an admittedly eclectic genealogy of scholarship about the impurity of the visual, I hope to also present a primarily visual installation that leads to a mixed mode of perceiving the world.

This mixed perception is fundamentally poetic in my work. Science might attempt to make objective the paths to understanding ice but I argue that aesthetic and cultural analyses can provide a wider lens through which to view ice’s material properties and its relationship to our own existence. I have appropriated a number of concepts from philosophy and these assist in producing an expanded material practice and reflection on the moving image. My reading of these philosophical concepts is through the eye of the artist not the philosopher. I introduce a key concept to assist in the procedural methodology of working with the two trajectories outlined here – the

*blend*. The blend governs the total approach to my thesis where I use many textual, theoretical and imagistic elements to make the work and to reflect upon it. Rather than simply documenting ice and using this documentation as a reflection upon change in contemporary global geography, my research focuses upon an aesthetic encounter with ice: its colour, its texture, its possible affects, and the extent to which poetic images might situate a viewer in a particular way within their space. *glacies lux* is a work that operates to draw the viewer into its world – to immerse them. Its video sequences are based on direct observation but are also obviously digitally manipulated. The blends between vista, observation and manipulation attempt to link us viscerally to the massive scale of actual climate change that scientists, using difficult to decipher data sets, describe. It is via this visceral linking, these poetic, imaginative spaces that humans might encounter something completely outside yet entirely at the mercy of themselves.

Chapter 1 outlines and describes the materiality of ice from scientific and selected cultural perspectives. It looks at the ways in which science, especially climatological sciences but also some basic physics and chemistry, describes the actual makeup of ice. I then move to cultural interpretations of ice. I set the scientific descriptions against a (brief) history of the representation of ice especially in Romantic art and literature. As part of the cultural understandings of ice, I introduce instances of historical and contemporary image-based renditions of ice to describe its materiality both in texts and still and moving images, referencing the work of Percy Shelley, Samuel Taylor Coleridge, John Ruskin, J. M. W. Turner, Samuel Birmann, Stan Brakhage, Doug Aitken and Olafur Eliasson. I also thought it important to get at the lived cultural differences in experiential encounters with ice and how this might inflect the ways in which ice's materiality is encountered. Here I accessed Inuit dictionaries and glossaries of glacial terms to establish a material contact with ice that surpasses the ways in which either science or many of the Romantic artists encounter ice.

Chapter 2 elucidates the contextual position for this thesis in the field of contemporary media arts practice by examining an emerging form of video art named by Jim Bizzochi – “ambient video”.<sup>11</sup> The chapter examines the distinctive features of video art, expounded through seminal texts by David Antin and Gene Youngblood.<sup>12</sup> I look at the ways in which ambient video has emerged from an expanded cinematic field, which also includes the ground-breaking work by Brian Eno on ambient music. In looking at the history of video art I have been careful to also focus upon artists and works interested in using expanded and experimental moving image forms to encounter

landscape. This is important because ambient video and my own “expanded” ambient practice both draw and try to configure new perceptual relations to and with landscape.

Video art’s history is tied directly to rapid technological change and, in the case of ambient video, to the proliferation of high-definition playback devices flourishing in public, private and experimental spaces. Bizzochi establishes a firm grounding for ambient video by situating it in these spaces and, as it plays in continuous loops, its ability to engage a viewer is amplified. There is an acknowledgment that the visual quality of the ambient image is one of its primary strengths, able to re-enforce its subtle poetics and to supply stimulating repeated viewing experiences. The use of digital intervention is endemic to the form leading to a processual manipulation of its subject matter in time and space. But Bizzochi’s manifesto leaves out a crucial element: where the content of the moving image might take the viewer. *glacies lux* hopes to evoke an affective viewing experience drawing upon the materiality of ice as moving image. And by drawing on relevant art theoretical work by Simon O’Sullivan, Jill Bennet, Eric Shouse and Suzannah Biernoff in this chapter I explore how evoking affective spaces may achieve this.<sup>13</sup>

I have chosen to deal with the charged contemporary subject of (mainly) glacial ice but in the next instance I ask the viewer to consider that the subject matter draws them back to the world as it exists here and now: to a dynamically changing climate. This, then, is my attempt to expand ambient video beyond its formal compositional aspects and its tendency to recede into a background of landscape images. Nonetheless, ambient video is a useful genre in which to explore artistic practice because its latitudes allow an ungoverned space in which to present the poetic moving image. Ambient video does generate moving images of the landscape quite at odds with other mass-circulated images, such as the 5-second “calving ice” mass presented by mainstream media as an icon of climate change (see Figure 1.)





Figure 1. Glacier calving into the sea, video still, ABC Catalyst, 2010<sup>14</sup>

In Chapter 3 I move into the work itself. I outline the ways in which I experimented aesthetically with ice across the course of this research, focusing all the time upon questions of process. This chapter is an extended discussion of the many processes used to generate the work that became *glacies lux*. The methodology for this work was in fact processual and experimental, relying on practical investigations with ice both in the kitchen and in the glacial landscape of New Zealand. All of the processes were documented digitally, by photographic means. This documentation became the basis for many still and moving images that make up the final work. The image took priority over text throughout this process. I maintain that an image will more successfully affect and engage a viewer with ice than textual transcriptions of its materiality. Nonetheless, material textual practices and elements such as the physical book make their way into my “mixed” imagistic practice. Thinking through the process of making and “reading” a book helped to establish a sequence of images that might steer a path through ice’s materiality. The book I eventually produced was concertina-like, folding and unfolding. This physical book form then re-entered the video sequences and gave form to the moving image journey into and out of the ice. Through this making process a cyclic intervention occurred between the still image and moving image that informed the final results of the work.

In Chapter 4 I attempt to establish a relationship between scientific and artistic modes of perceiving the world by linking the work of the physicist, David Bohm and the film-maker, Stan Brakhage. This relationship was not ready-made and at first appears difficult. But as an artist I was seeking out imaginative visions to assist me in making sense of the world of ice, which could then focus my research and its outcomes. I found the answers in Bohm’s concepts of “wholeness and the implicate order” and



Brakhage's visionary doctrine of an "unruled eye".<sup>15</sup> Francisco J. Varela exhorts us to conceive of a dynamic experiential encounter with our environments when he uses the term "enactive perception".<sup>16</sup> Enactive perception entails a dynamic relation between us and the world: we make a world for perceiving and the world is also helping us make this perception. There is no division between us and world in this perspective but rather relation. Bohm acknowledges this dynamism by postulating that the world cannot be divided, that all things are implicate and whole. In an attempt to explain this Bohm drew from quantum physics the knowledge that atomic processes and abstractions based on quanta and other abstract concepts were encompassed in this whole and furthermore, that the observer of scientific experiments was included in this whole as well. With Brakhage it can be seen that he used enactive perception before the term became widely circulated. His filmic history evokes an embodied eye, constantly shifting and tuning itself in to its immediate environment. His expanded cinema was an experimental practice visualising this embodiment, using examples such as *Creation* and *Black Ice*, and also carried discursively in his manifesto *Metaphors on Vision*.<sup>17</sup>

As I continually state in this thesis "process" is the driving force for the work and the Tao provides another visionary method employing a dynamic, poetic process through which we engage the world in all its expanded materiality. The Tao is discussed in this context as a working link between the thoughts of Bohm and Brakhage filtered through the innovative work of Fritjof Capra and the development of systems approach to making art taken up by Jack Burnham.<sup>18</sup> The Tao often has an applied subtitle – The Watercourse Way – because water and its materiality are used poetically to describe its philosophy as one which is always moving and continuous. Experience of the world is indivisible in the same way as we find in Bohm's work. Bohm's concept of implicate order, too, emphasises a dynamic approach that understands world and experience as a dynamic of enfolding (implicate) and unfolding. This dynamic materiality inheres in water and in ice as a frozen, yet nonetheless, dynamic state of water. Brakhage's concepts of processual viscosity likewise embody dynamism questioning how we see and experience the world. He was interested, as I am, in challenging the complacency of visual laziness that exists in habitual modes of viewing the world by approaching it in a poetic manner.

Chapter 5 brings my argument back to the idea that the visual is a "mixed" medium rather than just an optical one. There is an oscillating dialogue embedded in this thesis that moves between what constitutes the materiality of the image and the actual images produced, as I sought ways to blend these ideas. I explore the work of W.

J. T. Mitchell who argues most elegantly that “all” images are mixed not just optical.<sup>19</sup> This argument is central to the work carried out in this practice-based thesis. The mixture or the blend, that affects the still and moving images generated for this thesis, is further refracted through ideas of the poetic as expressed by Gaston Bachelard.<sup>20</sup> I am particularly influenced by his idea of imaginative spaces and the ways in which his writing actually scopes out a place for us to generate images via imaginative thought.

Early on in my research on ice I came across a fairy tale by Hans Christian Andersen, *The Ice Maiden*.<sup>21</sup> I was particularly struck by the technique he developed of “picture description” that both imbued the tale with poetic ice-based properties and gave the entire tale a sense of place. Here was text mixed in with image. I imported the picture description from Andersen’s literary practices back into the visual, using colour to emphasise both the poetic and a sense of moving into the ice in my work. Mikhail Bakhtin’s concern with the chronotope – time-space devices within literature – also provide a sense of duration and space matrices that provided a mechanism for editing the still and moving images together for the final outcomes of the video installation that is *glacies lux*.<sup>22</sup>

*glacies lux* is a meditation on the materiality of ice as moving image achieved by experimental means. What does it feel like to be in a crevasse of ice? The work blends together aesthetic, poetic and intercultural qualities. The centre of its thesis is an investigation of the materiality of ice and an investigation of the formulation of the mixed materiality of the image. I blend literary and scientific ideas to achieve this: W. J. T. Mitchell’s questioning of what constitutes an image, Andersen’s picture descriptions, Bohm’s dynamic enfolding and unfolding flow, and Brakhage’s visionary aesthetics. The context for the work is an expanding form of video art, ambient video: a subtle means of presenting largely landscape-oriented work in a moving image environment. It is the subtlety of execution which leads me to a poetic materiality employing an economy of means using the still and moving image. A blend is a mixture that is greater than the sum of its parts. Ice is one substance in which we can scientifically perceive the temporality of climate change. But unless poetic and aesthetic elements blend into this perception, images of ice will recede into the general saturation of our contemporary imagescape. I argue that by focussing on one element in the landscape, ice in the glacier, and probing its materiality will bring us to a more expanded sphere for the ambient moving image. The resultant poetic materiality generated might then serve as a more affective indicator of our globally changing climate.

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- 1 David Bohm, *Wholeness and the Implicate Order* (London and New York: Routledge Classics, 1980/2002).
  - 2 Intergovernmental Panel on Climate Change, Intergovernmental Panel on Climate Change - Ipcc 2011, Available: <http://www.ipcc.ch/index.htm>.
  - 3 Change, Intergovernmental Panel on Climate Change - Ipcc
  - 4 The Intergovernmental Panel on Climate Change, Agreed Reference Material for the Ipcc Fifth Assessment Report (IPCC, 2011), 2.
  - 5 Australian Antarctic Division, *Australian Antarctic Division*, 2010, Available: <http://www.antarctica.gov.au/>.
  - 6 Professor Ross Garnaut, 2008 Climate Change Review, 2008, Commonwealth of Australia, Available: <http://www.garnautreview.org.au/2008-review.html>.
  - 7 Garnaut, *2008 Climate Change Review*.
  - 8 See <http://tippingpointaustralia.com/>
  - 9 Listen to Steve Pekar at [http://tippingpointaustralia.com/static/files/assets/4fe601fa/Steve\\_Pekar\\_Science\\_from\\_the\\_Frontline\\_Sydney\\_TippingPointAU.mp3](http://tippingpointaustralia.com/static/files/assets/4fe601fa/Steve_Pekar_Science_from_the_Frontline_Sydney_TippingPointAU.mp3) Tipping Point Australia, "Science\_from\_the\_Frontline," (Tipping Point Australia, 2010), vol.
  - 10 W. J.T. Mitchell, "There Are No Visual Media," *Journal of Visual Culture*, 4, (2005): 257-266; David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002), 191; Stan Brakhage and P. Adams Sitney, *Metaphors on Vision* (USA: Film Culture Inc., 1963), unpaginated; Mogens Davidsen, "Hans Christian Andersen and the Image", In: Johan de Mylius, Aage Jørgensen and Viggo Hjørnager Pedersen (ed.): *Hans Christian Andersen, A Poet in Time*. Papers from the Second International Hans Christian Andersen Conference 29 July to 2 August 1996. (Odense: The Hans Christian Andersen Center, Odense University, Odense University Press, 1999): 576 pages; Lev Manovich, "After Effects, or Velvet Revolution", (2006). Availability: <http://manovich.net/articles/>; and Gaston Bachelard, *Water and Dreams*. Ed. Farrell, Translated from the French by Edith R. (Dallas: The Pegasus Foundation, 1983).
  - 11 Jim Bizzocchi, "Ambient Video", *Ambient Video* website, (2004). Availability: <http://www.sfu.ca/~bizzocchi/AmbientVideo/index.html>.
  - 12 See, David Antin, "Video: The Distinctive Features of the Medium", in *Video Culture: A Critical Investigation*. (New York: Visual Studies Workshop Press, 1986): 147-166; and Gene Youngblood and Introduction by R. Buckminster Fuller. *Expanded Cinema*. (New York: P. Dutton & Co., Inc., 1970).
  - 13 Simon O'Sullivan, "The Aesthetics of Affect", *ANGELAKI, Journal of the Theoretical Humanities*, 6.3, December, (2001): 128; Jill Bennett, *Empathic Vision Affect: Trauma and Contemporary Art*, (Stanford: Stanford University Press, 2005); Eric Shouse, "Feeling, Emotion, Affect", *M/C Journal A Journal of Media and Culture*, 8.6, (2005): unpaginated; Suzannah Biernoff, 'The Corporeal Sublime', *Australian and New Zealand Journal of Art*, Vol. 2/3, No. 2/1, (2002): 60-75. Availability: <http://search.informit.com.au/documentSummary;dn=596336279951588;res=IELHSS>.
  - 14 Catalyst, ABC 1 Television, *Australian Broadcasting Corporation* website, 16/09/2010. Image downloaded from ABC Science: Video, ABC online at <http://www.abc.net.au/catalyst/stories/3013512.htm>. This video still is from a story about climate change for, Catalyst, 6 minutes in duration. The whole sequence for '...and glaciers retreat...' takes about 3 seconds.
  - 15 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*. (USA: Film Culture Inc., 1963), unpaginated; David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002).
  - 16 Francisco J. Varela, *Ethical Know-How: Action, Wisdom, and Cognition*, (Stanford: Stanford University Press, 1999): 12.
  - 17 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963): unpaginated
  - 18 Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, (London: Flamingo, 1982); Jack Burnham, "Systems Esthetics", *Artforum*, Vol. 7, No. 1, (New York: September 1968): 30-35.
  - 19 W. J.T. Mitchell, "There Are No Visual Media", *Journal of Visual Culture*, 4, (2005): 257-266.
  - 20 Gaston Bachelard, *Water and Dream*, Ed. Farrell, Translated from the French by Edith R. (Dallas: The Pegasus Foundation, 1983)
  - 21 Hans Christian Andersen, "The Ice Maiden; Iisjomfruen", Translated by Jean Hersholt, *The Hans Christian Andersen Center* website, (2010). Availability: [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).
  - 22 See, Mikhail Bakhtin, "Forms of Time and of the Chronotope in the Novel", M. M. Bakhtin, *The Dialogic Imagination: Four Essays*, Translated Caryl Emerson and Michael Holquist. Edited by Michael Holquist, (Austin: University of Texas Press 1981).

## CHAPTER 1

One of the simplest theories is kitchen relativity, where you can transform water into ice.<sup>23</sup>

### The Materiality of Ice

This chapter examines the material qualities and properties of ice as documented and explored through the physical, chemical and climatological sciences. It examines how these materialities and disciplines intersect with cultural and aesthetic imagings and imaginings about ice. The conscious decision to work with ice was the initial impetus for this project to take place. How was it possible to use ice as a source for art? Could aesthetic images gained from an experimental process contribute to a way of viewing scientific phenomena in a different way? As Simon O'Sullivan puts it, '[Art is]...more involved in exploring the possibilities of being, of becoming, in the world.'<sup>24</sup> In transforming ice into moving image, I hope to move from "kitchen" to "aesthetic" relativity, borrowing loosely from the notion of transformation theory in physics and providing a degree of freedom with and from science.

The work began with an experimental investigation testing a variety of physical and chemical properties of water, transforming water into discreet objects, which in turn became images for the practice-based aspects of this research. These ice objects, implanted with light emitting diodes (LEDs), became the early source material for the research. The recording of this experimental process using digital photographic tools provided the imagery which governed its artistic outcomes. The digital documentation of the entire process was extremely important for working through what I sought as an essence of ice. Digital photographic images from the studio and the landscape provided the points of departure with which to further the practice-based aspects of this research. They were the means by which the images fed the art.

Ice, as substance and material, can be discussed from several perspectives, from the scientific through to the perceptual and the cultural. This chapter focuses on my investigations into the materiality of ice from the perspective of observing and playing with: i) physical form – how science defines ice through its physical chemistry and its dynamics; ii) images – how are images are constructed using various optics; and iii) language – by considering select cultural vocabularies, which attempt to describe imaginative and "real" aspects of ice. Throughout this thesis there is an oscillation between the image in language, via selected vocabularies, and the image as optical

information. I agree with W. J. T. Mitchell when he says that images are not solely visual and I discuss this proposition in Chapter 5.<sup>25</sup> He argues that images are affected by language, form, context, culture, and sensory experiences as well as just retinal perception. These components can be mixed, to varying degrees, in the images we experience. His ideas regarding what constitutes an image provide underlying support to my thinking throughout this thesis.

In this chapter I also introduce various cultural perspectives of ice situated in the landscape in order to locate ice's materialities and I provide several examples from contemporary cultural history to show this. These examples give alternate interpretations of what ice may be, complementary to scientific interpretation. My interests extend from some historical through to contemporary visual representations of ice, concentrating specifically on Romantic landscape painting and then experimental film and video art's uptake of landscape. I do this in order to provide a broader cultural context for the ways in which artists, in particular, transform the materialities of ice as they render it aesthetic.

### **The Scientific Materialities of Ice**

Science provides extensive information on the materiality of ice, based on observation, measurement and data gathering. Its investigations provide one enhanced view of the world in which we live:

The *cryosphere* is that component of the Earth System that contains water in its frozen state. This may include glaciers, snow, lake ice, sea ice, ice caps, ice sheets and permafrost.<sup>26</sup>

While the cryosphere is a macrocosmic view of frozen water on earth, I began my experiments on a much smaller scale working in a kitchen laboratory, just as Piet Hut describes in the quote at the beginning of this chapter. These experiments are detailed in Chapter 3 of this dissertation, which deals with the methodology of the practice-based aspects of this research. Ice may be a very simple substance when viewed from the perspective of a domestic kitchen. It lives in the fridge and is useful for cooling things down. It is only when you begin to deconstruct ice or attempt to define it closely that it begins to get interesting. It has potential energy; that is, it has the ability to transform itself and other chemical substances through the energy contained in its makeup. It is a transient material, melting and returning to its former chemistry as water, H<sub>2</sub>O, which is then able to turn into a gas and dissipate into the atmosphere, reformulate as a liquid and fall to earth again. This process governs the law of the *hydrological cycle*, and is seen as

a life experience dominant in both scientific and cultural contexts; one which allows us to exist.<sup>27</sup> The transience and cyclical nature of ice allows for interesting philosophical interpretations, to which I refer later in the chapter. If ice is used in an art context – for example, in a sculptural installation – the installation will be governed by the physicality of the ice. It must be kept at a certain temperature, below zero degrees centigrade or it will thaw. An example of this transience can be seen in Figure 10 and 11 with Olafur Eliasson's *Your Waste of Time*, 2006. Eliasson installed several tonnes of glacial Greenland ice in a gallery, transformed into a freezer so that the blocks did not melt. The viewer would then gain the full experience of the ice in that space; its coldness, wetness, and materiality. The glacial blocks would eventually melt, though, as he increased the temperature slowly. When I documented the glaciers in New Zealand, using still and moving forms, this transience formed the basis for my final video installation. The video shows a boulder sized piece of ice floating in the rapid current of the glacier's *meltstream* which moves glacial ice and water toward the sea.

The properties of ice are as varied as its forms and are governed by the second law of thermodynamics, which, 'speaks of a universe in which entropy is constantly increasing, a universe continuously moving towards greater disorder, moving, that is, towards equilibrium.'<sup>28</sup> Ice is an organized state of water. It will slowly melt back to water if left at room temperature. It will stay this way, in equilibrium, unless re/contained and exposed to temperatures below zero degrees Celsius.

When the question is asked - What is ice? The ordinary answer – both as commonsense and in popularised science, such as we find in media versions of climate change – is that ice is frozen water. Yet as Philip Ball says, "With ice, what meets the eye can be spectacular enough; but there is more to it than that."<sup>29</sup> The answer is not as simple as first thought because it is able to take many forms as part of the cryosphere: ice caps, sea ice, and icebergs, and glaciers, make up to two percent of the Earth's surface but contain seventy-five per cent of the Earth's fresh water.<sup>30</sup> But ice also occurs in space; it makes up some of the body of many comets.<sup>31</sup> I chose to move from the ice in the fridge, to ice on the windscreen after a heavy frost, to an ice skating rink, to a glacier. All of these instances of ice fall within the realm of my personal visual experience. I chose to observe their associated phenomena and to follow the different transformations at work in each.

There is an extensive history of scientists pursuing ice as a shifting chemical and physical substance. And because water is constructed with only three molecules – one hydrogen and two oxygen atoms – it seems to be a simple compound. But when ice is

subjected to extreme pressures in the laboratory or environment, its physical nature is subject to change. Currently, ice is said to exhibit eleven permutations of itself in the scientific research laboratory.<sup>32</sup> Domestic ice from the freezer is cloudy or clear depending on the purity of the water and its oxygen content. Cloudiness is attributed to having more oxygen in the water; the less oxygen more clarity. The formation of glaciers adds another material quality to ice, which is of interest to me as an artist – its colour. The colours inherent in a glacier occur when the oxygen is driven out of the water under extreme pressure, so that what are seen are hues of blue and green embedded in the translucency of the ice giving it an alluring, poetic quality. The colours in the glaciers provide what I see as a poetic view, in a world unseen in other parts of the natural landscape except maybe the ocean. There is a luminosity and translucency that affects ice's colour because of the way light is refracted and reflected through it. Ice has the ability to become chameleon-like in its visual qualities because of these properties. Its colour range traverses a spectrum of whites, blues, greens, emeralds, greys and blacks. Ice is also able to become a simple lens with its crystalline structure enhancing its intrinsic optics. As an artist, I use these properties to help generate and mediate the visuality of the objects I make.

The materialities of ice, which allow it to become frozen are contingent on circumstance; either forced, in the laboratory/kitchen, or unforced, in the landscape. Ice is able to traverse a wide geographical area in the form of glaciers or as ice sheets in Antarctica. Once water freezes its properties begin to influence its own micro-climate. Ice is relative to its boundaries, containment and time. This can change its spatialisation and can make it impure, making it a trap for pollen, insects, temperature changes, and the chemical composition in air bubbles and so on. It can provide historical material and contribute to the earth's 'memory'. Ice cores can tell stories about what is happening and what has happened to and with our climate. Ice's material transience, moving from solid to liquid, dictates its ephemeral nature. Science might attempt to make objective the paths to understanding ice but I argue that aesthetic and cultural analysis can provide a wider lens in which to view ice's material properties and its relationship to our own existence.

My investigations into scientific and cultural perspectives on ice allow me to discern an intersection between science and the knowledge of indigenous cultures which can amplify a history of ice and climate change. This is very well illustrated by Charles Wohlforth.<sup>33</sup> Wohlforth writes as a long-time resident of Alaska and a journalist. He records the scientific debate occurring in his home state on climate change from several



perspectives. His field research encompasses that of the Iñupiat or Inuit of Alaska, and the scientists working at the frontier of climate change.<sup>34</sup> He acknowledges the value of indigenous knowledge and the people's close relationship with the landscape arguing that the Inuit could be of value to Western science in the debate on climate change. Wohlforth comments that what he:

... had learned instead was that traditional knowledge existed as an organic part of a person living in the environment, a whole world constructed from experience, and couldn't be extracted and rationalized into data points.<sup>35</sup>

The Inuit livelihood is contingent upon how ice interacts with the landscape and the weather. Both land ice, made from freshwater, and sea ice, made from saltwater, and their conjunction form the basis of how the Inuit respond to the landscape. It is on the sea ice, that the Inuit seek their main supply of food, the whale. This conjunction is now changing over the hunting year and affects their fishing and whaling capacities. There is now, due to climate change, a physical mismatch between freshwater ice and seawater ice.<sup>36</sup> The land ice and sea ice freeze and melt at different temperatures and at different rates. It is contingent on the Inuit to understand these physical properties because it is at the boundaries of these landscapes where their hunting activities take place. They have to be able to read *ALL* the signs given to them instantaneously or they will be lost to the sea or starve. For example:

A whaling captain has to size up complex, changing ice conditions in a matter of seconds. He needs to think faster and better about ice than any computer can, evaluating its strength, the position and number of the pressure ridge anchors, the direction of the current and wind, the shape of the bottom, the configuration of the cracks, and the patterns of movement that normally arise in similar circumstances.<sup>37</sup>

The Inuit acknowledge climate change as a real threat to their existence, due to several factors: the erosion of beach-front landscapes and changes to the sea ice and its makeup, mean ice now melts much earlier in spring than normal. It is therefore too dangerous to look for whale migration patterns at this time of year, so they must now only hunt the whale in autumn or use bigger boats in spring. The Inuit are very aware of the experiential constraints of their landscape and the vocabularies of their experiences have provided me with images to feed the practice-based aspects of this research.

### **Aesthetic and Cultural Perspectives on Ice**

Just as a scientific perspective is an important consideration when discussing the materialities and properties of ice, an aesthetic perspective can contribute certain views



which are equally as important. I have chosen several ways to explore how aesthetic materiality perspectives might influence my practice-based research on ice as (moving) image. The aesthetic explorations touch on historical ideas of ice generated by the Romantic artist, poet and observer in the landscape, examples of contemporary art that incorporate ice as subject matter in their oeuvre. I will also look more closely at how indigenous cultures refine their experiential perspective on life via linguistic images of ice.

There is a long tradition in Western literature, poetry and the visual arts where ice is imaged. Many of these ideas can be traced back to the Romantic poets, most notably, Coleridge and Shelley. Their experience of ice comes from the well-documented Victorian activity of taking the Grand Tour, whether through Europe to witness points of “high” culture or tramping through the landscape communing with nature and finding a relationship with God. Notably, these images come from frequent experiences of directly observing the majestic landscape of Switzerland; in particular, Mont Blanc, which once contained, Europe’s largest glacier. These experiences inspired Coleridge and Shelley to write some of their most famous poems.

Coleridge wrote *Hymn before Sun-Rise, in the Vale of Chamouni* in 1802.<sup>38</sup> In this poem Coleridge addresses the mountain directly and places himself in its landscape, paying homage to its scale and that of the creator:

And you, ye five wild torrents fiercely glad!  
Who called you forth from night and utter death,  
From dark and icy caverns called you forth,  
Down those precipitous, black, jagged rocks,  
For ever shattered and the same for ever?<sup>39</sup>

Coleridge speaks here of the rivers being formed from the mouth of the terminus of the glacier emerging “from dark and icy caverns”, something I likewise witnessed and documented at the Franz Josef and Fox Glaciers in New Zealand.



**Figure 2. Peter E. Charuk, *Meltstream*, digital photograph. 2008**

While the Romantic poets were writing about the Swiss Alps, artists were also trekking to them, transforming what they saw into pen, ink, watercolours and paint. The most notable artist of this documentation was Turner, the well known English artist. Turner traveled extensively through this region bringing his sketches, back to his studio to complete larger paintings (see Figure 5).



**Figure 3. Turner, *Mer de Glace*, Valley of Chamouni, Savoy, from the *Liber Studiorum*, engraved by the artist. 1812**

Here Turner depicts the top end of the glacier where its fractured texture is extremely rough due to the pressures of gravity and the breaking up of the fresher ice as it sits on the precipice heading for the valley floor below. There are great forces acting on the ice

here which Turner conveys in this image. With this image Turner puts you in contact with the glacier's energies – you are there to witness its fundamental forces.

I too experienced and took moving image of these forces on the Fox and Franz Josef Glaciers.

Shelley wrote *Mont Blanc* in 1816, some twelve years after Coleridge wrote his Hymn. Shelley was on a six week tour of Europe and one of the stops was to see Mont Blanc. He subtitles his poem, *Lines Written In The Vale Of Chamouni* from which we can deduce that he is sitting in front of the mountain and glacier.<sup>40</sup> He makes direct reference to the Mont Blanc glacier, talking about its architectural form and the pace of its movement. His poem hints at the entropy underlying the glacier. Glaciers were known to destroy mountain villages before they started to recede due to the onset of a warmer climate. He comments on the varied architectural shapes the ice forms by the glacier:

The glaciers creep  
Like snakes that watch their prey, from their far fountains,  
Slow rolling on; there, many a precipice,  
Frost and the Sun in scorn of mortal power  
Have piled: dome, pyramid, and pinnacle,  
A city of death, distinct with many a tower  
And wall impregnable of beaming ice.<sup>41</sup>

Walking on the glaciers in New Zealand extended my experience of the ice in a similar fashion. My response was not with words but with images. There was a sense of awe and wonder at the shapes formed by the glacier on my part as well.

Another artist to respond to the Swiss Alps around the time of Turner, was Samuel Birmann. Birmann's drawings appear extremely accurate, verging on scientific illustrations, in a sense pre-photographic reportage, and were important and accurate enough for Zumbühl, *et. al.* to quote his work in a more recent paper taking an interdisciplinary approach to glacier representation.<sup>42</sup> This paper compared Birmann's images with contemporary photos depicting how the glacier had changed over the intervening years. This has become a key indicator of climate change and its ongoing effects.



**Figure 4. Samuel Birman, *Lower Grindelwald Glacier*, Drawing. 1826**

Birman's approach differs entirely from that of Turner, and later, John Ruskin. Turner is more interested in giving the landscape viscerality, embodying the forces of which it is comprised, and then having this act upon the viewer. It is a much more poetic rendering of what is happening but still relies on observation to render its impact.



**Figure 5. Turner, *Snowstorm*, Oil painting. 1842**

Another example of Turner's atmospheric painting technique is *Snowstorm* from 1842. Here Turner depicts the tempestuousness of the storm he witnessed. He injects the viewer into the scene and engulfs them in the wildly thrashing vortex, catching the viewer and view within the swirling, flowing elements of the painting. Turner was using revolutionary approaches to depict experiential observation compared to his contemporaries, such as Birmann. Turner's approach would pre-empt the techniques used by the Impressionists and others to depict their "impressionistic" generality of a scene in the landscape against a semi-photographic rendition such as the paintings of Birmann.

Turner's depictions echo somewhat in the work of John Ruskin, Turner's great champion. Ruskin commentated extensively on Turner's art, ideas and his relationship to the landscape.<sup>43</sup> Ruskin was a noted scholar who studied both geology and art. His geological knowledge contributed to the art he made, for example, in *The Glacier des Bois* from 1843 (Figure 6). Ruskin was also a traveler in the mountains becoming a witness to record Nature at work.



**Figure 6. John Ruskin, *The Glacier des Bois*, watercolour. 1843**

This watercolour echoes the composition of Turner's snowstorms by providing an enveloping vortex received, as if directly, by a singular eye. The viewer is once again



drawn into the scene and is able to experience it as if standing in the place of the artist's own eye as he traversed the terrain. Ruskin takes a similar perspective to Turner in *Mer de Glace, Valley of Chamouni* where they are both at the head of the glacier.

Early in his career Ruskin trained as a geologist and his travels through Europe put him in good stead to comment on the landscape at the intersection of art and science. He gave a lecture in New York in which he reported 'on the simple dynamic condition of glacial action among the Alps.'<sup>44</sup> He was very aware of the dynamics of the glacier. He was also one of the first to photograph the *Matterhorn* in 1849.<sup>45</sup> Ruskin was a believer in technology as an aid to understanding his place in the world.

This brief selection from the history of representative Romantic and post-Romantic images of ice in the landscape provides a strong link and sense of what was occurring in poetry and image-based activity during this period. There was definitely a collective consciousness in the attempt to grasp some understanding of a dynamic and forceful world, sensed via the dynamic materiality of ice. However, it is really the moving image that is able to get at and foreground this aspect of ice's materiality.

The cultural context of ice as (moving) image immediately expands when the search encompasses contemporary art practice. Ice is used by artists in contemporary art in a variety of ways. A brief survey of contemporary art exhibitions brings to light many instances of how ice is used to expand imagery associated with its material presence.<sup>46</sup> A brief survey spans a diverse range of activity and media: artist's books, sculpture, performance, new media, video installation, painting, photography, sonic work and encompasses the bulk of activity which defines contemporary art. In the twenty first century this activity is intensified with "climate change" as one of the topics at the forefront of its discussions in the wider community. In compiling an overview it seems that every other exhibition deals with this topic, with titles such as: *Liquid Sea, The Snow Show, Weather Report: Art and Climate Change, Bipolar, True North, Burning Ice: Art and Climate Change, Findings on Ice* and *Weather Report Cambio Climatico Y Artes Visuales*, to name a few. These exhibitions encompass artists who choose use ice in an extended investigation through their practice and are often included in the preceding exhibitions or who use ice in their solo installations devoted to the outlined topic.

Climate change as a topic under aesthetic discussion is also in evidence at prominent art conferences throughout the world. For example, at the International Science and Electronic Arts (ISEA) Conference in RUHR, Germany in 2010, a panel was devoted to "The Digital Aesthetics of Climate Crisis", asking questions such as,

“How is the climate crisis intrinsically related to the form and functioning of digital art, what are the criteria for evaluating and critically discussing climate art?”<sup>47</sup> There were six panel sessions discussing digital aesthetics and how is it possible for art to address climate change, the panel discussions included several works by artists working with the climate change debate. *CO2nfession/CO2mmitment* by Jonas Fritsch, for example, was a video installation where participants were able to enter digital confessional spaces to confess their climate change sins. These confessions were documented and re-edited for viewing on multiple screens in the city of Aarhus, Denmark.<sup>48</sup> Another panel presided over by Christian Ulrik Andersen and Søren Bro Pold, titled *Participatory Pyramids. An interface for Climate Change?*, asked for a wider participation by the public with the ongoing debate by making climate change a “thing” which can be perceived and spoken about rather than feeling like something abstract and nonparticipatory.<sup>49</sup> And finally there was a round-up panel with an “open discussion on the digital aesthetics of climate crisis.”<sup>50</sup> Consciousness of climate change does not just occur with artworks but has imbued itself into art theoretical discussions as well.

Other contemporary media artists working with climate change include DJ Spooky and Andrea Polli. Paul D. Miller, aka DJ Spooky, completed a work in 2008 called *Terra Nova: Sinfonia Antarctica* in which he provides us with a multimedia portrait of the Antarctic Wilderness using video and audio sound scapes. These became, “...a seventy minute performance, creating a unique and powerful moment around man’s relationship with nature.”<sup>51</sup> His approach was very personal; his direct experience of the landscape was captured through observation and field recordings which were mixed live with a small classical ensemble and his turntable skills, this resulted in the complex work. He sees it as homage to the composer Ralph Vaughan Williams and the poet, Shelley. The work is firmly embedded in the performative remix of hip-hop culture and its politics and relies on the juxtaposition of images and sounds to generate its complexity.

Andrea Polli’s *Sonic Antarctica*, “features natural and industrial field recordings, sonifications and audifications of science data and interviews with weather and climate scientists. The areas recorded include: McMurdo Sound and the geographic South Pole, the center of a featureless flat white expanse, on top of ice nearly nine miles thick.”<sup>52</sup> Once again Polli inhabits similar territories to that of DJ Spooky because the work is primarily sonically based but is performed as well as being exhibited as a visual installation. Her experience is also direct, of being there. Polli used captured sonic data, interviews and field recordings, as aesthetic components that are finely interwoven in

complex, edited audio sound-scapes thus hoping to engender an open experience of coming in contact with the landscape and the issues that surround it, established by the interviews of the scientists working there. The audio experience transforms the listener from the open space of the landscape to then position that space in a global context and back again over the duration of the work; the referential material now becoming a radio broadcast or a track on a CD, one amongst many. And while I acknowledge the audio aspects of both of these works I made an early decision, to intentionally, not use audio in this work, *glacies lux*, and to concentrate on the visual as the prime mover of its presence, which I argue throughout the dissertation.

An example of an early connection of the natural world to experimental moving image traditions comes from Stan Brakhage's work with experimental film. He is a precursor to the two contemporary artists I discuss here: Doug Aitken and Olafur Eliasson. A film from Brakhage's earlier career is *Creation*.<sup>53</sup> It examines the mysteries of iceberg-laden waters off the Alaskan coast in a manner that reanimates the ice as Brakhage personalizes a series of paintings by Frederick Edwin Church.<sup>54</sup> The film is set in the far northern Alaskan wilderness during the transition between the seasons when the rush of life is being renewed. What is important here is an equivalency of subject matter to my own work in the use of glaciers to generate images of ice. I have not seen the complete film but refer to the following stills that have been excerpted from it.<sup>55</sup>





**Figure 7 Stan Brakhage, *Creation*, Random still film sequences. 1979**

Camper states that:

...the very fact of remaining onshore (in the 1979 *Creation*, Brakhage filmed from a kayak) represents human limitation. A very shallow focus in one image of the ocean makes only a few waves in mid-ground truly sharp. And at one point in a long pan along distant ridges, their gray forms completely fill the frame — still another variety of ‘dark’ in a film that’s filled with darkness. Brakhage’s theme here is not only seeing but the limits of seeing, not only the glories of light but also its loss.<sup>56</sup>

Brakhage depicts an interest in the intersection of the earth (glacier) and the sky and at one point in the film he inverts these elements. The symmetry of the viewing point is disrupted by this action - up becomes down and down becomes up. In the next example this tactic was also employed by Doug Aitken in *Thaw*. Such a visual conundrum would be very disorienting to the viewer moving through the filmic landscape but in the context of the making of heaven and earth – *Creation* – it becomes part of an implied biblical vocabulary.

It is significant that Brakhage employs this title for this film because it grounds the film in the word becoming part of the subtext for understanding the work: ‘*Creation* mimics a skewed version of the opening chapter of Genesis, from which he derives his

title.<sup>57</sup> The title becomes a metaphorical transcription of what Brakhage experienced on his voyage in Alaska. A reading of the film thus becomes anchored in both title and imagery. This oscillation between visual image and literary image telescopes and condenses the poetic and artistic poles of the Romantic artists, I touched upon earlier. Brakhage was very careful in the choice of the titles for his films because they became indicators of metaphors particular to each film and key signs of a certain reading to be attained from them. The titles would seem to steer the viewer in one direction. Most of Brakhage's films are autobiographical, so by adding a Biblical reference as its title, *Creation*, the film envelopes his way of becoming in the world through the capturing of ice as moving image.

Doug Aitken and Olafur Eliasson use ice in very different and more contemporary ways; Aitken in the form of video installation and Eliasson as pure sculpture with blocks of ice literally taken from a glacier. I have chosen these artists because they do not necessarily anchor themselves completely in the climate change debate but also consider the poetics of their material as well. For them, ice is a material for experimentation.

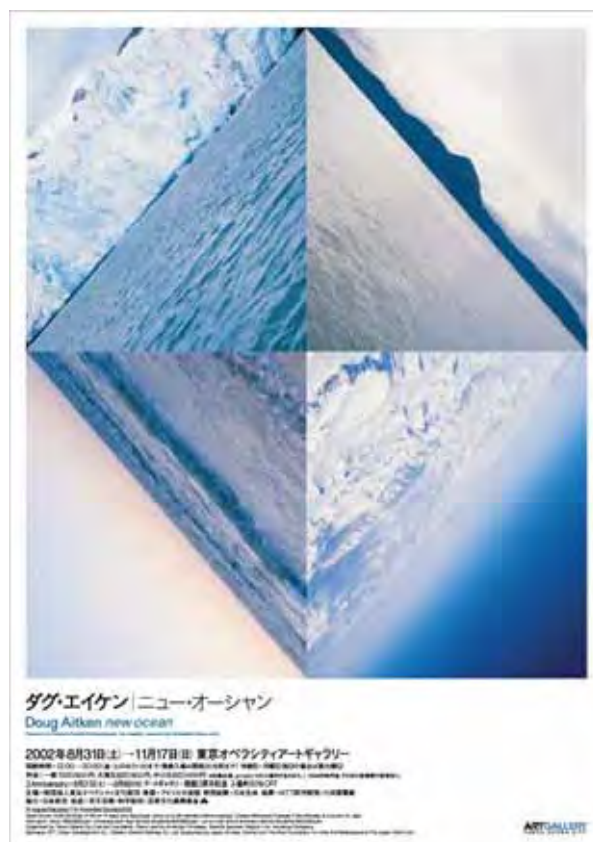


Figure 8. Doug Aitken, *new ocean*, Promotional poster, Tokyo Opera City Art Gallery. 2002

Doug Aitken's *Thaw* is a major example of using ice as (moving) image. *Thaw* is one part of an installation entitled *new ocean (cycle)* which Aitken exhibited in several countries using diverse configurations.<sup>58</sup> It is important to note that Aitken used the architecture of the galleries to diversify the experience of the work over both space and time of each configuration. The work changed to accommodate different spaces. *new ocean*, in the form of an installation, changed structurally wherever it was shown, dependent on the gallery which housed it. Aitken used these opportunities to "remix" the pieces, which make up the work in new ways. He says in an interview, 'I wanted to create an exhibition that constantly changed, that was not a traveling exhibition in the traditional sense, but one that metamorphosised. I wanted it remixed over and over...'<sup>59</sup>

Remix is a word which, acknowledging both DJ and VJ culture, is a procedural device that reinterprets a pre-existing song or visual in an alternate or modified way. Remixing includes the analogue as well as the digital and works with a cut and paste method as a component part of the process. I will address this concept in greater detail in Chapter 3 when I discuss Lev Manovich's approach to these theories.

An entry taken from Aitken's curriculum vitae gives an idea of the technical requirements needed to show this work. It is obvious from this list how he mixes and matches the presentation aspects of *new ocean* and *Thaw* as part of these remix procedures; for example, *Thaw*, 3 channels, *new machines/new ocean floor*, 4 channels, and *new ocean cycle*, 4 channels, 7 projections.<sup>60</sup> *Thaw* can be viewed on three screens, four screens or seven screens depending on the situation. The capacity of the digital is now capable of accommodating any conceivable permutation.



**Figure 9. Doug Aitken, *Thaw*, Colour film transferred to three-channel digital video, projection/sound installation, 4:10 minutes continuous loop. 2001**

The configuration I witnessed at the Museum of Contemporary Art (MCA) was on a smaller scale to that in the Serpentine where it was first shown. In Sydney, the installation consisted of one circular room with a 360° projection screen. Suspended from the ceiling above this was a circular screen with an image of a swimmer in the ocean shot from beneath and re-presented with the viewer from the camera's point of view. In Aitken's installations he remixes *moving* as an experience over several instances. Interestingly, in the MCA version, the viewer is moving through the space and a moving image is projected onto various surfaces. Aitken is interested in challenging the viewer as they move through a given space, which in this case, took the form of a spiral, reminiscent of the internal design of many sea shells. He guides us through the space by showing parts of the whole until we come to the larger space of the panoramic room where the major pieces of video are projected: ice from a glacier in Alaska. Ice is twice over a (moving) image in Aitken's work.

The video which directly addresses the materiality of ice is *Thaw*. In the MCA installation, *Thaw* took up a significant part of the time and space of the viewer. It provided the introductory element for *new ocean*. The circular panoramic projection showed a series of macro/microcosmic videos of melting glaciers in Alaska. The camera viewpoint varied from aerial to that of close-up views from a boat. Aitken also appropriated a technique from Stan Brakhage's piece *Creation*, where he inverts the image so that the glacier is floating in space with the water becoming the sky and vice versa. This confuses the viewer's perception in an immersive space. Aitken's experiments in spatial configuration contrast with those of Olafur Eliasson's more extensive experiments with matter.

Olafur Eliasson uses an experimental approach to making and presenting art. He has instigated a studio called the *INSTITUT FUR RAUMEXPERIMENTE*, which focuses upon experimentation and which has organized *Experiment Marathons* in several cities around the world.<sup>61</sup> These marathons take the form of day or week-long seminars where he invites artists, scientists, students, writers, musicians, architects and theorists to debate topics such as current colour theories, the capacity of folding paper to generate new livable architectural spaces, the physics of light and so on. As part of these fora, experiments are presented based on the chosen ideas. These are not judged nor necessarily scientific. They are open to interpretation by any of the participants and the audience. Eliasson seeks new knowledge from which he can draw ideas to assist his ongoing practice. He summarizes some of this thinking as, 'Art is not about making the

invisible visible, it is about making the visible seen.'<sup>62</sup> A similar approach to the experimental guides my work. I am making the ice as if seen through the process of reworking in video glacial action.

I have experienced Eliasson's work in Sydney and New York galleries. Each exhibition provides clues to his working methods because he uses a variety of materials and approaches to those materials. His work encompasses perceptual experience at its core. A pertinent example here is *Your Waste of Time* from 2006.<sup>63</sup> Eliasson seeks a certain dimension of experience with ice that then informs wider experience of the world.



Figure 10. Olafur Eliasson, *Your waste of time*, installation detail. 2006



Figure 11. Olafur Eliasson, *Your waste of time*, Freezer room entry. 2006

Eliasson trucks ten huge blocks of ice, taken from a glacier in Greenland, to a constructed freezer room, which becomes the gallery space for a sculptural installation in Berlin. He pulls no punches with a metaphorical experience: what you see is what you get. The beautiful crystal clarity of his ice comes from its source as some the cleanest, purest water in the world. It exhibits a transparency uncommon to most of the

ice I observed in the glaciers of New Zealand. There are some impurities embedded in Eliasson's ice which hint at their glacial origin but they do contain the dirtiness I witnessed firsthand, and by which I was astonished, on my first encounters on the Fox Glacier. The shapes of the ice blocks exhibit the wondrous sculptural and architectural qualities evident in most large conglomerations of ice in the landscape even though they were broken from larger pieces to enable convenient transportation. But these blocks are displaced from their origins so that you can focus entirely upon their material qualities. With this piece, Eliasson directs our experience toward the physicality of ice and this experience is confronting. It takes you from your world into that of another, unknown and unseen but now visible. The experience is the pure embodiment of ice.

The title, *Your Waste of Time* is significant in terms of Eliasson's larger body of work. He is interested in experiential readings of time, space and matter and how an audience relates these to their own experiences. Who is wasting time here? You, the artist or the ice? *Time* is part of the history of the artist, the viewer and the glacier, from which the ice is taken. *Waste* can also be considered on its own terms as part of the landscape of the glacier. The glacier is wasting away, in part affected by time, with the viewer as witness to its changing physiology in the gallery, distanced from the landscape. In the gallery the ice enters your consciousness so that you can extrapolate from the landscape to aesthetic experience and then form an opinion. Brakhage, Aitken and Eliasson choose diverse approaches to using ice in their work. One uses the filmic, one the qualities of modern video installation practice and the final the purity of direct experience as sculpture. As I state later in my dissertation my method contains an awareness of all of these approaches.

When speaking about ice, science gives us cold hard facts. The language used is technical, loaded with jargon and for me it does not do justice to what I see as a captivating material. Science provides an intellectual understanding of ice's physical nature but it is difficult to penetrate its materiality using only scientific language. I would argue that ice as a material in various forms needs to be presented to the wider community to open up the climate change debate and where ice sits within this. I think that art can be a significant contributor to this debate. Art can offer new ways of seeing and, possibly, balance out the perspective by re-instating the contribution of (in my case) the digital optical to rendering ice's materialities.



## Vocabularies as Materialities of Ice

New vocabularies from science are entering our experience of glacial, moving ice.<sup>64</sup> But the scientific definition of a glacier definitely does not do it poetic justice; it only hints at the variations of its physicality in the landscape. There are many new words used by scientists, which contribute to a glacier's analyses. In the *Glossary of Glaciers* there are some 287 descriptive words associated with ice and the glacier.<sup>65</sup> Once again there are many terms from the glossary used to describe, in finer detail, the inner workings of the glacier:

*Ablation:* In glaciers, refers to melting, erosion and evaporation which reduce the area of the ice.

*Albedo:* The percent reflectivity of a surface. Ice may reflect up to 90 percent of incoming solar radiation (albedo = 90), while blacktop asphalt may absorb up to 95 percent (albedo = 5).

*Calving:* Ice sheets calve by breaking off flat pieces when the walls of crevasses give way or chunks fall off the front of an ice sheet. The results are called ice bergs, bergy bits and crevasse wall breakaways.

*Crevasse:* Elongated open cracks in glacial ice, usually nearly vertical, and subject to change at any moment. Crevasses form due to extensional changes in velocity or gradient. They can be oriented to the glacier transverse, longitudinal or oblique and occur in marginal, central or terminal positions on the ice.

*ice sizzle:* Sounds made by glaciers which sound like carbonated soda.

*kinematic waves:* These ice waves move down glacier and are propagated by increasing glacial thickness. Kinematic waves may move two to six times the velocity of surrounding, thinner ice.

*lens/lenticular:* A thick-in-the-middle/thin-at-the-edges geologic deposit in which the surfaces converge together.

*rock flour:* Pulverized rock of the smaller size sediment classes (silts and clays) produced by glacial milling can give outwash streams a milky appearance.

*Terminus:* The end of the glacier. Also called a glacial snout.<sup>66</sup>

All these terms contribute to the development of the practice-based aspects of my research. The selected terms can be observed in the video sequences of *glacies lux*. Some of them such as “calving”, “crevasse” and “albedo” are also becoming general media terms employed to in the wider debate on climate change.<sup>67</sup>

While walking on the ice of the Franz Josef, Fox and Tasman Glaciers I experienced most of the glacial phenomena articulated in the vocabulary of the glossary and dictionaries quoted here but I only became aware of the appropriate scientific language after experiencing the events and reflecting on those experiences back in the studio. The words I chose from the glossary list are from much longer lists but these are indicative of processes affecting the glacier, which I used in the development of the practice-based aspects of this research. The vocabulary is not overt but is hidden in my thinking about the materiality of ice. They are active words, which increase my own vocabulary and ability to process images of ice from the glaciers I experienced.

Even though it is not obvious while walking on it, the glacier IS moving, however slowly, in the landscape. This imperceptible motion is another factor that partially dictated how to edit the video sequences in *glaciers lux*. The editing process was informed by working with the moving image of nature in its unseen or unknowable duration. The movement of nature is beyond the human scale but my decision was to work with the incrementally slow. I expand these issues in more detail in Chapter 3 when I discuss the methods that led to the work, that is, *glaciers lux*. The evidence of this slowness comes from a mix of the scientific vocabularies for understanding the glacier and my own collected evidence of photographic, audio and video records. As well as observing and witnessing the landscape and its formation by glacial action, the glacier's movement differs spatially and temporally over its length. The glaciers in the South Island of New Zealand are known as "warm" glaciers because they are formed in temperate zones on the Earth's surface, that is, away from the colder latitudes: 'Warm glaciers have internal melt-streams at every level and torrents of water flow out from under the ice at the glacier's toe.'<sup>68</sup>

A different vocabulary and hence set of movement-images describe the warm glacier. The "kinematic waves" occur higher up in its structure closer to the top of the valley.<sup>69</sup> As you move down the glacier valley there is evidence of "crevasses" – holes in the ice which are indicative of the ice melting and cutting into the body of the glacier as well as the dynamic pressure ridges the glacier is subject to in the valley. These holes are deep and extremely dangerous for walkers. The water melting through these holes forms what is known as the *melt-stream*. The melt-stream forms a support layer between the ice and the valley floor and it is here where the ice moves much faster. At the end of the glacier is the terminus where the flow of water of the melting glacier runs out onto the plain as a wild river, for example, in Birmann's pictures in Figure 4 or Charuk's photograph in Figure 2. Evidence of glacial movement also occurs with the



debris left behind by the glacier: “rock flour”, rocks, pebbles, ice islands, ice blocks and the scouring of cliff faces from the valleys. These are all components caught in and informing my documentation.

However, and as I have already touched upon in terms of different modes of experiencing ice’s physicality in the landscape, other cultures can also develop and contribute to the vocabulary of ice. I have chosen to explore and give examples from the language of the Inuit. I use the term Inuit here to include the indigenous tribes who live on or close to the Arctic Circle. The Inuit live in some of the harshest climatic and most challenging landscape on earth. This was detailed in Wohlforth’s book, discussed earlier, where he cites differences between observational experience and scientific observation to gather data. Wohlforth vividly describes the space the Inuit inhabit:

The whiteness around us, which looked like a vast wreck, a static of chaos without scale or reference, in fact was full of information for those who knew how to read it. But first, one must establish a pace slower than the change one wished to observe.<sup>70</sup>

Here Wohlforth emphasizes a point that I learnt from my visits to the glaciers in New Zealand, that of slowing down the pace of observation. This meant stopping and assimilating what was before me rather than trying to impose my will on the scene. This is a pace slower than that of the glacier, complete stillness. The question of the glacier’s tempo and how to deal with this in a moving image environment is taken up in Chapter 3.

I note that there are 34 references for ice in an Inuit dictionary.<sup>71</sup> This number only makes sense from the point of view of lived Inuit experience. If your life depends on situations in a brutal landscape then it is necessary to be able to communicate what is happening to you or someone else in that local environment. The Inuit livelihood is dependent on the environment in which they exist, primarily that of ice or icy conditions. Therefore they use an evolving vocabulary in a range of ways to describe what and how they experience ice. Most of the words seem to be dependent on immediate place or where they are; that is, the landscape is the main factor adding to the picture of ice and its characteristics. Some random examples from the dictionary are:

|                  |                             |
|------------------|-----------------------------|
| <i>Siku</i>      | ice                         |
| <i>sikuibvik</i> | ice break-up time           |
| <i>savibuq</i>   | ice crystals in air         |
| <i>sari</i>      | ice pack                    |
| <i>sikuliaq</i>  | ice thick enough to walk on |
| <i>puktaa</i>    | iceberg                     |

|                      |                                   |
|----------------------|-----------------------------------|
| <i>pisubnaitchuq</i> | is not safe (ice)                 |
| <i>misuitchuq</i>    | is pale (literally without juice) |
| <i>tuvaq</i>         | landlocked ice                    |
| <i>aukkaa</i>        | melts it (ice, snow)              |
| <i>sikuliuraq</i>    | new formed ice <sup>72</sup>      |

When I read the translations of these words I was immersed in an entirely alien landscape of which I have no direct experience except perhaps in minor ways through mediated imagery from documentaries or films or my short walks on the New Zealand glaciers. I find the Inuktitut language fascinating because it amplifies the material qualities of ice using landscape modifiers to include their experience. Language, here, mediates the material by adding a cultural and experiential value to its existence and augments an attempt to understand ice. Coming back to the Inupiat (the Inuit of Northern Alaska) Wohlforth states:

The very structure of Inupiaq helps deal with situations in a unique environment. Speakers can convey information quickly in a moving landscape without landmarks or any visible distinction between ocean and shore. In the absence of physical reference points, speakers can position objects and events using movement, the relative locations of the speaker and listener, and the directional orientation of the ocean and rivers.<sup>73</sup>

Here language amplifies the experience of the person in a given situation, something that an optical image may do differently. While I did not quote directly from the language of the Inuit in my work there is an underlying homage to the value of their knowledge by amplifying the materiality of ice in various practice-based aspects of this research.

The landscape plays a definitive role in a broader ecology of ice. Ice is not taken in isolation. It is relative to the experiential situation. This point is born out by comparing it with another culture, such as that of Arabic culture, which sees very little ice. In Arabic there is *one* word for ice, *thalg* but it also has a dual role to include snow. In an Arabic context the experience of the landscape inflects language so that there are now hundreds of words referring to the desert, for example.<sup>74</sup>

If we want to look for current examples of different and perhaps more inclusive cultural perspectives on ice in Western culture, contemporary travel writing is one area that attempts to incorporate some of the above issues concerning ice's materialities. Examples include Wohlforth (whom I have already examined), journeys to the arctic wastes of Greenland in the writing of Gretel Ehrlich, and Barry Lopez on Northern Canada. The writers speak about their adventures on the ice. I see them as inheritors of

the traditions of the Grand Tour spoken about earlier, with respect to the Romantic tradition. Although the use of optical images is scarce in their accounts of the frozen landscapes they have an exceptional capacity to use language to envelope the reader in an imaginative space garnered from their travels. The focus for some of these writers is on the indigenous people who inhabit this hostile landscape, namely the Inuit of Greenland and the Iñupiat of northern Alaska. The travel/adventure stories of these writers are interwoven with the stories of the Inuit.

These writers endeavour to immerse themselves in the landscape and become familiar with its materialities as spectators to what may be happening climatologically in the landscape. I will briefly touch on Gretel Ehrlich's work because it resonates with issues of visual perception and hence is of direct relevance to my pursuit of the optical as a mode of pursuing ice's materialities. Ehrlich has written several books while travelling through and living in Greenland and interacting with the Inuit who inhabit the landscape. She followed the routes of several explorers, such as Roald Amundsen and Fridtjof Nansen, who traversed the Arctic terrain in the early twentieth century. She describes her experiences of the ice and its impact on human behaviour in a very poetic way, 'It begins with ice and ends with ice.'<sup>75</sup> This statement grounds her experience in which she believes that you have to be very aware of ice and its many elusive characteristics. In doing so she acknowledges the wealth of experience of the Inuit. Because various forms of ice comprise a harsh landscape, life depends on what entire sensory experience of ice; weather and ice combine in a constantly evolving landscape. These must be constantly embodied in order to navigate the ice, as Wohlforth also describes in the Inuit hunt from sea ice. The ice's changing optical qualities and its fragile nature might also play tricks with visual perception. It might distort the surroundings, refracting and reflecting what is seen. It is prone to breaking up when you least expect it. Ice is susceptible to change at any instant in a given landscape. A glacier becomes a shorthand device to map this change. Ehrlich succinctly summarizes the role of the glacier in the landscape:

A glacier is an archivist and historian. It saves everything no matter how small or big, including pollen, dust, heavy metals, bugs, bones, and minerals. It registers every fluctuation of weather. A glacier is time incarnate, a moving image of time. When we lose a glacier - and we are losing most of them - we lose history, an eye into the past; we lose stories of how living beings evolved, how weather vacillated, why plants and animals died. The retreat and disappearance of glaciers - there are only 160,000 left - means we're burning libraries and damaging the planet, possibly beyond repair. Bit by bit, glacier by glacier, rib by rib, we're living the Fall.<sup>76</sup>

But ice is useful for primary survival as well. Most ice in the landscape is a source of fresh water, both in the Arctic and Antarctic, ‘the chunk of glacier ice we brought into the tent to melt for tea water exploded...Ice is time solidified.’<sup>77</sup> An acute awareness of the properties of ice and the landscape it forms enables Ehrlich to make this statement amplifying the approach I took while developing the practice-based aspects of this research. Time becomes solid in the ice. Time also becomes a malleable material in a digital form. Scientists, too, agree with this idea when they continue to search for data on climate activity through ice core sampling as referenced in the *Dome A Project* by Allison *et al.*<sup>78</sup> Ice history is thousands if not millions of years old. Ehrlich continues her description of a glacier:

Above the terminus, the glacier was curvaceous; its seeming motionlessness was in reality a slow coming apart. Its surface was fractured and crosscut - a grid for a city that had not yet been built. Bands of colour revealed the rhythm of ablation and accumulation for what it was: the noise and silence of time.<sup>79</sup>

Ehrlich employs an architectural metaphor to describe the ice in a similar manner to that of Shelley and Turner. Time, space and climatological events govern the life of a glacier and, as I stated previously, this life moves through numerous temporal permutations. Ehrlich describes how glaciers scrape and shape the landscape like giant, very slow, grinders.<sup>80</sup> Her approach is to match a human slowness to glacial tempo in order to produce new perspectives upon them:

Glaciers represent what is bold, inscrutable, exposed, quiet, and glinting in us, as well as what is delicate, dynamic, and precise. *If we walk among them long enough, perhaps we can learn from them.*<sup>81</sup> (my italics)

I was able to walk on, and among them, and learn from them and this became *glaciers lux*. I learnt to ‘establish a pace slower than the change one wished to observe’ as Wohlforth intimated.<sup>82</sup> For those who wish to listen, the ice and the glaciers have a voice with which to communicate.

The cultural perspectives provided by Shelley, Coleridge, Andersen, Birmann, Turner, Ruskin, Wohlforth, Ehrlich and Lopez all contribute to a wider understanding of ice by providing alternate viewing lenses for an audience to experience the ice vicariously. When ice is viewed through the eyes of indigenous cultures, folk tales, fairy tales, or selected vocabularies and are then combined with direct experience, they formulate new combinations that bring us closer to a certain poetic quality I also see in ice. When these select examples of written and spoken languages are mixed with the optical image and poetic descriptions it is possible to blend all of these elements into new visions. These new visions may assist in a further understanding of how ice might

be seen in a material context with a distinct relevance to contemporary society. My next chapter moves materiality in a different direction – the material properties of video as a medium. We need to examine how video and under what circumstances video might become the appropriate environment for highlighting the poetic qualities of ice’s materialities.

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23 See, Piet Hut, “Science in Search of a Worldview”, where he describes Transformation Theory. Ed. Arthur Zajonc. *The New Physics and Cosmology Dialogues with the Dalai Lama*, (New York: Oxford University Press, Inc., 2004): 204.

Hut’s complete quote is as follows:

“One of the simplest theories is kitchen relativity, where you can transform water into ice. You can freeze water or melt ice. If you grow up on a tropical island, you don’t know ice; you only know water. Water is absolute; you never see anything else. But one day you travel or you get a refrigerator, and you can transform water into ice. Then you see that water is relative. Ice also is relative, but the material seems to be absolute since you can transform in either direction. It is the same material but with a different appearance, a different form. The relativity of water and ice gives you more freedom. It gives you the freedom to make a transformation. You can do more things than you could before. Similarly, Einstein’s relativity showed us that space and time are not absolute, but you can transform them to some extent into each other.”

24 Simon O’Sullivan, “The Aesthetics of Affect”, *ANGELAKI. Journal of the Theoretical Humanities*, 6.3, December (2001), 11.

25 W. J. T. Mitchell, “There Are No Visual Media”, *Journal of Visual Culture*, 4, (2005): 257-266.

26 NASA. What Is the Cryospheric Sciences Program? (2003), *Cryospheric Sciences Program* website. Availability: NASA, <http://ice.nasa.gov/>.

27 Philip Ball, *Life’s Matrix: A Biography of Water*, (Berkeley and Los Angeles: University of California Press, 2001): 28.

28 J. Stephen Murphy, “Jamming the Machine: Yves Klein’s Blue Monochrome and the End of the Avant-Garde”, *Paroles gelees*, 14.2, (1996): 143.

29 Philip Ball, *Life’s Matrix: A Biography of Water*, (Berkeley and Los Angeles: University of California Press, 2001): 186

30 Ibid., 69.

31 Donald K. Yeomans, “Comet”, *World Book Online Reference Center* website, (2005). Availability: <http://www.worldbookonline.com/wb/Article?id=ar125580>.

32 C. Lobban, J. L. Finney and W. F. Kuhs, “The structure of a new phase of ice”, *Nature*, 391, (1998): 268-270.

C. Lobban, J. L. Finney and W. F. Kuhs state:

“The ice phase diagram is extremely rich, comprising 11 confirmed crystalline phases, in which the water molecules link through hydrogen bonds to form tetrahedral frameworks. The structures and stabilities of many of these phases have been established definitively by means of neutron powder-diffraction in collaboration with Prof. Werner Kuhs, University of Göttingen, Germany. This work is of importance to a large interdisciplinary group of researchers interested in the hydrogen bond, while the versatility of the water molecule in forming so many different structures is relevant to its biological importance.”

33 Charles Wohlforth, *The Whale and the Supercomputer : On the Northern Front of Climate Change*, (New York: North Point Press, 2004).

34 Arctic or Greenland people are aboriginal people who live in the coastal Canadian Arctic, in Alaska, and in Greenland. The Inuit are related to the Yupik of Alaska and northeastern Siberia.

35 Charles Wohlforth, *The Whale and the Supercomputer : On the Northern Front of Climate Change*, (New York: North Point Press, 2004): 128.

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36 Ibid., 124. Water molecules have to push salt molecules out of the way in order to crystallize, extra work that explains why the freezing temperature for ocean water is two degrees C lower than for freshwater.

37 Ibid., 124. Wohlforth amplifies the differences between the two cultures, "The physical scientists wanted to know irreducible facts, but Native knowledge was tied up with experience."

38 Samuel Taylor Coleridge, "Hymn before Sun-Rise, in the Vale of Chamouni", (originally published 1802), *Poetry Foundation* website. Available: <http://www.english.upenn.edu/Projects/knarf/Coleridge/hymn.html>.

39 Ibid.

40 Percy Bysshe Shelley, "Mont Blanc", (originally published 1816), *Representative Poetry Online* website. Availability: <http://rpo.library.utoronto.ca/poem/1898.html>.

41 Ibid.

42 H. J. Zumbuhl, D. Steiner, and S. U. Nussbaumer, "19th Century Glacier Representations and Fluctuations in the Central and Western European Alps: An Interdisciplinary Approach", *Global and Planetary Change*, 60, (2008): 42-57.

43 John Ruskin, *Modern Painters: Volume 1*, (originally published 1843, new edition, London: Adamant Media Corporation, 2000).

44 New York Times, "Mr. Ruskin on Glacial Action", *New York Times* website, (New York 1875). Availability: <http://query.nytimes.com/mem/archive-free/pdf?res=980CE0D61338EE3BBC4151DFB566838E669FDE>.

45 Helmut Gernsheim, *A Concise History of Photography*, (New York: Dover Publications, 1986): 48.

46 Space precludes a more thorough discussion of ice in the context of contemporary art practice.

47 See <http://www.isea2010ruhr.org/conference/tuesday-24-august-2010-dortmund/p14-the-digital-aesthetics-of-climate-crisis>

48 See [http://www.isea2010ruhr.org/files/redaktion/pdf/isea2010\\_proceedings\\_p14\\_fritsch.pdf](http://www.isea2010ruhr.org/files/redaktion/pdf/isea2010_proceedings_p14_fritsch.pdf)

49 See [http://www.isea2010ruhr.org/files/redaktion/pdf/isea2010\\_proceedings\\_p14\\_andersen\\_pold.pdf](http://www.isea2010ruhr.org/files/redaktion/pdf/isea2010_proceedings_p14_andersen_pold.pdf)

50 See <http://www.isea2010ruhr.org/conference/tuesday-24-august-2010-dortmund/p14-the-digital-aesthetics-of-climate-crisis>

51 See [http://www.djspooky.com/art/terra\\_nova.php](http://www.djspooky.com/art/terra_nova.php)

52 See [http://www.gruenrekorder.de/?page\\_id=342](http://www.gruenrekorder.de/?page_id=342)

53 Fred Camper, "Brakhage Stills", *Fred Camper* website, (2010). Availability: <http://www.fredcamper.com/Film/BrakhageS.html>. *Creation*, 1979, 16mm, colour, silent, 17 min. (Held in collections of: Canyon Cinema (San Francisco), The Filmmakers' Cooperative (New York), The Museum of Modern Art (New York), The Lux Centre (London), and Light Cone (Paris).

54 See Paul Arthur, "Becoming Dark with Excess of Light", *Stan Brakhage: Filmmaker*, Ed. David E. James, (Philadelphia: Temple University Press, 2005): 210. Frederick Edwin Church was an American landscape painter of the Luminist School working in the 1800's whose work Brakhage had studied for more than a decade.

55 It is said, by Fred Camper, to be one of Brakhage's most stunning landscape films. Fred Camper, "End Games", *Fred Camper* website, (2001). Availability: <http://www.fredcamper.com/Film/Brakhage2.html>.

56 Ibid.

57 P. Adams Sitney, "Tales of the Tribes." *Chicago Review* 47, no. 4, (2001): 100.

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58 *new ocean*, 2001. Produced by the Fondazione Sandretto Re Rebaudengo, Turin, presented in association with the Serpentine Gallery, London, subsequently presented at Tokyo Opera City Gallery (2002), Japan, the Kunsthaus Bregenz, Austria (2002), the Fondazione Sandretto Re Rebaudengo, Turin (2003) and the Museum of Contemporary Art, Sydney (2003, as part of the group exhibition Liquid Sea).

59 Mark Gee, "Loud Paper Interviews Doug Aitken", *loud paper* website, (2001). Availability: <http://www.loudpapermag.com/articles/loud-paper-interviews-doug-aitken>.

60 Aitken, Doug. "Doug Aitken Biography", *Doug Aitken* website, (2007). Availability: [http://www.303gallery.com/artists/doug\\_aitken/index.php?bio](http://www.303gallery.com/artists/doug_aitken/index.php?bio).

61 Olafur Eliasson and Hans Ulrich Obrist, *Experiment Marathon*, (London: Reykjavik Art Museum, Serpentine Gallery and Koenig Books, 2009).

62 Eliasson, Olafur, *Life in Space 3*, Studio Olafur Eliasson, (Dornbirn: Zumtobel AG, 2008).

63 Olafur Eliasson, *Your waste of time*, installation, exhibited at Galerie Neugerriemschneider, Berlin, Germany, 2006.

64 Michael Pidwirny and Scott Jones, "Introduction to the Lithosphere", *Fundamentals of Physical Geography* website, eBook, 2nd Edition, (Okanagan: University of British Columbia, 1999-2010). Availability: <http://www.physicalgeography.net/fundamentals/10ae.html>.

Pidwirny and Jones state that:

"To be called a glacier, a mass of ice must be capable of motion. Glacial movement occurs when the growing ice mass becomes too heavy to maintain its rigid shape and begins to flow by plastic deformation. In most mountain glaciers, flow of ice begins with accumulations of snow and ice greater than twenty meters."

65 "Glossary of Glacier Terms", *The National Snow and Ice Data Center* website, (2006). Available at: <http://nsidc.org/glaciers/glossary/2009>.

66 Ibid.

67 There are many glaciological studies being used to observe and investigate climate change as can be seen in this summary of glaciological studies. The following is a brief, highly selected summary of the field of glaciology which provides an overview of the many scientific research projects focused on glaciers and their relevance to climate change science. Dave Cole, of the Cold Regions Research and Engineering Laboratory's (CRREL) main lab in Hanover, New Hampshire works with a scientific research centre functioning under the auspices of the U.S. Army, research how engineering may be able to solve the problems of inhabiting the frozen landscape amongst other interests.( Cole, Dave, "Cold Regions Research and Engineering Laboratory's (Crrrel) ", Education Center, US Army Corps of Engineers Engineer Research and Development. (US Army Corps of Engineers, 2010) Availability: <http://www.crrrel.usace.army.mil/>; The example given by Messer's H.J. Zumbühl, D. Steiner, S.U. Nussbaumer earlier in the chapter outlines attempts to understand the total dynamics of ice by incorporating diverse disciplines in their reading which focus upon research projects involve climate change, and Polar Research and Engineering. The National Snow and Ice Data Center, in Colorado (NSIDC) includes a number of scientists working within this climate-based area: Mark Serreze working with - Arctic climate; global implications; climate warming in the Arctic, Richard Armstrong working with - Remote sensing of snow, ice, and frozen ground; physical and mechanical properties of snow; snow cover and glacier mass/extent as indicators of climate change, Shari Gearhead working with - Human-environment interactions; traditional knowledge research; Arctic environment and change; Inuit knowledge; participatory research; innovative technologies and methodologies; linking indigenous and scientific knowledge. (*The National Snow and Ice Data Center* website, UCB, University of Colorado. Availability: <http://nsidc.org/2010>); NASA's Earth Observatory is a long-term researcher in the field of climate change who use their satellites to map sea ice and terrestrial ice changes in the cryosphere using ongoing observational research. (Eos Project Science Office, *The Earth Observatory*, (2010), NASA Goddard Space Flight Center. Availability: <http://earthobservatory.nasa.gov/>); The Australian Antarctic Division is also heavily involved in climate change science with projects revolving around their Ice, Ocean, Atmosphere and Climate program which examine climate variability, sea level rise, ocean control of carbon dioxide and Antarctic marine ecosystems. (Australian Antarctic Division, *Australian Antarctic Division* website, (2010). Availability: <http://www.antarctica.gov.au/>.) Most of these institutions have a multi-disciplinary approach to the research of ice and glacial action in the cryosphere. They use a wider systemic approach that has evolved over the years from single discipline input working in isolation; for example, from straight chemical or physical analysis to involving several disciplines at once to decipher the data in relation the climate science. The interest now is how to connect the variables into overarching theories of what is happening with climate change as a whole.

68 Gretel Ehrlich, *The Future of Ice: A Journey into Cold*, (New York: Pantheon Books, 2004): 51

69 These waves are documented in Turner's drawing in Figure 3.

70 Charles Wohlforth, *The Whale and the Supercomputer: On the Northern Front of Climate Change*, (New York: North Point Press, 2004): 5.



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71 Donald H. Webster and Wilfried Zibell, *Iñupiat Eskimo Dictionary* website, (Summer Institute of Linguistics, Inc., 2008). Availability: <http://www.alaskool.org/Language/dictionaries/inupiaq/dictionary.htm>.

72 Ibid.

73 Charles Wohlforth, *The Whale and the Supercomputer: On the Northern Front of Climate Change*, (New York: North Point Press, 2004): 510.

74 Iman Mersal, "Memory of Thalq", *Findings on Ice*, Edited by Hester Aardse and Astrid van Baalen, (Baden: Pars Foundation Lars Muller Publishers, 2007): 147. In this case written by Iman Mersal, a poet.

75 Gretel Ehrlich, *This Cold Heaven: Seven Seasons in Greenland*, (New York: Vintage Books Random House, 2001): 303.

76 Gretel Ehrlich, *The Future of Ice: A Journey into Cold*, (New York: Pantheon Books, 2004): 53.

77 Gretel Ehrlich, *This Cold Heaven: Seven Seasons in Greenland*, (New York: Vintage Books Random House, 2001): 303.

78 Ian Allison, Xiao Cunde, and Li Yuansheng, "Dome A - the Coldest Place on Earth", *Australian Antarctic Division, Department of Sustainability, Environment, Water, Population & Communities, Australian Government* website, (2007). Availability: <http://www.aad.gov.au/default.asp?casid=288>.

79 Gretel Ehrlich, *This Cold Heaven: Seven Seasons in Greenland*, (New York: Vintage Books Random House, 2001): 315.

80 Ibid., 33.

81 Ibid.

82 Charles Wohlforth, *The Whale and the Supercomputer: On the Northern Front of Climate Change*, (New York: North Point Press, 2004): 5.

## CHAPTER 2

### Video Art: Ambient video

The proliferation of screens and projection devices in public and private spaces makes the moving image part of our visual environment. Jim Bizzochi has named “ambient video” a new form of video art. In part, acknowledging the blending of moving image with our everyday surrounds.<sup>83</sup> This form sits within the context and history of video art but takes into account the spread of video into everyday visual culture. This chapter looks at concepts of video art and ambient video as a genre of that “form.” It discusses examples of ambient video, asking questions concerning its place and function as an art form. I offer some suggestions for how artists might actively engage with and investigate ambient video from the point of view of its distinctive materialities and by adding content into the mix.

Ambient video provides a space where images appear and disappear and do not necessarily come to the fore. It merges into the material of daily life according to Mark Wieser.<sup>84</sup> The general quality of ambient video is one of high resolution imagery displayed on high definition (HD) television screens or sometimes as projections in discrete spaces, both public and private. The content of the imagery is primarily abstract or it contains simple framed views of the landscape. Water is a popular subject matter. The imagery is not usually confrontational. Both its form and content allow it to discreetly slip into the background. Its visual tropes neither threaten nor actively engage the viewer. I propose to challenge this relative passivity, introducing questions of content while still maintaining some of its formal qualities. I propose that by using the poetic qualities and environmentally (politically) charged images of ice ambient video might intervene aesthetically and affectively as a form in broader visual culture.

The chapter outlines an historical framework for ambient video as a sub-genre of video art. I acknowledge the pioneering work of Brian Eno and his experimentation and conceptualisation of ambient music as a marked influence on ambient video. I take into account the expansion of the notion of video art by Gene Youngblood in his conception of “expanded cinema”.<sup>85</sup> I pay particular attention to the use of landscape in video art as an artistic strategy and experimental methodology, analysing the landmark exhibition entitled, *American Landscape Video, the electronic grove*.<sup>86</sup> By invoking these different media histories, ambient video opens up a promising space for artistic experimentation.

## The Distinctiveness of Video

The history of video art is intertwined with the development of the medium of television. Its genesis lies with television and television gives it its distinctive features such as real-time capture, the monitor as viewing device, its source of light within the cathode ray-tube, the constant scanning of image and so on. Television also provided duration for video production generally, based on what David Antin calls the “money metric.”<sup>87</sup> The term signifies both duration and commerce. This module of time – the ten second grab – is based on time units between television programs during which advertisements play. The ten second module can be combined in various increments to become twenty, thirty or sixty second or one hour pieces of programming depending on the time allotted by programmers, governed by television’s commercial thrust. Antin saw both the program and the commercial as having the same “syntax” of production.<sup>88</sup> While this became a signifier of the corporate economy of television it also became one of the areas seriously questioned by artists who began to use video to make art in the 1970s, such as Nam June Paik, Bruce Nauman, Les Levine and many others. Antin separated television from video art practice, recognising works that were shown primarily in what is known as the “art world” and re-defines these as “Artists’ Video.”<sup>89</sup> I see this as a more suitable term for the twenty-first century. It acknowledges the current hybrid and eclectic use of video by artists both in and out of gallery contexts.

Quoting the video artist Frank Gillette, Antin makes a claim for the material differences between video art and film as media: “...what makes it not film? Part of it is that you look *into* the source of light, with film you look *with* the source of light. In television, the source of light and the source of information are one.”<sup>90</sup> But this difference is changing rapidly: with the advent of digital processing in both capture and transmission the source of light is changing to, as I see it, one of being *bathed* in the light of the plasma, LCD or LED screen. Video display can now both bathe you in light and allow you to look ‘with’ the light source when a video is projected using a HD video projector. Artists’ video, then, can use the technical possibilities of video display to create both ambient *and* directed viewing conditions for video, something I aim to achieve in *glacies lux*.

In another seminal essay on the emergence of video as medium, David Ross states that, ‘Television’s velocity was constant...’<sup>91</sup> Its place in the home as part of the furniture meant that it could be on or off during the day or night, activities could go on around it, and, with its soft glow and ambivalent status as part of the furniture, it became both background and centre of the house. Television had the ability to

foreground itself depending on whether it broadcast world breaking news or become part of the wallpaper until you were ready to engage with it.<sup>92</sup> Douglas Davis speaks about turning on a television “unconsciously” and leaving it on, sometimes all day and night.<sup>93</sup> It is this ambiguous visual presence as both upfront and receding that becomes the context for Bizzochi’s argument for the emergence of ambient video as a contemporary art form.

Ross introduces an issue, which goes to the heart of my thesis ‘...the problem of pernicious content.’<sup>94</sup> Antin continues the argument for considered content when he says, ‘What the artists constantly re-evoke and engage with is television’s fundamental equivocation and mannerism, which may really be the distinctive feature of the medium.’<sup>95</sup> Strategies of dealing directly with political or confrontational content then are at least in part what artists have sought to do, according to Antin, to separate themselves from television as a medium.

A final point I want to extract from Antin’s analysis of artists’ video is its relation to time.<sup>96</sup> Artists of the 1970s reacted against the contraction of time into television modules by leaving the tape running for hours. There was little expense for artists doing this as, compared with film stock, videotape was relatively cheap. But this distanced video art from film. The duration of the artist’s video became a form of “endurance,” criticised for being “boring” because it was not televisual time.

When Antin wrote his essay he thought that artists’ video would never be seen on television, ‘It takes too much time, intelligence, and intensity of attention to watch - except on video.’<sup>97</sup> This view has changed little over the years with television programmers shunning most artists’ attempts to show work in its entirety on television except in instances of magazine type programs or the advent of cable/satellite television arts channels. In 1998 Ross reprised his thoughts on the history of video at a conference discussing *the Success and Failure of Video*.<sup>98</sup> He summarises the practice of video citing a ‘shared use of video cameras, recording devices, monitors and projectors... [with] the most distinctive feature of video: the reproduction of actual conveyance of real time.’<sup>99</sup> He says the term video art is still in use now but is “gloriously imprecise”.<sup>100</sup> Ross sees three camps of practitioners: those involved with “image processing”; those “more camera based”; and those “working at more sculptural forms.”<sup>101</sup>

A new element or point of critical reflection appears in Ross’s notes and this is the “ephemeral” nature of video as a medium. The ephemeral nature of video now contributes to the work becoming a “truly fleeting moment.”<sup>102</sup> I think video’s

distinctive quality as an ephemeral medium is a quality I employ with the work produced for this thesis, *glacies lux* and this ephemeral nature ties in with the content of the imagery – ice in a changing landscape. *glacies lux* is a *response* to events “unfolding” not in televisual duration but by “fleetingly” capturing the nonhuman duration of the glacier. It is with poetic images I seek to bring the viewer back to “observe” both the wonders of climatological duration and the ephemeral nature of a changing landscape of ice, directing attention beyond the non-committal “glow” of television.

Douglas Davis pre-empts in 1977, the coming of another technological change for television and which subsequently affects artists’ video, ‘Television screens are getting larger...’<sup>103</sup> This statement is even truer today with many flat-screen formats and projection possibilities which affect changes in video delivery. The ability to change the scale of the video image dramatically, through projection, has almost given the video image the status of cinema. Marc Mayer supports this idea by stating, ‘Projection, therefore, has deep roots in the core medium and, consequently, an unimpeachable pedigree of seriousness.’<sup>104</sup> Mayer introduces further distinctive characteristics pertaining to artists’ video, when he introduces the idea of the ‘non-narrative or at least nonepisodic.’<sup>105</sup> He cites the work of Gary Hill, Bill Viola and Bruce Nauman as examples containing this non-narrative attribute.

An additional characteristic and valid for my research is video’s ability to consider multiple manifestations of time. Mayer says:

Through real time or extreme slow motion, through repetition, or rapid pictorial variation and recombination, through editing, video projection resembles nontemporal art without actually compromising the temporal dimension...works are meant to be ‘sampled’ by the viewer.<sup>106</sup>

This allows a viewer time to reflect on what he or she sees and it leaves them space and time to ‘experience the work at their own rate.’<sup>107</sup> Sampling small sequences of video opens up possibilities of casual or unplanned opportunities when viewing work and mimics the experience of seeing other works, such as paintings and sculpture, in a gallery. It is this sampling and progressive viewing experience, which brings us back to the realm of the ambient. Ambient video is meant to sit in the background in a subtle way. The change in video presentation methods, with larger and higher resolution screens and video projectors, is a characteristic which further moves us into the field of the “expanded” ambient, with scale becoming a major component for the production and display stages

In summary, this survey of major theorists on the distinctive qualities of video includes: real-time capture, the monitor as a viewing device and light source, the changing scan rate of the image, video art as non-narrative and dealing with multiple durations. All of these attributes feature in or set the stage for Bizzochi's ambient video and ambient video practice.

### **Ambient Video**

Bizzochi is of interest because he is also a video maker and began experimenting with forms of ambience in video images in 1996. He made a video of a burning log fireplace, which he made commercially available. It is interesting to note that Jan Dibbets, in 1969, pre-dates Bizzochi's activity with *TV as a Fireplace*. Dibbets was able to transmit an image (non-moving) of a fireplace at the end of the evening's television transmission on WDR 3TV Germany over the entire Christmas period of that year.<sup>108</sup> No mention of the artist was made during this screening, but it introduced the idea of the use of television as an ambient form. Bizzochi's fireplace video is akin to the now omnipresent screen saver displayed on a computer. The screen saver provides a backdrop to daily work activities and a period of time for contemplation.

Bizzochi's definition of ambient video states:

Ambient video art is an emergent form, simple to describe, but difficult to achieve. Ambient video works are designed to play in the background of our lives, yet they must be ready to reward our attention in any given moment...This is a considerable creative challenge...<sup>109</sup>

Bizzochi gives us four criteria to achieve this challenge: the work should connect with you visually; it should be passive in nature and function in the background; if you choose to re-connect with the work it should revitalize your experience with it; and with frequent viewings it should have the ability to maintain your interest.<sup>110</sup>

This definition and working method is very prescriptive almost constituting a manifesto. What Bizzochi does not provide for is space for content that is "overt", particularly in terms of political content. I think that Bizzochi's definition is limited here. With *glacies lux* I challenge the ambient form, by using imagery that also has immediate political associations with the climate change debate. Nonetheless by using a poetic, approach I also allow the image to "recede" into the landscape.

Bizzochi is also interested in expanding the domain for ambient video as a result of the enhanced quality of presentation with LCD, LED (flat-screen devices) and digital projectors. The use of DVD/Blu-Ray technology and media player delivery also

contributes to HD production values for the moving image. Bizzochi sees these technological changes assisting ‘artists and creators work[ing] within a new medium, [where] its effective poetics are revealed through practice and experimentation.’<sup>111</sup> The technical also contributes to the aesthetic with an increase in “scale and resolution.”<sup>112</sup> It is now possible to hang these flat-screens on the wall in a domestic, commercial or gallery space and achieve consistent visual quality for any digital moving images, whether they be films, advertisements or video art. Bizzochi also sees display change affecting the kind of camera work possible for the visual poetics:

As visual field, image size, and resolution approach cinematic standards, the wide shot will be re-privileged, and the close-up will become far less critical. In some situations, the use of tight close-ups will become counterproductive.<sup>113</sup>

However, I do not abandon the close-up. I rely on its ability to draw the viewer into the image to find out what might be hidden from initial view.

Bizzochi provides a further three points to consider in creating ambient video, ‘...the selection and the quality of the picture, the treatment of time, and the manipulation of the image - in particular the use of visual layers and layered transitions.’<sup>114</sup> Although, an artist *should* consider all of these conjunctions, these remain formal or compositional processes and more is needed to produce an engaging viewing experience including a relationship that is struck up between the content of the work and its ability to provide reflective thought in an audience. Perhaps the point is for Bizzochi that the ambient does not require a high level of engagement. This may take my approach beyond the ambient but I see this as the shifting point in my work: the ambient as a background visual is also able to be “content” laden.

### **Contemporary Examples of Ambient Video**

I will concentrate here on looking at ambient video works by Bizzochi; Douglas Siefken, a photographer from Chicago; and Brian Eno’s video paintings.

Bizzochi firmly embeds his work in the landscape, ‘The landscape is a worthy subject of study for moving image artists who question the standard cinematic paradigms. Landscape is at the same time highly visual and essentially non-narrative.’<sup>115</sup> He has produced videos with titles such as, *Winterscape*, *Rockface*, *Cycles*, and *Streaming Video*: ‘*Winterscape* explores the relationship between form, content and visual flow in the context of the landscape of the Canadian Rockies.’<sup>116</sup> But



where his thinking and works focus on the panoramic, I tend to focus on the detail within the whole.

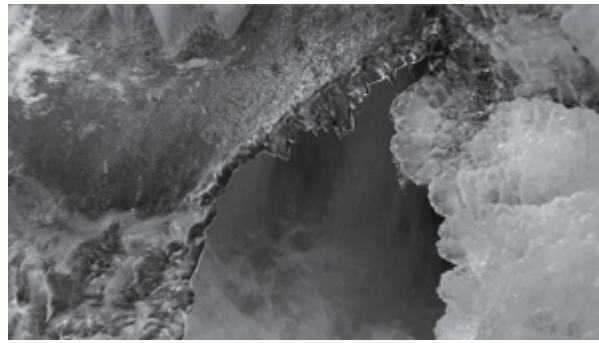


Figure 12. Jim Bizzochi, *Winterscape*, Johnson Canyon, video still. 2004

*Winterscape* uses very slow moving video of a wintry landscape; snow, ice in a river, water and clouds. Bizzochi is not interested in ‘mere visual beauty’ but wishes to challenge the accepted cinematic language ‘of the standard logic of film and video construction.’<sup>117</sup> To achieve this he often uses very long transitions to segue between shots which make up the video and these become his core techniques. He attempts to make seamless visual transitions, which mesh with the winter image content. There are atmospheric soundtracks accompanying Bizzochi’s videos referencing the environmental sound from their locations. These are constructed with an Eno-like ambience. He comments in later writings on ambient video that audio is “optional.”<sup>118</sup> If I contrast two pieces by Bizzochi: *Rockface* which has no audio and *Cycle* which contains audio it is easy to see why he thinks that audio is optional for this form.

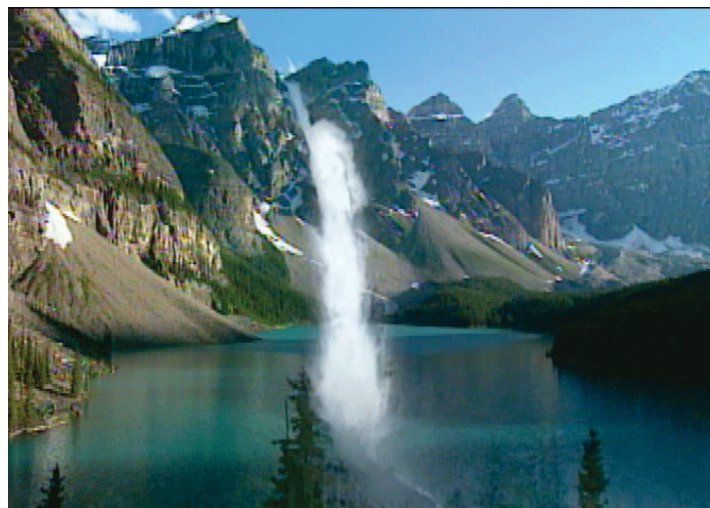


Figure 13. Jim Bizzochi, *Rockface*, video still. 2002

*Rockface* (no audio) is a video shot in the Canadian Rockies and the excerpt I have seen shows two scenes, the first is a long shot of snow-capped mountains viewed

from the edge of a lake and the second is a waterfall, again shot from distance. There is a very long transition between the two takes, which provides for an ambiguous reading of the space between them. Without audio there is space for reflection in the viewing, you are able to engage with the imagery and what is happening with the process occurring in the transition.



**Figure 14. Jim Bizzochi, *Cycle*, video still. 2005**

*Cycle*, on the other hand, uses audio with Eno-like ambience: water drips in the background and a persistent ambient repetitive hook from a synthesizer provides a very placid experience. The changes in audio do not correspond to the transition points of the video. If you watch sequences with the audio muted there is more opportunity to contemplate what you are viewing, allowing more engagement and greater awareness. There are also a variety of camera shots from long to close-up, which is not as obvious with the audio turned on.

Douglas Siefken works in a similar manner to Bizzochi, although with a slight variation. Siefken coins a new term, “stillism”, which forms a subset of ambient video and leans more towards the “video painting” genre.<sup>119</sup> Video painting by definition is ‘work reminiscent of painting, in that the framed or unframed screen is placed at eye-level and invites contemplation.’<sup>120</sup> There is a strong reliance here on the frame as the defining feature of the work. The work’s content may contain, ‘...shots or sequences [which] emphasizes the painterly aspect...’<sup>121</sup> It invokes traditional paintings but, ‘... video paintings hang on the wall to be viewed or passed over - depending on individual viewer preference in the moment.’<sup>122</sup> The form may use time shifting - slow motion, gradual cross-fades, high-resolution images and an absence of sound.

Siefken’s term stillism is a method that refers to taking a still photograph and transforming it over a very long period of time (sometimes hours). It involves the process of chroma control, changing the hue of the imagery from one subtle colour through spectral shifts to other colours over the duration of the video. Siefken thus

achieves painting over time. The image ostensibly stays the same, although it can be manipulated by editing software, such as the application of a soft filter to it, to change its visual characteristics. In this case the time shift change is so slow that it becomes almost imperceptible except when you look away and then look back, then you will see that the image has changed in colour but not necessarily in subject matter. This is very evident in the works; *Koi* and *Flower Painting*. (see Figures 15-17)



Figure 15. Doug Siefken, *Flower Painting*, 90sec detail @ 00:00s. 2009



Figure 16. Doug Siefken, *Flower Painting*, 90sec @ 00:45s. 2009



Figure 17. Doug Siefken, *Flower Painting*, 90sec detail @ 01:30s. 2009

Stillism embedded within the genre of video painting, also fits into ambient video. This process results in video that provides a pleasing visual backdrop to almost any activity; a kind of decorative high resolution wallpaper, sharing characteristics with the ubiquitous screen saver. Siefken's videos do not contain a soundtrack. He seems to be more interested in the visual transition through which he encourages the viewer to flow with the imagery and its subtle colour changes. I see Siefken's actual videos as superficial creatures, very decorative but with little substance. However the idea of *stillism*, provides an interesting technique.

Roland Barthes suggests that 'the filmic, very paradoxically, cannot be grasped in the film "in situation", "in movement", "in its natural state", but only in that major artefact, the still...The still offers us the inside of the fragment.'<sup>123</sup> For him, a film's movement is a framework for "permutational unfolding."<sup>124</sup> This is quite different from animation and emphasizes the constant relation of image to image within moving image form. This permutational unfolding is taken up in relation to new modes of perceiving the world in the work of David Bohm. I take up Bohm's permutational unfolding in Chapter 4. The idea of the moving still is a captivating one and I explore this idea as a technique in the two channel video installation of *glacies lux*.

Historically, the origin of video paintings can be traced back to Brian Eno and I include one example of this – *77 Million Paintings*, 2006.<sup>125</sup> But this work and others from his practice form an altogether different sub-genre within ambient video in that they rely heavily on the "generative" (software based on self generating algorithms which change colour and imagery over time) principles which Eno pioneered in the 1990s.<sup>126</sup> Eno says of this work that it is:

... 'visual music', *77 Million Paintings* is a constantly evolving sound and image-scape born from his continuous exploration into light as an artist's medium and the aesthetic possibilities of generative software.<sup>127</sup>

His idea was to use the "underutilized" flat-screen monitors abundant in public and private spaces, ambient video's display arena of choice. The works from this series and previous series, such as *Manhattan*, are abstract, referring back to an expanded cinematic history of abstract moving image work: Oscar Fischinger, John Whitney and others. I am well aware of this history but I feel that it is not within the scope of this thesis to pursue it here. Eno's interest in ambient visual work runs parallel to his expansive audio work but was not in evidence until much later in his thinking when the pertinent software was developed, capable of producing the effects he sought. Generative visual software allowed an extension of the experimentation he had pursued with audio software such as *Koan*.<sup>128</sup>





Figure 18. Brian Eno, *77 Million Paintings*, Installation. 2006

### Brian Eno and Ambient Music

Bizzocchi acknowledges Eno's pioneering work with the ambient audio form. Eno published the ambient music "manifesto" in 1978 on the liner notes for the album, *Music for Airports*. Here he spelt out his definition of ambience:

Ambient Music is intended to induce calm and a space to think...Ambient Music must be able to accommodate many levels of listening attention without enforcing one in particular; it must be as ignorable as it is interesting.<sup>129</sup>

Eno's intentions for this work were quite specific, '... immersion was really the point: we were making music to swim in, to float in, to get lost inside.'<sup>130</sup> While Eno's manifesto helps to define a certain genre, it also provides plenty of room for his own and others' experimentation. Eno constantly thought about and challenged conventions within music:

*Music for Airports*...was deliberately a response to two things: one, people are listening to music in a different way and there ought to be music to satisfy that wave of that kind of listening. And secondly, we are now in a new technological environment where there are speakers everywhere.<sup>131</sup>

Some of the inspiration for experiments with ambience came from Eno's personal experience. The story goes that he was sitting in Cologne airport waiting for a return flight home.<sup>132</sup> He began thinking about the space in which he sat, the voluminous

cavern of the airport and what music someone might like to listen to while they waited to board their plane. Here is an artist deep in thought questioning sonic environments. ‘I think ambient really as an idea is more about how you listen than what you make as a composer.’<sup>133</sup> Listening to the commercial genre, “muzak”, he wondered how he could disrupt its formal capacities given the opportunity and the requisite technology. Eno was well aware of the technologies of the recording studio and the developments in synthesizers for enhancing music production. His own reflections and the technologies at hand allowed Eno to pursue the ambient in both aural and visual ways. His practice and ideas have influenced Bizzochi and the concept of ambient video. Just as Eno saw audio speakers everywhere, Bizzochi sees screens everywhere. Bizzochi is also interested, as I am, in the “immersive” qualities of the ambient, and, particularly in my case, “getting lost inside” as an experience that might also reveal hidden visual phenomena.

Although ambient video offers many possibilities as an emerging art form, it remains problematic if confined to and by Bizzochi’s vision of what it *should* be. Ambient video could become an important art form in a contemporary context because of its subtleties of execution, values of image presentation and the multiple spaces it provides for viewer engagement. It could provide a “counter-platform” to the “haemorrhaging” of images all around us as we move through public and private spaces – the images of advertisements, news feeds, and what I see as the dross of most television. It could provide a space for contemplation, meditation and thought. The ambient video form challenges the durational aspects of the moving image within the (Hollywood) cinematic tradition, television, music video and the commercial. By slowing down moving images or moving still images there is an opportunity to reflect upon the image rather than to dismiss it as just visual noise. I believe that ambient video has the capacity to supply an affective engagement, which may also possess a political dimension. This dimension might be found at the level of video content to extend to images that are also associated with issues of climate change. The political is a dimension which need not be prescriptive or polemical, but one where there are opportunities for interpretation, openness and dialogue.

### **Affect and the Political Poetics of Moving Image**

In an attempt to explore how affect might work to mobilise a political poetics of the moving image it is necessary to draw on relevant art theoretical work by Simon

O'Sullivan, Jill Bennet, Eric Shouse and Suzannah Biernoff. These art theorists and others note a transition from a deconstructive "reading" of art works to one in which affect is the guiding proposition for the discussion.<sup>134</sup> The artwork is not something that can simply be read or decoded but is itself productive; it generates something in the world. O'Sullivan puts this argument succinctly when he says that:

art might well be *a part* of the world (after all it is a made thing), but at the same time it is *apart* from the world. And this apartness, however it is theorised, is what constitutes art's importance....However, after the deconstructive reading, the art object remains. Life goes on. Art, whether we will it or not, continues producing *affects*.<sup>135</sup>

Affect allows us to understand how art functions instead of thinking about how it is read. This is a distinctive turn away from a deconstructive approach.

Affect occurs in the body before you register what is happening in front of you. "Reading" the artwork is only ever secondary, then: 'Indeed, you cannot read affects, you can only experience them which brings us to the crux of the matter: *experience*.'<sup>136</sup> The idea of attention is important here because if you are focused on and in the experience, there is no need for language to explain what is happening. It is only when that moment of reverie is broken that thought and language move into the space of experience. This moment between experience and the break of language can also open up, within aesthetic spaces, a time for reflection and contemplation. Not so much of the work itself (that is, the object) but of the experience of aesthetic engagement. O'Sullivan puts this beautifully when he says, '...This is art's function: to switch our intensive register, to reconnect us with the world...'<sup>137</sup> Bennett further extends this argument when she says, '... [affect is] a process experienced not as a remembering of the past but as a continuous negotiation of a present with indeterminable links to the past.'<sup>138</sup> Switching registers to that of the artist, my experiences of seeing ice in the glacial landscape were affective, giving me pause to consider what ice as an image is capable of doing to switch registers from singular to global, environmental experience. It can also be seen as active method of investigation moving between the molecular and the molar, making connections between the two. This idea is expanded in the chapter on David Bohm and Stan Brakhage. O'Sullivan says that 'art is something much more dangerous: a portal, an access point, to another world (our world experienced differently), a world of impermanence and interpenetration, a molecular world of becoming...' and that the art is located on the edge between "the actual" and "the virtual."<sup>139</sup>



For Bennett, ‘The issue is where an image *takes us* once an initial affective connection is established.’<sup>140</sup> This is a crucial point for me because in the context of a video installation, I am concerned with moving somewhere else rather than simply to an ambient landscape. The work, *glacies lux* uses many images of ice, both still and moving, but all of them attempt to imbue ice with something more than just scenery. The image sequences in the videos of *glacies lux* detail the changing materiality of ice, emphasising ice itself as ‘forceful’, affective matter. In the context of climate change debate this is important as much popular imagery and captioning of this circulates simply around the idea that ice is melting and diminishing. For Bennett, political didacticism gives way to expressive modes of conjuring the affective: ‘They are not didactic images, mediating a message, but incline toward the expressive in the way they play on a certain affective quality of space and objects to evoke modes of subjective experience...’<sup>141</sup>

Is there something more an ambient video can offer other than its images or its technical make-up? Could it have a dimension which is not prescriptive or polemic but one in which there are opportunities for interpretation and openness, a certain poetics? The scale, plus the enhanced visual quality of HD image, its presentation on LCD, LED, Plasma screens or as projection are all able to shape or disrupt viewing space. But I think ambient video could provide more opportunities for engagement with the viewer on other than consumer levels, in terms of affect or new experience. In public space the moving image could also challenge what we mean by ambient.

### Large Public Screens



**Figure 19. Peter E. Charuk, *Times Square, NYC*, digital photograph. 2010**

It is eight o'clock in the evening. The sun has set. And I am standing roughly in the centre of Times Square, New York City with hundreds of other people. Times Square is a contemporary village centre, a meeting place for friends, families and strangers. I am

slowly revolving my body in a circle, looking at a cacophony of panoramic digital and electric moving images, which surround the crowd and myself. While some people are entranced by the spectacle others are in conversation with their friends, while still others are recording for posterity the moment when they were all contained within this image spectacle. After I have turned around several times just observing, I begin recording as well, by photographic means, the visual panorama of the towering video screens which enfold us. Three months later I am back in the studio where the panoramic image is running through Photoshop - "File...Automate...Photomerge" - a process which transforms images captured together into a panoramic scene. After this process is complete I am able to reflect on the scene before me and count the number of screens captured in the panorama. The photograph reveals that there are approximately 48 visible screens encircling the amphitheatre that is Times Square, there are possibly others I have missed.

The statistics in regard to the audience capacity for the digital moving images on this site are staggering with 500,000 people moving through the space daily.<sup>142</sup> The display capacity on the site is:

over 25,000 square feet, on four levels and 15,000 square feet of LED signs...Clear Channel Spectacolor offers high profile out-of-home marketing, billboards, wallsapes, and rooftop signage...the biggest HD video screen available to advertisers...16,000+ square feet of digital media facing 3 directions.<sup>143</sup>

While this site may boast the biggest and the best, this experience is duplicated in almost any of the major cities in the world such as Tokyo, Melbourne, Seoul and many other cities with differing degrees of display area and patronage. Michael Joroff (MIT) says that, 'the creative function of large screens oscillates between that of shaping the environment through textual narratives, to a looser engagement with images and sounds that are otherwise considered invisible or non-material.'<sup>144</sup> The imagery functions experientially in the background of the viewer's consciousness.

But this proliferation of display space has become an opportunity for artists to also display their work, sometimes questioning the nature of the images presented in these spaces, albeit with certain difficulties involving access and consent. Several new organizations provide opportunities for use of these screens, the most notable organization being Urban Screens, a loose affiliation which began with a conference in Amsterdam in 2005.<sup>145</sup> The project attracted a wide ranging group of artists, other content providers, architects, urban planners, advertisers, curators and new media theorists.<sup>146</sup> Scott McQuire notes that at the initial event, 'the discussion around urban

screens was animated, above all, by recognition of the growing integration of media into everyday existence.’<sup>147</sup> Urban Screens has become an ongoing project negotiating display spaces and modes in cities around the world – Amsterdam, Manchester, Berlin, Melbourne, Toronto, and Songdo, Korea.<sup>148</sup>

Tomorrow City Plaza, Songdo, Korea is an example of large screen activity used in a similar manner to Federation Square. It is administered by its curator, Soh Yeong Roh, who is also the director of the Art Center Nabi in Seoul. Part of her brief includes the administration of the projection of artistic and cultural projects on the Large Screen of the COMO, Nabi’s networked urban screen, located in Seoul’s SKT-Tower and Daejeon SKT Building in Korea and launched in 2004.<sup>149</sup> Soh Yeong Roh presents a more liberal attitude to what are shown on their screens. She runs regular screenings by international artists who test the limits of many boundaries of the moving image form: experimental music video, experimental animation, experimental film, single channel video, video art, and short film to name a few. Roh comments that:

We must be able to make more meaningful connections to every realm of the society. In the end large screens cannot help making art more political, one way or the other.<sup>150</sup>

I find it interesting that Soh Yeong Roh states unashamedly that these screens will influence the political nature of art over time, a very different view to that of the policies of Federation Square. I think this stems from the space being administered by an art gallery rather than a private corporation. The ethics of the art gallery are embedded in the curatorial thinking of the space which is then able to cross-over into the public space of the large screen. In the same interview with Soh Yeong Roh, Nikos Papastergiadis further contributes to the idea of what ambient may be, ‘Given that Tomorrow City Plaza is primarily a transit and shopping centre is your aim in some ways to have artwork that has an ambient quality, that is, *artworks that can be picked up at any point?*’<sup>151</sup> (my italics)

Most large “public” screens are the sole territory of advertising. This has led Catherine David to declare that there is a ‘crisis of images, of this permanent, continual flux.’<sup>152</sup> David decries the inundation of primarily commercial images, which may block out other views of the world. David says that other kinds of images are disappearing, and that we are experiencing a *hemorrhaging* of images at a prolific rate.<sup>153</sup> (my italics) It is within this context that an artist might want to pursue experimental solutions using similar, if not the same, software and hardware technologies with comparable production values to challenge commercial interests.

David also comments that ‘...we are being invaded more and more by *images without risks, without any asperity*, which are completely replaceable, just like merchandise.’<sup>154</sup> (my italics) I am interested in images that take risks. Images which question those, for example, that are like the ten second grab of a glacier calving into the sea at the end of the evening news. David concludes her thoughts by asking for changes in the way images are presented, for example the use of slow motion or the speeding up of imagery, so that the viewer is now able to contemplate, on their own terms, the imagery they are witnessing.<sup>155</sup> This ability to meditate on and with the image is a marked point of entry for my practice-based research. While David is not the only commentator on the public screen and the proliferation of advertising in late capitalist societies she summarizes the critical approach through which some artists, and myself in particular, pursue alternate visual or image-based strategies for digital moving images in all viewing spaces.

### **Expanded Cinema**

The moving image as a discreet art-form was heralded, in the 1970s, by a rapid growth in presentation technologies in public, private and experimental spaces and these technologies had and continue to have a profound affect on the visual impact of video images. Gene Youngblood had already predicted this in *Expanded Cinema*. He seemed to channel a zeitgeist that continues to blow through the moving image of the twenty-first century. The term alludes to the many changes in the production, experimentation with process and display of the cinematic in the latter part of the twentieth century. Youngblood outlined many ideas, which are still being discussed: the non-narrative; the explosion of devices to present moving images; the interaction of science and art to produce these images; audience expectation; computer-generated works; the future of television; the development of terms such as intermedia and, so on.<sup>156</sup> But Youngblood was quick to point out that, ‘Expanded cinema [is] a process of becoming, i.e. a concept of presence more than it is a material of one kind or another.’<sup>157</sup> Process – and not simply the artwork itself – can also be experimental. The idea of the experimental was a mantra of the ‘60s and ‘70s when Youngblood wrote his book.

But Youngblood was quick to comment that, ‘The notion of experimental art...is meaningless. All art is experimental or it isn't art. Art is research, whereas entertainment is a game or conflict.’<sup>158</sup> The experimental connotes an ongoing approach to process. It provides a methodology of working and investigating chosen phenomena

or ideas. In my case this means constantly asking and experimenting with the concept “ice.” The experimental approach allows for things to happen which may not be under one’s control. Accidents or mistakes can occur which may be useful to the final outcome of the work. I do not plan my work with meticulous precision. I am interested in playing with materials which inform an art process. I still see the experimental as key to my production process.

A second idea that Youngblood introduces comes from his prediction of a coming *personal cinema*, ‘[it]...becomes art when it moves beyond self-expression to encompass life-expression. Art is not created; it is lived. The artist merely reports it.’<sup>159</sup> Personal cinema as a form was emergent in 1970, with Super 8, Standard 8 film, and Polaroid formats accessible to a wide range of people, but had come into its own today with the advent and convergence of digital technologies used in smart devices, iPhones, DSLRs (digital cameras capable of capturing HD video streams) and so on. Today almost all cinematic processes and experiments can be produced in a home studio, on the desktop or with a laptop. The digital convergence continues apace with computers, cameras, display devices and software all contributing to this expanded field which allows the experiment to traverse a wide range of activity. Youngblood saw an intimate interaction with technology used by an artist to produce work.

Youngblood’s interest in expanding the definitions of cinema brought to light the idea of artist as ecologist.<sup>160</sup> He saw the artist coming to terms with their evolving relationships with the environment. Youngblood’s use of “environment” also covered social and cultural phenomena. He was concerned that the artist should develop, ‘previously unrecognized relationships between existing phenomena, both physical and metaphysical.’<sup>161</sup> And when this happened it would expand ‘our apprehension of reality.’<sup>162</sup> My investigations of ice led to *glacies lux*. And it is with *glacies lux* that I *apprehend* (using classical definition of the term to ingest) certain realities through an experimental process.<sup>163</sup> By using small ice sculptures grown in a kitchen laboratory I became fascinated with how colours are affected by ice and when I looked further afield these colours were seen as extended and amplified by ice in the landscape, primarily in a glacial form. From the glacier I was directed to delve further into the historical materiality of ice, in a cultural sense and a scientific sense, most notably in the role it plays with climate change. I was then able to posit questions regarding our relationship to ice on an experiential level and using video, its relationship to the landscape in a poetic form using video.

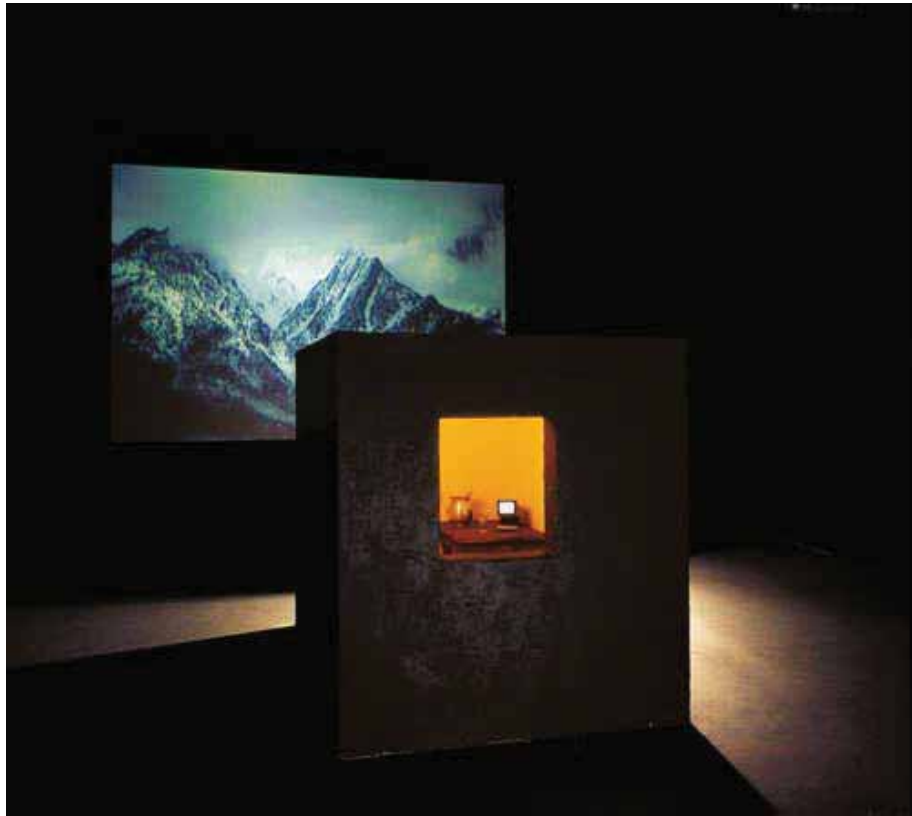
## Video Art and the Landscape

These experimental and person expanded cinema processes and techniques have influenced a number of moving image artists when dealing with landscape. Poetics are at the forefront of the work of the experimental filmmaker Stan Brakhage, a pioneering artist who ventured into the landscape many times to make his films. I return to Brakhage in Chapter 4 when I provide a detailed investigation of the development of a philosophical/theoretical and experimental visual holism. Brakhage was experimenting not simply with “the image” but with perception:

Imagine an eye unrul'd by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything but which must know each object encountered in life through the adventure of perception.<sup>164</sup>

He saw perception as an adventure and encouraged a new way of looking at the world. I am fascinated in the ways moving image artists take an experimental and expanded cinema approach to landscape, an affective approach rather than a representational one. As O’Sullivan says, ‘It [affect] is that which connects us to the world. It is the matter in us responding and resonating with the matter around us...art also operates as a *fissure* in representation.’<sup>165</sup> It is within the zone of this fissure that I and other artists think about and make art.

A good example of this approach to landscape can be seen in the exhibition *American Landscape Video: The Electronic Grove* from 1988.<sup>166</sup> In an essay from the catalogue, David Ross provides a commentary on the history of video installation. Ambient video post-dates this exhibition but it fields some of the issues encountered by these artists and their ideas regarding art and the landscape. Ross says, ‘Video was the first medium which allowed an artist to use both real-time as well as recorded time to evoke the perception of landscape.’<sup>167</sup> Here was a seminal use of video in relation to landscape. With the now portable video technology, the artist was able to consider time as an aspect of landscape documentation and artistic practice, both in terms of investigation and presentation. Although painting had considered these questions conceptually it had been difficult to really enact them. Video *en plein air* could now describe travels in the landscape *over* time and *with* time. While there was little evidence of a direct link to ice in the landscape from these artists, except for Mary Lucier, this exhibition demonstrates distinct processual techniques of looking and thinking about the landscape, which are useful to my thinking and way of working. The artists used innovative presentation methods, which included sculptural installation techniques and a variety of display and projection possibilities.



**Figure 20. Bill Viola, *Room for St. John of the Cross*, Video/sound installation. 1983**

Bill Viola's *St. John of the Cross* (1983) is an excellent example of the innovative use of technologies and display techniques.<sup>168</sup> The sculptural elements that make up the work include a small room with window but no door. There was peat moss on the floor providing an olfactory element to the installation. Inside the small room was a wooden table on which a glass of water, a metal pitcher with water in it, and a small colour video monitor playing a video of a snow covered mountain were placed. Projected on the back wall of the space was a black-and-white video, accentuated by an amplified stereo audioscape. Looking at a documentary photograph of the installation reveals the spatial relationships of the objects within the installation and the relationship of its components: there is a large image of some snow-covered mountains with the sun shining on them projected on the back wall, in front of which sits the small room providing no personal access. Viola describes the projected image as being shot with an unstable hand-held camera. He attempted to emulate flight as envisaged by St. John.<sup>169</sup> At the same time, the image on the monitor is shot with the camera on a tripod, shot and played back in real recording time (with no editing).<sup>170</sup> There is no post-production intervention on Viola's part with the projected imagery, what was captured by the camera is what plays on the monitor. Here Viola considers the real-time aspect and the



viewer's expectations when viewing the landscape. The projected image is a violent, overwhelming transcription of the scene mimicking the point of view of walking and/or flying up the mountain with a camera, while the small image on the monitor, confined in the room, is quiet and meditative. Viola also considers scale in terms of viewer-experience. The projected image positions the viewer within the landscape in motion, as if traversing the mountain. The image overwhelms the viewer. The smaller image, on the other hand, draws the viewer into the room, curious to see what the room contains. The image of the mountain on the small monitor supplies a calming influence because of its intimate size and its stable image which was a locked off shot from the camera on a tripod and played (back) in real recording time with no editing.<sup>171</sup> A soundtrack of roaring wind noise envelopes the viewer in the space, which further disconcerts the viewer. The title of the piece refers to the trials of St. John who was kept in a very small cell and tortured by his captors. He became famous for the many revelatory poems he wrote while incarcerated. Viola, here, uses the landscape to provide a fresh, expansive experience of what a landscape imagined by St. John or real as seen by the viewer, might offer when viewed in unfamiliar circumstances. There is interplay between the scale of each video and the objects in the space, the camera's point of view, the movement of the viewer in relationship to the video images, which all provide a space and time for contemplation.



**Figure 21. Mary Lucier, *Wilderness*, video installation detail. 1986**

Mary Lucier's, *Wilderness* is another example from this exhibition which warrants discussion.<sup>172</sup> The work is constructed from seven faux-classical columns made from a variety of materials. The pedestals range vary in height, with the columns moving centrally from shorter to larger to then form a V-shape installation in the gallery. There is a strong frontal presence rather than the sense of immersion in Viola's work. Lucier's videos are in black and white. There are three synchronized videotapes

which are displayed on seven large television monitors on the pedestals. In Lucier's artist statement for the exhibition she describes the form of the videos:

The three channels of videotape are distributed across this phalanx of pedestals and monitors in A/B/A/B/C/B/C form making possible the detailed interweaving of temporal narrative and landscape panorama.<sup>173</sup>

This formal sequencing thus introduces an element of the poetic to the work with the juxtaposition of images combining in multiple ways to form an image. The images in the video sequences range across several landscape themes, one of which is a modern building constructed in a classical architectural form. This sequence has classical music playing behind the images. There is a slow zoom into the building which then focuses on the moon above a balustrade. The second sequence gleaned from the documentary video takes the form of A, a mountain range; B, the mountain range with clouds over it then, A, cross-fades to a dead tree in close-up. It then moves back to long-shot of the earlier mountain landscape. The final shot from the sequence is a mid-range shot of icebergs floating on water. This sequence looks as though it has been taken from a moving boat. The sequence is slowed down. Then the camera zooms into a close-up of the iceberg giving us a close view of the ice. This particular sequence plays on all monitors and does not follow the A/B/C sequencing. There is an atmospheric soundtrack, quite Eno-esque, which uses synthesiser drones.

Lucier speaks about *Wilderness* as, 'a pictorial adventure into the origins of American landscape art, a reinvestigation of the substance of the American pastoral myth through the apparatus of contemporary technology.'<sup>174</sup> Re-investigation is a chosen methodology for this work, where Lucier takes a journey through significant landscapes, 'the coastal, inland, and upland geographies of the Northeast, ranging to the northern bays of Newfoundland.'<sup>175</sup> She re-visits sites established by 19<sup>th</sup> century painters such as Frederick Church trying to use video to simulate atmospheric qualities of the original painterly works and to set up a dialogue between her present and their past.<sup>176</sup> This re-investigation acknowledges the changes in the landscape space over time and brings to the discussion what seems is a very important consideration for Lucier's work, that of, time. From her video interview Lucier elaborates on this by saying that '... [I] see time as vertical and space as horizontal. Imagery is then placed in space....the ephemeral moment can then become fixed because it repeats. View it once; view it again on a loop.'<sup>177</sup> It is this repetitive loop which is significant to most video art installations and ambient videos; they play for the duration of the day while the gallery is open. Although Lucier pre-dates Bizzochi's ambient video by some years I feel that her work could easily transfer to this emerging art form without much loss of integrity

because of the way she moves through her chosen landscapes and mediates the imagery technically in both time and space.

It can be seen from this exhibition and others like it that video is able to represent imaginative and experiential landscapes to an audience in a gallery situation. And with the constant extension of technology this video experience can now inhabit domestic, private and public spaces where many viewing experiences are likely to be quite engaged. Video art is capable of manipulating the durational aspects of video to show the landscape in new ways. Time can now be changed and manipulated at will. The landscape now becomes a space of thought and reflection.

The practices and ideas considered in this chapter demonstrate that the definition of ambient video by Bizzochi continues to expand. The proliferation of the high definition video screens as playback devices continues to develop with subsequent iterations of the technological cycle. With these screens comes an increase in possible spaces in which to exhibit video art including ambient video. Ambient video, then, is less confined than Bizzochi claims, and demonstrates the potential to question the place and content of the moving image by thoughtfully redeploying the technologies and production values used by advertising.

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83 Jim Bizzochi, "Ambient Video", *Ambient Video* website, (2004). Availability: <http://www.sfu.ca/~bizzocch/AmbientVideo/index.html>.

84 Rob van Kranenburg, *The Internet of Things: A Critique of Ambient Technology and the All-Seeing Network of Rfid*, Edited by Geert Lovink and Sabine Niederer, (2008). Availability : [http://www.networkcultures.org/\\_uploads/notebook2\\_theinternetofthings.pdf](http://www.networkcultures.org/_uploads/notebook2_theinternetofthings.pdf).

85 Gene Youngblood and Introduction by R. Buckminster Fuller, *Expanded Cinema*, (New York: P. Dutton & Co., Inc., 1970).

86 See the catalogue *American Landscape Video: the Electronic Grove*, William D. Judson, *American Landscape Video: the Electronic Grove*, (Pittsburgh: The Carnegie Museum of Art, 1988).

87 See David Ross's article, "Truth or Consequences: American Television and Video Art", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press 1986): 177.

88 See David Antin's article, "Video: The Distinctive Features of the Medium." *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press, 1986): 159.

89 Ibid.

90 See David Antin's article where he quotes Frank Gillette from *Video: Process and Metaprocess*, (Syracuse: Everson Museum of Art, 1973): 21 in "Video: The Distinctive Features of the Medium", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press, 1986): 148.

91 See David Ross's article, "Truth or Consequences: American Television and Video Art", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press 1986): 167-68.

92 Ibid., 168.

93 See Douglas Davis's article, "Filmgoing/Videogoing: Making Distinctions", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press 1986): 271.

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94 See David Ross's article, "Truth or Consequences: American Television and Video Art", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press, 1986): 168.

95 See David Antin's article, "Video: The Distinctive Features of the Medium", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press, 1986): 163.

96 Ibid., 154.

97 Ibid., 164.

98 See the conference presentation by David Ross, "The Success and Failure of Video", *Video History: Making Connections Conference* (New York: Syracuse University and organized by the Experimental Television Center, October 16-18, 1998). Availability: [http://www.experimentaltvcenter.org/history/pdf/RossDavidSuccessFailure\\_2572.pdf](http://www.experimentaltvcenter.org/history/pdf/RossDavidSuccessFailure_2572.pdf).

99 Ibid.

100 Ibid.

101 Ibid.

102 Ibid.

103 See Douglas Davis's article, "Filmgoing/Videogoing: Making Distinctions", *Video Culture: A Critical Investigation*, (New York: Visual Studies Workshop Press, 1986): 271.

104 See Marc Mayer's article, "Digressions toward an Art History of Video", *Being and Time: The Emergence of Video Projection*, Edited by Karen Lee Spalding, (Buffalo: The Buffalo Fine Arts Academy 1996): 28.

105 Ibid., 29.

106 Ibid.

107 Ibid.

108 An image of Jan Dibbets' work, "TV as Fireplace" can be found at the *Media Art Net* website. Availability: <http://www.medienkunstnetz.de/works/tv-as-a-fireplace/>.

109 Jim Bizzocchi, "Ambient Video", *Ambient Video* website, (2004). Availability: <http://www.sfu.ca/~bizzocch/AmbientVideo/index.html>.

110 Ibid.

111 See Jim Bizzocchi's article, "Ambient Video: The Transformation of the Domestic Cinematic Experience", *Small Tech: The Culture of Digital Tools*, edited by Byron Hawk, David Rieder and Ollie Oviedo, (Minneapolis: University of Minnesota Press, 2008). Availability: <http://www.sfu.ca/~bizzocch/documents/SmallTech-PrepubDraft.pdf>.

112 Ibid.

113 Ibid.

114 See Jim Bizzocchi's article, "The Aesthetics of the Ambient Video Experience", *Fibreculture Journal*, Issue 11, (2008). Availability: [http://journal.fibreculture.org/issue11/issue11\\_bizzocchi.html](http://journal.fibreculture.org/issue11/issue11_bizzocchi.html).

115 Jim Bizzocchi, *Winterscape*, 2004. Image downloaded from the *Ambient Video* website at <http://www.sfu.ca/~bizzocchi/AmbientVideo/Winterscape.html>.

116 See Jim Bizzocchi's article, "The Aesthetics of the Ambient Video Experience", *Fibreculture Journal*, Issue 11, (2008). Availability: [http://journal.fibreculture.org/issue11/issue11\\_bizzocchi.html](http://journal.fibreculture.org/issue11/issue11_bizzocchi.html).

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117 Ibid.

118 See, Doug Siefken's article, "What Defines Ambient Video Art?", *flickr group, Ambient Video / Discuss* website, (2008). Availability: [http://www.flickr.com/groups/ambient\\_video/discuss/72157605191484118/](http://www.flickr.com/groups/ambient_video/discuss/72157605191484118/).

119 See Doug Siefken's blog, *Doug Siefken* website, (2010). Availability: <http://dougiefken.blogspot.com/>.

120 See the New Media Dictionary, Louise Poissant, Chantal Dupont and Monique Langlois, "New Media Dictionary", *Leonardo*, 34.1, (2003): 41-44.

121 Ibid., 43.

122 Nomig, "What Is Video Painting?", *Nomig* website, (2007). Availability: <http://nomig.net/index.php?subsub=Video%20Paintings&navid=ambientvideo>.

123 Roland Barthes, *Image/Music/Text*, Translated by Stephen Heath, (New York: Hill and Wang, 1977): 65.

124 Ibid., 67.

125 Brian Eno, *77 Million Paintings*, This work has been exhibited in many galleries throughout the world and most recently the Opera House in Sydney in 2009.

126 Brian Eno, *A Year with Swollen Appendices: Brian Eno's Diary*, (London & Boston: Faber and Faber, 1996).

127 Brian Eno, "77 Million Paintings", *Lumen London* website, (2006). Availability: <http://lumenlondon.com/#million.html>.

128 Brian Eno, *A Year with Swollen Appendices: Brian Eno's Diary*, (London & Boston: Faber and Faber, 1996): 331.

129 Ibid., 295.

130 Ibid., 294.

131 Ibid., 295.

132 Ibid.

133 Transcript of an interview between Brian Eno and Andrew Ford on the ABC's Music Show, 10th May 2009. Andrew Ford and Brian Eno, *ABC Radio* website, "The Music Show", (2009). Availability: <http://www.abc.net.au/rn/musicshow/stories/2009/2642524.htm>.

134 I did not create an artwork using 'audience evaluation' methods. Affect, according to O'Sullivan and Bennett is an ongoing event or experience. It is not something which is final. Work done by Linda Candy and Zafer Bilda at the Creativity and Cognition Studios, University of Technology, Sydney enable artists and designers to employ a methodology to navigate and collect data with which to evaluate audience participation as part of the work citing, "Systematic observation is the key to evaluating human behavior and situations.", taken from their paper, Understanding and Evaluating Creativity, that outlines some of their constructed process. They expand on this methodology at <http://www.creativityandcognition.com/content/view/129/131/> where they further outline more detailed methods of collecting data for this process by defining methods such as conversation analysis, discourse analysis, interviews, survey, observation, and protocol analysis. While this methodology may be useful in some artistic instances I feel it is more akin to the design process rather than to art practice.

I am not 'making' audiences have a particular experience either this way or that but rather I am seeking to create an affective 'atmosphere', one in which the viewer is able to engage. As Bennett states, this is a 'continuous negotiation of a present' not a completed finality such as an 'evaluation.' (p.38, Jill Bennett, *Empathic Vision Affect, Trauma and Contemporary Art* Stanford: Stanford University Press, 2005) .If I compare the Creativity and Cognition audience evaluation methods with my own working practice I find them very directed and prescriptive which may lead to an artist changing their work because of the evaluation. I did not wish to pursue this method in creating an art – rather than a design-based – installation.

135 Simon O'Sullivan, "The Aesthetics of Affect", *ANGELAKI, Journal of the Theoretical Humanities*, 6.3, December, (2001): 125-26.

136 Ibid., 126.

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137 Ibid., 128.

138 Jill Bennett, *Empathic Vision: Affect, Trauma and Contemporary Art*, (Stanford: Stanford University Press, 2005): 38.

139 Simon O’Sullivan, “The Aesthetics of Affect”, *ANGELAKI, Journal of the Theoretical Humanities*, 6.3, December, (2001): 128-29.

140 Jill Bennett, *Empathic Vision: Affect, Trauma and Contemporary Art*, (Stanford: Stanford University Press, 2005): 64.

141 Ibid., 151.

142 Times Square District Management Association, “Advertising in Times Square”, *Times Square* website, (2004). Availability: [http://www.timessquarenyc.org/about\\_us/advertisingtimessquare.html](http://www.timessquarenyc.org/about_us/advertisingtimessquare.html).

143 Ibid.

144 Meredith Martin, Sean Cubitt, Scott McQuire and Nikos Papastergiadis, "Moving Messages and Uncertain Content a Report on the Urban Screens Manchester 07 Conference," *Realtime*, 8, April-May, (2008): 30. Availability: <http://www.realtimearts.net/article/84/8931>.

145 Scott McQuire, Meredith Martin and Sabine Niederer, ed. *Urban Screens Reader*, (Amsterdam: Institute of Network Cultures, 2009): 9.

146 Ibid.

147 Ibid.

148 Urban Screens, *Urban Screens* website, (2005). Availability: <http://urbanscreens.org/about.html>.

149 Meredith Martin, Sean Cubitt, Scott McQuire and Nikos Papastergiadis, "Moving Messages and Uncertain Content a Report on the Urban Screens Manchester 07 Conference," *Realtime*, 8, April-May, (2008): 30. Availability: <http://www.realtimearts.net/article/84/8931>.

150 Scott McQuire, Meredith Martin and Sabine Niederer, ed. *Urban Screens Reader*, (Amsterdam: Institute of Network Cultures, 2009): 145.

151 Ibid., 160.

152 See Catherine David’s, “Photography and Cinema”, Edited by David Company, *The Cinematic*, (London and Cambridge: Whitechapel and The MIT Press, 2007): 148.

153 Ibid.

154 Ibid.

155 Ibid.

156 Gene Youngblood and Introduction by R. Buckminster Fuller, *Expanded Cinema*, (New York: P. Dutton & Co., Inc., 1970).

157 Ibid., 41.

158 Ibid., 65.

159 Ibid., 93.

160 Ibid., 346.

161 Ibid.

162 Ibid.

163 The definition of apprehension here refers to Joseph Addison’s idea of the taking in of the experience.

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164 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963).

165 Simon O'Sullivan, "The Aesthetics of Affect", *ANGELAKI, Journal of the Theoretical Humanities*, 6.3, December, (2001): 11.

166 William D. Judson, *American Landscape Video: The Electronic Grove*, Edited by The Carnegie Museum of Art, (Pittsburgh: The Carnegie Museum of Art, 1988). William D. Judson was the curator at the Carnegie Museum of Art, Pennsylvania.

167 See David Ross, "Post-Modern Station Break: A Provisional (Historic) Overview of Video Installation", William D. Judson, *American Landscape Video: The Electronic Grove*, Edited by The Carnegie Museum of Art, (Pittsburgh: The Carnegie Museum of Art, 1988).

168 Bill Viola, *St. John of the Cross*, (1983), installation, exhibited at The Carnegie Museum of Art, Pittsburgh, USA, 1988; The Museum of Contemporary Art, Los Angeles, 2009.

169 Ibid.

170 See the catalogue, *Bill Viola*, Curated by David A. Ross and Peter Sellars, *Bill Viola*, (New York: Whitney Museum of Art in association with Flammarion, 1998): 76.

171 Ibid.

172 You can view a short video documentary of Mary Lucier's, *Wilderness* at the *artnewyork* website, "Mary Lucier: Video Installations", (1991). Availability: <http://www.youtube.com/watch?v=iMIYe5F-9Bw2010>.

173 See Mary Lucier's, "Wilderness: Rapture and Rupture", *American Landscape Video: The Electronic Grove*, edited by William D. Judson, (Pittsburgh: The Carnegie Museum of Art, 1986): 91.

174 Ibid.

175 Ibid.

176 Ibid.

177 From a transcript of the short video documentary of Mary Lucier's, *Wilderness* at the *artnewyork* website, "Mary Lucier: Video Installations", (1991). Availability: <http://www.youtube.com/watch?v=iMIYe5F-9Bw2010>.



## CHAPTER 3

### Experimenting with Ice as Practice-based Method

So artists tell me that this is actually what they like, this is unusual for them, because what often happens is that they've got some kind of clumsy new idea, they're not at all sure about it, they don't know how to do it, and it doesn't get very much encouragement. It's much easier to encourage something else that you know basically the destination of.<sup>178</sup>

### Experiments with ice and light emitting diodes

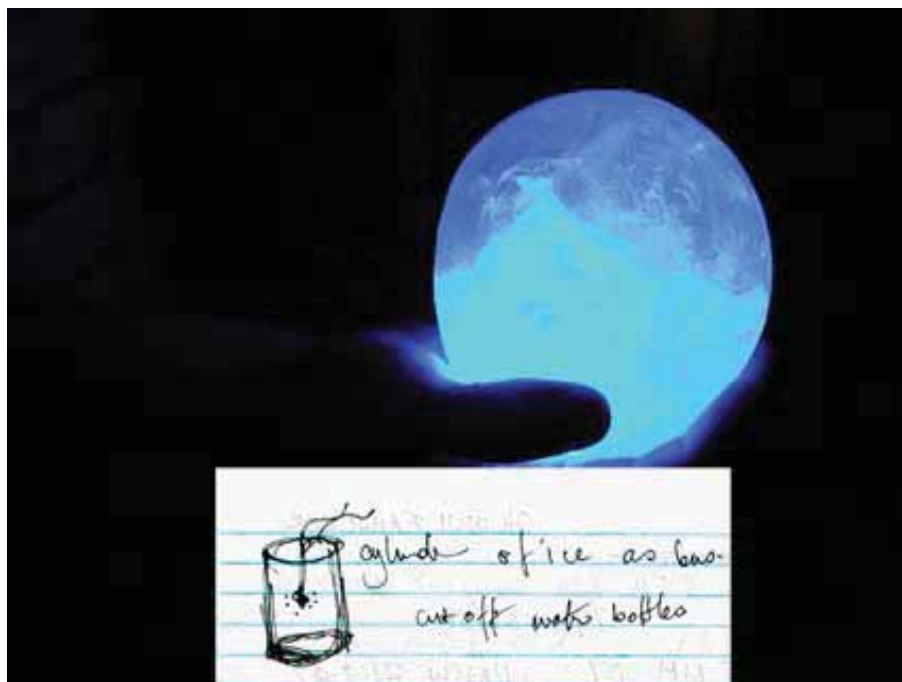


Figure 22. Peter E. Charuk, Initial ice experiments photograph. 2007

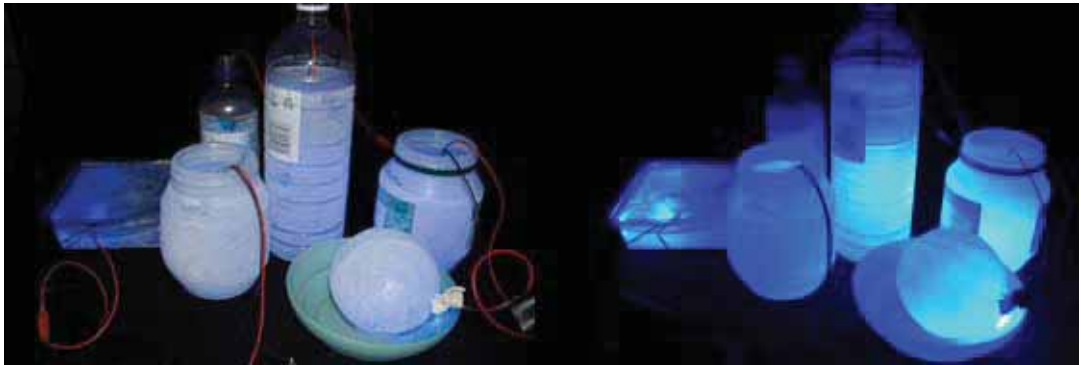
Ice, as matter, is the core of my practice-based investigation. Fundamental to the techniques that have guided this research is the application of digital technologies to create the end artwork. The work relies on virtual constructions, moving images and animated clips. The animated clips were produced entirely from still source material (“documents” of the ice) all of which are then manipulated within a digital space. The scope of the experimentation and primary investigations took me from the kitchen studio to the landscape of the glaciers in New Zealand, digitally documenting the ice as both still and video image. Theorist Peter Osborne writing on the process of *digitalization* says, ‘...the *creative potential* of digitalized data [has the capacity] to generate an in-principle-infinite *multiplicity of forms of visualizations...*’<sup>179</sup> And it is with this potential that I embarked on

this research. Capturing images of ice from both the kitchen and the glaciers required shooting with still and video cameras simultaneously, thereby, allowing for a library of digital data to be accumulated.

As Brian Eno says in the lead quote, ‘...*they’re not at all sure about it...*’<sup>180</sup> I was not sure about “it” either and a form of play is the method I engage with to work through the process of finding out. “Play” here means the idea of an experimental process-based method rather than working to a well-defined plan. This working method allowed, for example, experimental interplay between the still and the moving image rather than deciding to simply create a “video” work. Here the photographic becomes part of the ongoing notion of ‘expanded’ cinema, which I discussed in my previous chapter. Osborne speaks about the digital when it is applied to ‘photography in its expanded (and still expanding) sense...’<sup>181</sup> Photography as an expanding field is a term used by several theorists: Gene Youngblood, Rosalind Krauss who re-situate photography in the “expanded” field of video and sculpture, and more recently, George Baker.<sup>182</sup> Baker is interested in expanding photography even further to encompass ‘expanded *fields*, a multiple set of oppositions and conjugations, rather than any singular operation.’<sup>183</sup> There is much “rethinking” by artists and theorists concerning the nature of the photographic image and more recently the conjunction of the still to the moving image.<sup>184</sup> It is important to acknowledge that photography continues to grow as an expanded field because of the effect that the digital is also having on it. Osborne argues that digital permutations are potentially infinite; something that poses significant challenges about how to approach such a wealth of captured data.<sup>185</sup> My work travels through this digital landscape, both literally and metaphorically, using the forms of the printed still, the artist’s book, the animated still and the projected moving image. And although I have certainly exploited the permutational qualities of digital media the end results have always been steered by the return to ice’s materialities. For me the materializations of ice in my work try to get at and emphasize certain poetic and aesthetic material capacities of ice rather than depict it by documentary means.

This project hinges on a decision to use ice as the experimental basis for making art. The original experimental pieces were attempts to see whether ice and light emitting diodes (LEDs) could be combined, in practical terms, to make small luminous sculptures. My interest was in how the mix of disparate materials would combine using new technologies with (frozen) matter. The question arose as to whether an electrical component would be able to function when frozen in ice. History and common sense were telling me that it shouldn’t. As a visual artist, the optical properties of the “blue” colour

emitted by the LED prompted my interest. The “blueness” is somewhat unique; it is artificial and located in the lower frequency area of the visible spectrum. I assumed if it worked encased in ice, the ice would then act as a primitive lens amplifying the colour. This turned out to be the case. The light became refracted, translucent and enhanced and when this happened a memory was triggered of similar blueness I had seen somewhere before.



**Figure 23. Peter E. Charuk, Initial ice experiments, photograph. 2007**

Through a process of trial and error, some basic electronics and “folksonomic” knowledge (looking up websites), I learnt to understand electronic resistors and their purpose in building an LED project from a schematic diagram. But placing the LED in water remained a challenge. I made several initial experiments that did not succeed and I could not understand why. The water would freeze but the LED would not light up. After many experiments I succeeded in having one test work. This first successful attempt was made inside a balloon so that the shape of the ice was spherical. (see Figure 22) This shape could allow the ice to be held in your hand and would then glow in the dark when the LED was activated by battery power. I photographed this sculpture and it then became one of the first successful still images that prompted me to continue to experiment with ice as a lens, refractor and amplifier of colour.

My original thinking was to use the ice as a lens through which to distort what was seen in front of me. I would then photograph this scene with a video camera or still camera but this idea was not accomplished until much later in the timeline of the investigations. A lens needs certain clarity but my ice was not that clear. I wondered how I could make clearer ice. Most of the ice forms I rendered had used tap water, which produced a very milky, cloudy visual. The water needed to be purified and filtered in order to drive the oxygen out of it. The clarified ice was then “lens-ready”. But a new range of problems emerged if these lenses were to be transferred (and hence transported) into an art-making

context. Later in my research I began documenting changes to surface ice at an ice skating rink. This skating rink was set up in a public place using a very large refrigeration unit and sitting next to this unit on a concrete pedestal was a large piece of relatively flat and clear ice, approximately sixty millimetres thick and thirty centimetres in circumference. I was able to pick up this block of ice and hold in front of the video camera to shoot several sequences of video, which later became one channel of the video installation. As I had expected, the ice worked beautifully as a not so perfect lens distorting the view in front of the camera.



**Figure 24. Peter E. Charuk, *glacies lux*, video still. 2009**

Ice can only be archived if kept at the correct temperature, that is, at zero degree Celsius or lower. It is a transient material and I thought extensively about how these experiments could be presented in an exhibition context – that is, actually using the ice sculptures as a lens for the viewer to hold up to the moving image while keeping costs realistic. But this would essentially present the entire work within a freezer sized room, also leading to issues of moisture and temperature for the electronic equipment inside too.

My solution was to document the ice sculpture experiments as comprehensively as possible via a multitude of photographic processes – close-ups, microscopy, lighting-up at night, not lighting-up, moving the camera, and moving the ice and so on. Considerable variations were explored in order to “capture” and rethink the ice while attempting to remain faithful to the overall aesthetic framework. But the physical matter of ice is specific; it can only form under certain circumstances. The temperature has to be right. Moisture must be present and to sustain larger quantities forming, some sort of confining perimeter, whether artificial or natural, is needed. After working within the parameters of a “kitchen laboratory” for a number of months my interest progressed to the exterior worlds

of ice. My investigations into the materiality of ice would lead me to seek out, for example, frost on the car windscreen, which occurs irregularly during a Blue Mountains' winter, and the changing surface of ice skating rinks.

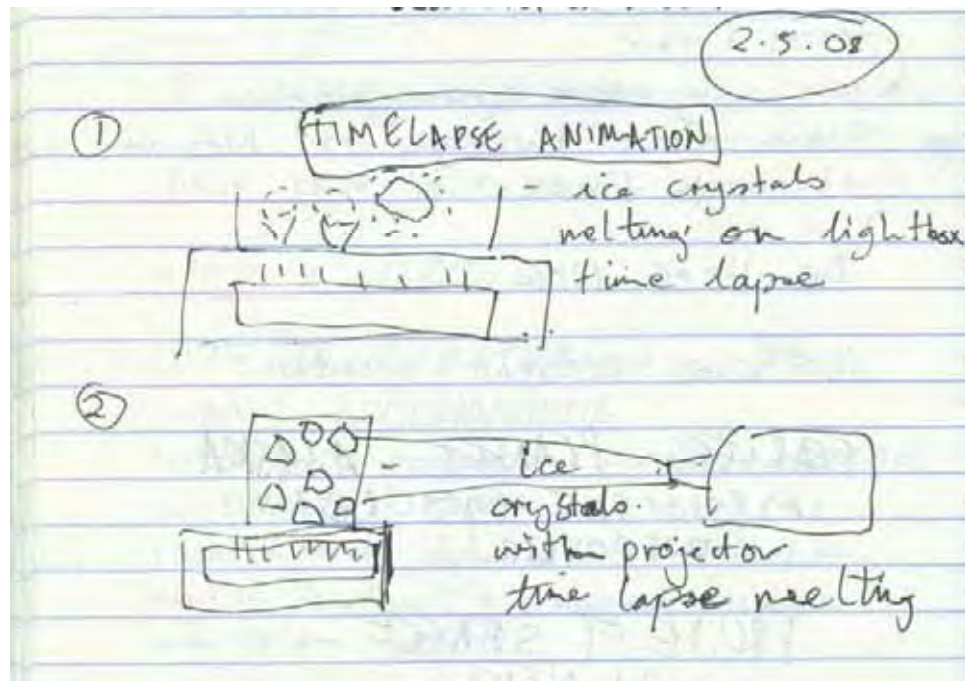


Figure 25. Peter E. Charuk, Drawings for experimental ice, research diary. 2008

The decision was then made to move further afield. Glaciers of course provided a new experiment in scale, which would also involve a change of angle, and perspective – literally and conceptually. I decided to travel to the South Island of New Zealand to document in as many ways as possible the glaciers and glacial ice. Here the ice would provide new clues for my research, leading me to the question of ice, landscape and change. Just as my kitchen research forced me to think about temperature at a physical level, glacial ice suggested that the question of temperature now needed to be considered from the perspective of climate and climate change.

### The New Zealand Glaciers

The Franz Josef, Fox and Tasman glaciers provide the bulk of my primary image research. As with most things, confrontation with an unknown object is very different to reading the object without direct experience. My initial encounter with the Franz Josef Glacier was seeing it from a couple of kilometres away standing on a designated “Kodak moment” viewing platform with other tourists. The platform positions and informs ‘an experience’ via signage. To a certain extent the experience is explained away by the look-out signage.



But because of the impact and size of the glacier there is nonetheless a response that escapes this tourist moment. This affective response to the landscape was one of awe and wonder – glaciers are totally different in the “wild”. This might seem an obvious point in terms of investigating the materiality of ice but only became obvious after the visit. I had no experience or perception of their overwhelming size in the landscape, the volume of ice they held, the way they affected the local climate, the diversity of cryogenic artefacts they contain, the range of “blueness” in the ice, or the dynamic nature of their existence. Ice seems frozen and immobile but in the glacier it is moving all the time.

But this sense of wonder ice was interrupted by another observation: the glacier was extremely “dirty”, a reaction that seemed at odds with the rest of the experience.<sup>186</sup> I had no idea where this dirt and colouring had come from until after the initial visual and the affective impact had subsided. Filtering and boiling water so that any trace of debris was expelled resulted in a purity and clarity in those initial ice experiments. This led me to the false assumption that *all* ice is clean. Dirt is deposited on the glacier because of its motion travelling *down* and *through* the valley using its power to scrape the sides of the mountains, which contain it. A lot of this dirt ends up in the centre of the glacier because the fluid dynamics of the glacier vary enormously, moving down and rolling in itself taking the dirt from its side into its centre. It was difficult to come to terms with the vastness of the glacier *and* its perceived dirtiness when I had witnessed so many images in the media of glaciers, for example, calving, where pristine ice cracks off the glacier and crashes into the sea. The landscape is so often mediated for us. But what the mediated image provides is a filtered view of the world stripped of “whole” experience. Televisual time for landscape images is usually short (as discussed in my last chapter). One of the purposes of *glacies lux* was to resonate with my first impression of awe and wonder at the ice in the glacier as I saw it. This was done by extending the time of the images, slowing them down, manipulating the sequence of images, and juxtaposing several sequences to amplify the visual impact, encouraging an immersive viewing experience. Moreover, this manipulation of image construction and presentation is conducted in order to present another imagescape than the mainstream media images of ice.

Water in most developed countries is purified, to a certain degree, for human consumption but water in its natural habitat contains many unseen substances when studied microscopically. Water – and hence ice in the landscape – are able to capture and hold the dust, dirt, pollen and insects from the atmosphere as well as contain the rocks and debris scraped from the landscape. Ice in/as the landscape became a point to enhance my investigation into the materiality of ice. The ice in a glacier forms part of an historical

record which can assist in a multitude of research fields; from atmospheric and climate change scientists, through to botanists and geographers. Many disciplines use ice samples to aid scientific research enquiries. Perhaps video art could also use this “sullied” materiality as well.

I have spoken at length about scientific and cultural research on ice in Chapter 1: its material properties, its use as a history “bank” frozen in time, as well as some of the processes used to gather information scientifically, such as drilling ice cores in the centre of Antarctica. While I do not engage in scientific procedures or research, I find this information fascinating and it contributes markedly to the processes for making this work. The understanding I gain from this science filters through and blends with the questions and experiments I have conducted with ice. My endeavour is to bring an affective vision to ice as a moving image that allows us, poetically, to rethink our relation to landscape in the context of climate change.

The experiential moment of my first contact with this environment was very important to the content of this research. But I am not, of course the first to have had such experiences. There is plenty of documented evidence and theoretical debate over sublime experiences in relation to landscape.<sup>187</sup> There is a trajectory from James Addison and William Temple, writing in the 1700s, to modern interpretations of the experience of “awe”, by contemporary psychologists and philosophers.

In 1712 Joseph Addison wrote a series of articles for the *Spectator* newspaper titled, ‘Pleasures of the Imagination.’<sup>188</sup> In these articles he outlined the beginnings of an aesthetic theory of perception. Addison’s concern here was with the continued development of domestic and municipal gardens or contained landscapes throughout England. He was interested in how these gardens might evolve but he did not like the highly planned examples he came across. Their design and make-up was very controlled; he found most were based on straight lines and were over arranged. Addison was a keen observer of the “wild” landscape and was afforded descriptions of Chinese and Japanese gardens through the travels of his educated circle of friends and associates to the Orient. But as we know, Oriental gardens are also highly controlled but use different guiding principles that also relate to an entirely different cosmology. Yet it is from descriptions of the Oriental garden that Addison and others drew their inspiration. Addison began, ‘It is but opening the Eye and the Scene enters. The Colours paint themselves on the Fancy, with very little Attention of Thought or Application of Mind in the Beholder...’<sup>189</sup> This implies an unadulterated view of the object before the viewer. It is not until after the initial encounter that reflection follows. There is a parallel here with Stan Brakhage’s new



experimental vision for cinema when he speaks about a vision untroubled by ‘an eye unruled by man-made laws of perspective...a world before the “beginning was the word.”’<sup>190</sup> Addison states that,

Our Imagination loves to be filled with an Object, or to grasp at any thing that is too big for its Capacity. We are flung into a pleasing Astonishment at such unbounded Views, and feel a delightful Stillness and Amazement in the Soul at the Apprehension of them...they can have nothing in them of that Vastness and Immensity...in the wide Fields of Nature, the Sight wanders up and down without Confinement, and is fed with an infinite variety of Images, without any certain Stint or Number.<sup>191</sup>

I will return later to the terms, Vastness and Apprehension, and their use in defining awe in a contemporary context. Apprehension in Addison’s case refers to the *taking in* of the experience.<sup>192</sup> Addison continues to elaborate on the qualities the landscape provides the viewer in this pre-cognitive moment before language. He references the new descriptions of the Chinese and Japanese gardens which do not adhere to the conformity of the English garden with its straight edges but take in the wildness of the observed landscape. These gardens are then constructed in smaller spaces and reference a language used by nature to determine their focal qualities:

They have a Word, it seems, in their Language, by which they express the particular Beauty of a Plantation that thus strikes the Imagination at first Sight, without discovering what it is that has so agreeable an Effect.<sup>193</sup>

This word is said to be, “*sharawadgi*” (discovered by William Temple) and describes the fascination with unordered and random structures that unexpectedly lead to an aesthetic and transcendental perception of an everyday situation.<sup>194</sup>

In a more contemporary example, Dacher Keltner and Jonathan Haidt work with these notions of vastness and apprehension as a way to approach awe.<sup>195</sup> Their research reveals that these two elements are at work in awe; that is, perceived vastness and a need for accommodation.<sup>196</sup> Keltner and Haidt find that there are also associated variations of the word awe which encompass threat, beauty, exceptional ability, virtue and the supernatural.<sup>197</sup> Keltner and Haidt’s summarise attitudes to awe in the following way:

[across these disciplines]...theorists agree that awe involves being in the presence of something powerful, along with associated feelings of submission. Awe also involves a difficulty in comprehension, along with associated feelings of confusion, surprise, and wonder.<sup>198</sup>

Keltner and Haidt contend that art and artefacts have the ability to invoke awe via scale in the work and that accommodation is important if the scene or object cannot be easily

assimilated. Finally, they state that, ‘Works of art that challenge and that involve obscurity are more likely to induce awe.’<sup>199</sup> One of the experiments staged in *glacies lux* is to see whether awe might be invoked via a poetics of video that deals with scale but also attempts to “accommodate” scale through more intimate images. There is an interplay between the images which move between a wider, macroscopic view, to finer details, or a microscopic view. This also adds to and tries to resonate with my sense of ice as dynamic, mobile matter.

### **Moving with images of ice**

Yet in order to grasp a sense of ice as moving image, I also needed to move *with* the ice. My first foray was a one-day walk on the glacier with a party of other interested people and a guide. Using two hand-held cameras I attempted to capture as much imagery as possible in the short amount of time available. The walk required traversing a 2 kilometre path on the ‘outwash plain’ towards the face of the glacier, its “terminus”. On reaching the terminus – a skyscraper wall of ice – we were presented with crampons to assist us in walking on the ice and given a safety lecture to enable us to negotiate the walk. A staircase had been cut into the face of the glacier for us to ascend onto the ice. We were told that it was important to follow the footsteps of the guide and his directions because there are many dangers, such as disappearing down a crevasse. The ice, even on a glacier, is fragile material. This walk took six hours and was extremely exhausting but resulted in many still photos and hours of video. The pace was quick with little time for contemplation about the ice.

The soundtrack to the walk comprised the crunching of footsteps. But it is the visual which enthralls me; the image takes prominence in my thinking. I was astonished by the range of spectral blues embedded in the glacier and was reminded of the LED light embedded in my ice experiments. An image supplies stillness; the opportunity for reflection. Trinh T. Minh-ha asserts that ‘it is in stillness that one may be said to find true speed’.<sup>200</sup> I would return to this idea after many months of reviewing my data. In the days after this walk there was further exploration of the surrounding landscape. Walking up and down tracks near the outwash plain looking for associated imagery and instances of ice, of which there were many. The glacier does not touch the earth; it is suspended on its melting water and it scrapes the sides of the valley that envelop it like a huge sanding block. There is a gestalt to the glacier as it flows down the valley. It literally is a “river of ice” with all the encompassing physical dynamics of flow and movement. Only the time and volume of

its movement differs to that of a river. The compacted ice turns in on itself at the edges, pushing rocks into the centre of the glacier, building stone deposits. There is a constant flow of water in, through, and over the glacier as it melts, depending on the ambient air temperature and the season. My first visit was in summer but the temperature of the glacier's micro-climate was cool, so the ice did not deteriorate that rapidly. The surrounding landscape was dotted with ice of different sizes and shapes; from small islands covered with vegetation to postage stamp sized pieces. I documented as much of this peripheral activity as possible to accompany my experience of walking directly on the ice.

Back in the studio I reviewed the imagery but was not happy with most of the video footage on the video. It was too jerky and ill-thought out. It did capture the essence of the walk but not the material qualities I remembered of the ice. I decided to return to the glaciers with a more focused vision. The difference would be to allow more time to concentrate on the shooting with more consideration of what to capture. During this time of studio reflection I also began researching the scientific and cultural make-up of ice and glaciers which would blend in the final works. It was this process of "accommodation" that would provide a solution with several outcomes.<sup>201</sup> But I also realised that the 'slow' speed of the ice had made its way into my own artistic process. Although walking on the ice had not lead to successful footage, it had nonetheless temporally found its way into my way of working with the images.

### **Artificial Instances of Ice**

The mountains, along with the glaciers, are dominant geological forms in the landscape of the far South Island of New Zealand. In order to accommodate the vagaries of the weather there are "experience" centres such as the Hukawai Glacier Centre and the International Antarctic Centre (in Christchurch), which are setup to guide the traveller through non-confrontational, safe experiences of the ice. The centres provide short, sharp, vicarious, guided encounters for the public if they cannot see the real thing. They contain multi-media viewing tunnels providing an "educational" experience. Real and artificial ice share the same space – ice made of coloured and shaped fibreglass represents an ice cave. A "real" ice wall is part of the Hukawai centre's complex, testing ice climbing skills. Rooms were constructed from plaster-of-paris, painted in the subtle hues of the compacted blueness of the glacier. There was a room, kept at -20 degrees centigrade. These mediated experiences are quite varied. In nearby Queenstown an ice bar - *Degree Zero* - serves cocktails cocktail at 0 degrees for a fifteen minute experiential period. It is filled with

abstract and kitsch ice sculptures. I photographed all of these artificial environments and they became part of the accumulating digital data I amassed on ice.

But back in the actual glacial landscape something pivotal occurred that led to the resolution of *glacies lux*. This occurred a few kilometres downstream from the terminus melt hole of the Franz Josef glacier where pieces of ice, of varying sizes, were caught in a bend of the river. I was capturing these fleeting events of ice travelling down the river from a suspension bridge swaying in the breeze. Again a feeling of awe was prevalent. Downstream the river gains tremendous velocity and noise as the water rushes past on its way to the sea. Pieces of ice from the glacier float in the river. I witnessed ice chunks of all sizes – from small balls to chunks as big as forty-four gallon drums - bobbing and colliding with each other.<sup>202</sup> What I saw encompassed both the scientific “knowledge” I had gained about glacial change and my own emerging poetics that had formed in relation to ices’ mobile materialities. I was observing the natural, scientifically documented processes of change that affect the glacier. But the poetics of those movements had become affective. This was not simply a raw emotional response but one informed by what I also knew about what “changing” ice also was associated with – climate change. The combination of the ice’s materialities inmixed with its very real demise seemed to offer itself up to me in the images I was shooting down into the running water. Ice breaking up, melting, and being held by the rocks in the river bend. This ice was “dying” but at the same time its forces presented a visual feast. The dynamic forces affecting the ice made it thinner here than when it first breaks off the glacier. Here it would refract and reflect the light back to the camera in a shimmer of crystalline and jewel-like rays in the late afternoon sun. It was beautiful and seemed shot through with boundless energy. Although science could name the scene as a glacier in the throes of disintegration, it was the poetics of image and movement that was more likely to affectively convey what was happening. I was astonished by the amount and size of the ice that floated by. Subsequent to reviewing the video sequences I came across what seemed to be *the* pivotal moment in the sequence, a very large piece of ice caught floating in the bend of the river and then the water catching it to pull it further downstream. Although it took about five seconds to occur in real time, its significance is prolonged in the video via temporal delay techniques.



Figure 26. Peter E. Charuk, *glacies lux*, video still. 2009

By effecting a change in its duration, the image and its relationship to the landscape, become something else. The digital manipulation of time meant that this video piece drew on and formed part of an expanding “ambient” genre, allowing an interrogation of time at the aesthetic level. I wanted to provide an experience of watching ice disappear but one which also gave ice back its own force. By slowing down the video, the water splashing over the ice becomes visceral: climate change is not something happening “over there” but something that can be “felt” by a corporeal or embodied “visuality”.

### ***glacies lux: An Artist’s Book***



Figure 27. Peter E. Charuk, Drawing for possible book structure. 2008

After months of both practical and theoretical research and reflection on the scientific and cultural makeup of ice, I began to puzzle over an image-based answer for the problem of constructing a visual sequence to sufficiently depict an affective response to my experiences with the glacial ice. In the past I have found solutions by using the form of an artist's book to contain the elements I had collected. Artist's books are three-dimensional devices and provide a form for distilling a myriad of information into a whole. Embedded in the book form is an inherent element of 'sequenced' time, which also slips into the editing process of video-making. The book and video should not be seen as separate or imitative of each other but rather comprise an interaction. Karen Beckman and Jean Ma assert that "recursive thinking" exists between the still and the moving image:

In the suspended animation created by the intersection of photography and cinema we find a model for simultaneously looking forward and backward at the vicissitudes of the media in question, and see that new media do not simply displace what came before, but rather shines a light onto older media, permitting us to see them differently.<sup>203</sup>

It was this oscillation, between the "still" book and the moving video, that I found took place while making my artist's book *glacies lux* and which also lead to further breakthroughs in the practice-based aspects of my research.<sup>204</sup>

I began by sifting through the still photographic images from the glacier walks to construct a sequence of images, which could be seen as a short journey through the landscape and then onto the glacier. But I was looking for the work to form part of an imagined/imaginary landscape as well. I came across a fairy-tale, *The Ice Maiden*, by Hans Christian Andersen, and I will return to this more extensively in Chapter 5. But it is important to raise it at this point because the fairy tale became part of the book as well. In Andersen's tale, a young boy, Rudy, battles with the ice maiden who wants to, and eventually does, claim his life. Andersen's "picture descriptions" are extremely evocative of walking on and amid the glacier. In one section, he describes Rudy's first encounter with the ice maiden when she captures him and his mother in a crevasse 'that cold, strange ice world...a wondrous palace of crystal.'<sup>205</sup> Rudy and his mother are rescued from the crevasse but his mother later dies. He is then sent to live with his grandfather but Rudy's life becomes one of being hounded by the ice maiden. I was intrigued by the idea the tale expresses of living constantly *in and amid* the ice. This became a focal point for the images I was making. How I could move *in and amid* the glacier and convey that feeling to a viewer? I was searching for ways to engage with both ice and the glacier on an affective, moving visual level. David Bohm's thoughts on enfoldment became a key feature of



*glacies lux*. (again, Bohm’s work is taken up in detail in Chapter 4).<sup>206</sup> Briefly here, Bohm argues that the world has an order where all instances are connected. Subsequently, there is ‘wholeness’ to the world. He defines this as ‘...the *implicate order* (from a Latin root meaning “to enfold”).’<sup>207</sup> The “implicate order” has a corollary in the “explicit” or “unfolding”. I use these as verbs or active agents in the making and sequencing of the images in *glacies lux*. They became processual and enabling devices. The actual process of enfolding provides a method for drawing a connection between the visual elements in the work and its structural formation. These processes constitute the mechanics of my artist’s book and it became the first instantiation of *glacies lux*. I was unsure how to proceed with the wealth of imagery I had captured in the kitchen and in the landscape. I was in a state of “non-knowing” as Gaston Bachelard put it, ‘In poetry, non-knowing is a primal condition; if there exists a skill in the writing of poetry, it is in the minor task of associating images.’<sup>208</sup> The task of associating images was the introductory task for my poetics of the moving image as well so I returned to my history of book making. The structural mechanics of this book would employ a concertina-fold design. One image would be ‘folded’ next to another throughout the sequence and once “unfolded” would reveal the following image and the progressive accumulation of imagery became the journey onto and through the glacier. Some pages would sit behind the glacial images and would come from the ‘kitchen’ ice experiments. These could be seen through laser-cut holes. Each page/image is riddled with these holes allowing the reader to see into the image, revealing a hidden “gem” beneath it. Whichever way the book is viewed, forwards, backwards, or starting centrally, the animated flipping of the pages could reveal hidden properties in the ice images.

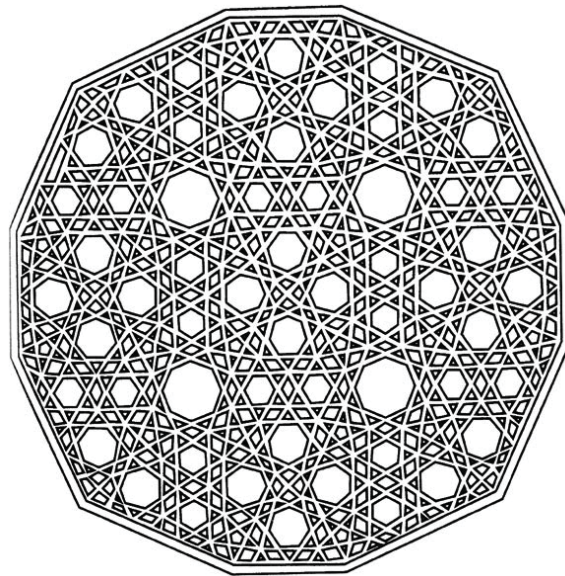


Figure 28. Peter E. Charuk, *glacies lux*, (detail) artist's book. 2009

The connection between things is *implicate* produced via a two-fold action – enfolding and unfolding – and these actions can occur simultaneously at atomic and sub-atomic levels. The point of actual transition from still image to book comes from a diagram in Bohm’s book illustrating a vision of the universe where all things are connected as part



of the whole. I insert this diagram/image here in order to re-visit its impact on the process of what occurred during this research. Its two-dimensional depiction is of a series of woven, intersecting lines which when overlapped form circles of connection common to the lines forming its overall structure; visually similar to what happens when cane is used in the construction of a wicker chair. But when rendered as a black and white image it is possible to shift the perceptual view from positive to negative and back again but it is difficult to see both at the same time.



**Figure 29. Ensor Holiday, Emergent universal orders.** <sup>209</sup>

What triggered my interest in the original illustration were the negative spaces, especially the holes. I transcribed these holes, onto and through, a series of chosen images. These negative spaces became “metaphorical” holes in the landscape. The holes could function in a number of ways. They would allow a viewer to see into them. They could reveal what was behind them. They could leak visual information in a virtual way into a given space, as still or moving images. There was a relationship to the actuality of ice core drilling, making literal holes in the landscape, where scientists drill into ice domes to take samples for scientific analysis. They could act as macro or microscopic port-holes into the landscape and the ice.<sup>210</sup>

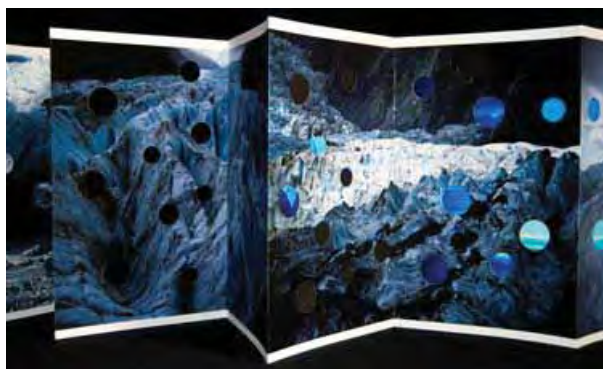
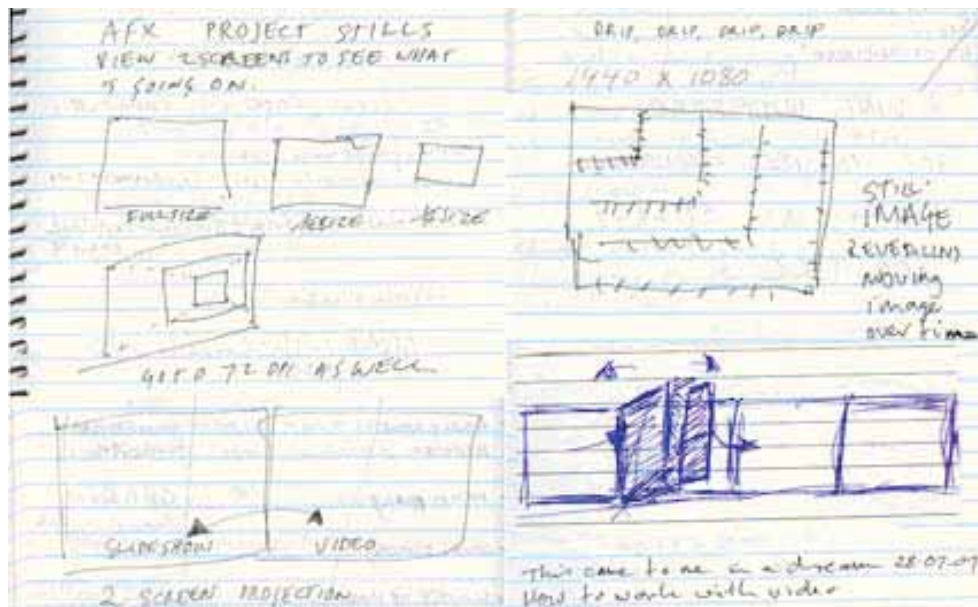


Figure 30. Peter E. Charuk, *glacies lux*, artist's book. 2009

Bohm's image depicts a (w)holey universe and a (w)hole structure on a two-dimensional plane. The technical and structural requirements of folding pages for the book echoed Bohm's thoughts on "enfoldment". The holes from the diagram migrated into the book. Each page (en)folded an image of the glacier which then (en)folded images of ice. Unfolding the pages would reveal new vistas of ice and, imaginatively, what the glacier enclosed. The holes provided a view into and through, giving a hint of something to come, something deeper within the ice or glacier.

The photographic documentation in the field moved from wide angle to extreme close-up mimicking a cinematic vision. This vision allows the holes to divulge what is to come and what is behind thus providing an accumulative suggestion of the experience(s) of being on the glacier. The holes do not reveal an entire picture but only allow a small portion of the image to show through. The blueness of glacial ice is a pervasive colour throughout the book, both from images of the glacier and from the ice experiments. The progression through the book is circular. At the beginning and end of the book there is only the vastness of the glacier, so there is a return to landscape, thus completing a circle of space over time. The book concludes with several lines from *The Ice Maiden* citing Andersen's pictorial description of travelling into the glacier.<sup>211</sup> *glacies lux*, in book form, enfolds the time and space of glaciality. It also became the means through which the still image could be investigated over time. It thus became a device for prompting further investigation of motion in the video sequences. Louis Kaplan comments that '...questions are raised on the slippery status of "still moving" and the between [in] photography and film...' <sup>212</sup> Thinking through how to construct the book provided me with a working method for how the video sequences might also be approached.

## *glacies lux*: A Video Installation



**Figure 31. Peter E. Charuk, Working drawings for video process entries. 2008**

A few months after making the book and editing numerous video sequences I was still pushing and pulling permutations of imagery using digital editing software. I was satisfied with the sequence of the ice “boulder” floating by and how its slow duration emphasised its “place” in the ice flow. But I felt that I needed more sequences to complete the video installation. Inspiration came in the form of Chris Marker’s *La jetée*, his science-fiction piece constructed primarily from still images. It was not the narrative or the genre I was interested in but the formal qualities of sequencing still images to construct an overall narrative. I now thought to “transcribe” *glacies lux* the book into a video by animating the stills.<sup>213</sup>

My idea was to work through a visual sequence mimicking the process of reading the book. The holes would be included, bringing a transparency and transience to the images. The transition from the still images of the book to moving images proved more difficult than I first imagined; although the holes had worked physically with the materiality of paper, working with them as yet another “layer” of visual data did not provide the initial visual experience of depth and “revelation”. Yet other considerations impacted upon reconstructing the imagery for a screen. The book, *glacies lux*, is vertically oriented whereas a video screen is horizontal. You are able take your time when viewing the book but the screen image would only show the image for a defined period. The

question was: what duration should it be? The number of holes on each page, twenty-plus, would prove difficult to transcribe to the screen because they would break up the image to the point of indecipherability. The glacial landscape images were *cut-up*, separated into layers, in Photoshop, mimicking three-dimensionality. The layers were then transferred to Adobe *After Effects*. Here a virtual-3D camera effect was used, hinting at the movement through and into the landscape. The physical dimensions and resolution of the screen would limit the number of elements the image could or could not contain. I initially changed the number of holes to a few, then to only one hole in order to focus the viewer's attention.



Figure 32. Peter E. Charuk, *glacies lux*, video still. 2009

How the holes moved into viewing range and how they revealed their contents proved difficult to negotiate. The temporal flow of the sequences and their compilation proved difficult as well and was only successfully negotiated when each sequence was given its own duration. The geographical time of the glacier was once again making its way into each aspect of the “moving image”. As David Company declares, ‘Moving images transformed the nature of the photographic image, turning stillness into *arrestedness*.’<sup>214</sup> Here *arrestedness* also means *apprehension* (using Addison’s sense of the word as taking in experience) and these became modes of working with the moving/still sequences.<sup>215</sup> Sean Cubitt gives us a contrasting view of the moving image when says that it ‘is always on the brink of disappearance.’<sup>216</sup> What Cubitt is referring to here is the inherent optical characteristics of the moving image, which rely on the perceptual capacities of an afterimage to generate movement:

And yet: the image is unstill because the world is unstill; because the mechanical eye that scans it is all too perceptive, and can see not only across light years and

in spectra that escape human vision, but into time as an accumulation of change,  
and a field of unforeseeable and innocent events.<sup>217</sup>

By extending and augmenting our experiential capabilities using technology, we are able to enter some way into the invisible. Cubitt sees a video or film becoming something not of itself as screening circumstances change due to differences in monitors, projections devices and screen displays. How can video ever be unified across its entire visual histories?<sup>218</sup> Cubitt brings an acute awareness to these “other” characteristics of the moving image, which need to be accounted for when viewing the work. I experienced something of this ‘missing’ entirety in testing out different installation environments for *glacies lux* in two different galleries across the course of my PhD research.

The decision to use *After Effects* was a considered one. The software allows a high degree of manipulation. Lev Manovich has commented extensively on how this software became influential in the digital realm.<sup>219</sup> He outlines the current expanded use of the term “motion graphics” and the influence that software has had on the moving image. Elsewhere he has argued that one of the chief characteristics of new media is its “variability”: ‘A new media object is not something fixed once and for all, but something that can exist in different, potentially infinite versions.’<sup>220</sup> Manovich sees the results of this “velvet revolution” as resulting in a hybridized visual language dominated by a logic of the remix.<sup>221</sup> This remixability applies not just to the content of different media but to the ‘fundamental techniques, working methods and assumptions’ attached to the working process.<sup>222</sup> *After Effects* allows the user many possibilities of moving the still image in new ways and generating new experiences for seeing that still image. Manovich continues, ‘Probably the most dramatic among the changes that took place during 1993 -1998 was the new ability to combine together *multiple levels of imagery with varying degree of transparency via digital compositing.*’<sup>223</sup> Still imagery gains something else. Manovich concludes by saying that this is ‘a new way to make moving image media.’<sup>224</sup> In *After Effects* the moving still image more than likely takes a short “filmic” form, allowing it to be conceived in poetic terms. The condensations that become possible using compositing and layering make it less akin to documentary forms and more akin to the visual language of the short film. For *glacies lux*, the video, the poetic use of combinations of layers with effects, transparency, motion, and duration all contribute to the final sequence. The still images from the book now find their own animated form. This became the second sequence in the video installation.

The final sequence for the video installation relied heavily on a sequence shot at the end of the primary image capture time in New Zealand. It occurred on a trip to the Tasman Glacier on the eastern side of the dividing range of the South Island. This has a similar but



different landscape to the west coast; it is the home of Mt Cook. At this juncture, the glacier has worked its way down to a lake, which is frozen for a good part of the year. When I visited in late spring, the lake was still frozen and covered with a thin layer of ice but susceptible to breaking up during the day as the heat intensified and the wind blew over the ice.



**Figure 33** Peter E. Charuk, *glacies lux*, video still. 2009

I now had the luxury of spending time observing the glacier, something difficult to achieve while walking on it with the assistance of a guide. What I captured was more considered; several short sequences of thin lake ice breaking up and being blown across the surface of the lake. I was able to capture close-ups of this ice as it dissolved at the lake's edge, releasing its bubbles of gas into the atmosphere with a sound similar to popcorn cooking. The captured sequences were contemplative and meditative; slow moving but the result of physical circumstances: the wind blowing and the water moving. The imagery did not need much post-production. Choosing sequences and editing them together with simple slow cross fades was enough. This became another channel of the video installation.

### ***glacies lux*: Two Examples of Video Art Installations**

I use the term, video installation, throughout this chapter to signal my objectives for the final presentation of the work: a complex mix of projected video and video on monitors. The complexity lies not so much in the display but in the interplay between the poetic images of still (and moving) ice that would move us to rethink our relation the landscape in a broader context encompassing climate change. Ehrlich speaks metaphorically about the

“Cyclopean eye” that “sees” ice melting and re-freezing numerous times over the course of its life span to reveal the unseen in the landscape.<sup>225</sup> Turner and Ruskin invoke a Cyclopean eye to view their landscapes, one that places the viewer amid the matter of the landscape. What I have done is to embody two Cyclopean eyes, constructing a binocular vision that multiplies and amplifies the experience of ice in landscape. I present disjunctive video sequences side by side to poetically construct something that emerges as the exponential sum of its parts (see Figure 35). When Lev Manovich speaks about the poetics of video installations he refers to them as having an “augmented reality”:

...[the installations] turn a whole wall or even a whole room into a display or a set of displays, thus previewing and investigating (willingly or not) the soon-to-come future of our apartments and cities when large and thin displays may become the norm...these laboratories of the future...<sup>226</sup>

In the Chapter 2 of this dissertation, I introduced Jim Bizzochi’s definition of ambient video as the broader moving image context for my practice-based research. Manovich, too, sees video installation as a laboratory for the future and this may be where ambient video has a role to expand the scope the moving image. All of the video components of the final incarnation of my work could function within the scope of an ambient space, playing on individual screens in domestic or public spaces as well as gallery and private spaces. The sequences do not contain a narrative, and they play in a loop. The videos interact with one another contributing to an overall experience of the “implicate order” of ice’s materialities of itself.

Several variations of the work were shown in different spaces over the period of this research: two gallery spaces, the Western Plains Cultural Centre in Dubbo (see Figure 34) and the Frankston Arts Centre in Victoria (see Figures 35-37); and two conference spaces. This allowed me opportunities to experiment with the configuration of the projections and sequencing of the videos in these spaces. In Dubbo there were two moveable walls and two unmatched projectors, one HD and the other standard definition. Because of these differences in projection quality and the position of the screens the video’s images did not match optically.





**Figure 34. Peter E. Charuk, *glacies lux*, Western Plains Cultural Centre, Installation detail. 2009**

There is also a gap between the two display areas; a decision made by the curator based upon my installation working with the surrounding exhibition. The size of the images was based on my experimentation with scale as an attempt to envelop the viewer within the ice and resonating with the scale of a glacial ice experience. But the position of the screens, at right angles but separate from each other, meant it was difficult to merge the two images in the space and I felt some of the poetic relationships dissipated as a result.

The installation at Frankston came closest to my realization for the work. The Frankston space used two HD projectors to project two images on one wall enabling a viewer to perceptually combine these into the one 'imagescape' and allowed for the interplay I had hoped would realize some of the installation's poetics. Frankston also included a framed version of the artist's book and a new large-scale panoramic print of the glacier terminus printed on five wooden doors with ten ice 'holes' printed on Perspex arranged on the floor.



Figure 35. Peter E. Charuk, *glacies lux*, Frankston Arts Centre, installation detail. 2010



Figure 36. Peter E. Charuk, *glacies lux*, Frankston Arts Centre, installation detail. 2010



Figure 37. Peter E. Charuk, *glacies lux*, Frankston Arts Centre, installation detail. 2010

The final configuration for *glacies lux* will rely on a very similar layout to that of Frankston as can be seen from the following mock-up (this plan is not to scale). There will be two added video loops playing on monitors in the space.



Figure 38. Peter E. Charuk, *glacies lux*, installation mock-up, plan view. 2011

This chapter was an exposition of the process with which I engaged to construct the work for *glacies lux*. It spoke about how a kitchen laboratory was instrumental in the initial experimental investigation of ice and with LEDs. When these experiments concluded the investigation lead to new challenges concerning the materiality of ice in the landscape thus bringing about new thoughts on how natural processes and imagery affect us in the form of still or moving images. It is the interplay between the still and the moving that subsequently affected and influenced the durational aspects of the work using a very close exploration of the temporal, beginning with the book form, and moving to the work as a whole. Tempo and speed were central concerns of this work; turning the pages of a book, waiting for ice to form in the freezer, walking on a glacier, sitting next to a glacial lake watching surface ice melt and editing sequences of video; all contributed to what became the poetics of *glacies lux*.

With these images, and the expansive blend of elements contained within each image, the poetics of ice as moving image endeavour to influence the scientific materialities of ice in a changing world and the mediated images we receive of these. My images no longer rely on the documentary form to present information but hopefully bring the viewer to an affective space in which to consider what is happening with the planet. The expansion of the still image through intervention with its scale and its re-presentation of scientific materialities attempt to ask questions of an audience about their experience with the seemingly simple substance of ice. While the moving images from a chosen landscape embody an experience with which few have felt but I self-assuredly attempt to engage the viewer's curiosity of the natural with experiences of their own. I sought to make a connection between the domestic – ice from the freezer and ice in the wider environment – the glacial landscape, and in doing so present a “whole/holistic” vision that I am seeking to produce in the video installations. This idea will be explored both theoretically and via the practice of another artist's vision in the next chapter.

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178 From a transcript of an interview with Brian Eno on ABC Radio's, “The Music Show”, Andrew Ford and Brian Eno, *ABC Radio* website. (10th May 2009). Availability: <http://www.abc.net.au/rn/musicshow/stories/2009/2642524.htm>.

179 See Peter Osborne's article, “Infinite exchange: the social ontology of the photographic image”, *Philosophy of Photography*, 1(1), (2010): 59-68. Availability: <http://www.atypon-link.com/INT/doi/pdf/10.1386/pop.1.1.59/1?cookieSet=1>: 66.

180 From a transcript of an interview with Brian Eno on ABC Radio's, “The Music Show”, Andrew Ford and Brian Eno, *ABC Radio* website. (10th May 2009). Availability: <http://www.abc.net.au/rn/musicshow/stories/2009/2642524.htm>.

181 See Peter Osborne's article, “Infinite exchange: the social ontology of the photographic image”, *Philosophy of Photography*, 1(1), (2010): 59-68. Availability: <http://www.atypon-link.com/INT/doi/pdf/10.1386/pop.1.1.59/1?cookieSet=1>: 66.

182 See George Baker's, “Photography's Expanded Field”, *Still Moving: Between Cinema and Photography*, ed. Karen Beckman and Jean Ma. (Durham & London: Duke University Press, 2008).

183 Ibid., 178.

184 See Peter Osborne's article, “Infinite exchange: the social ontology of the photographic image”, *Philosophy of Photography*, 1(1), (2010): 59-68. Availability: <http://www.atypon-link.com/INT/doi/pdf/10.1386/pop.1.1.59/1?cookieSet=1>: 61.

185 Ibid., 66.

186 Peter E. Charuk, *Research Diary*. (2007). Unpublished.

187 It could be said that there is a direct relationship between the ideas of awe and the sublime and I am well aware of Kant's aesthetic theory on beauty in *Critique of Judgment*, especially in relation to its major contribution to the ongoing debates in art history and theory and, also more recently, in the work of Lyotard in *Lessons on the Analytic of the Sublime*. I am not going to engage philosophically with this as it is really beyond the scope of this thesis and is covered extensively by many other writers, theorists and theses. My interest in this dissertation is not in theories of beauty or the ‘sublime’ but I on the issues of vastness and apprehension.

188 Joseph Addison, “No. 411 [Pleasures of the Imagination]”, The Reading Selection from *The Spectator*, (1712). Availability: <http://philosophy.lander.edu/intro/articles/addisonart-a.pdf>.

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189 Ibid., 5.

190 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963), unpaginated.

191 Joseph Addison, "No. 411 [Pleasures of the Imagination]." The Reading Selection from *The Spectator* (1712). Availability: <http://philosophy.lander.edu/intro/articles/addisonart-a.pdf>: 8.

192 Ibid., 6.

193 Ibid., 12.

194 See Andreas Brick's online article, "Fire Pattern - Frost Pattern", *Deutschlandradio Kultur* website, (2006). Availability: [http://www.andreasbick.de/en/music/radiokunst/fire\\_and\\_frost\\_pattern.php](http://www.andreasbick.de/en/music/radiokunst/fire_and_frost_pattern.php).

195 See Dacher Keltner and Jonathan Haidt's article, "Approaching Awe, a Moral, Spiritual, and Aesthetic Emotion", *Cognition & Emotion*, Volume 17, Issue 2, January, (2003): 297-314.

196 Ibid., 297.

197 Ibid.

198 Ibid., 303.

199 Ibid., 310.

200 Trinh T. Minh-ha, *The Digital Film Event*, (New York: Routledge, 2005): 11.

201 My process diary notes are important here:

20,000 years cycles and change of air temperature in Antarctica. Chemicals measured in air bubbles in ice.  
SSSSLLLLLLLOOOOOOWWWWWNNNNNNEEEESSS  
Potential energy of ice  
Lost time reservoir of slowness  
Ice scale  
Ice time  
Frozen but not frozen  
Ice is formed by/in containers with boundaries.  
Moving though and into.  
Ice has its own language – sea ice, frazil, grease ice, nilas, first year ice, pancake ice, pack ice.  
Atemporality - Independent of time; timeless.  
Ice skating.  
Microscopic ice.  
Blocks of ice joined together will crack when they melt at the weakest point.  
A colour card of ice. Taking sections of the ice images and just pulling out the sections of colour. Light is important but colour seems to be more important in the scheme of things. This could relate to the spectrum analysis of light as colour.  
Ice zoo.  
Set a microphone in water then capture the sound as it freezes/unfreezes.  
Focus on the inner quality of hot and cold sounds.

These written thoughts indicated directions to follow and pursue. I was contemplating what approach to take with the work, as part of the development of the practice-based aspects of this research.

202 See the website by S.E. Smith, "Why Does Ice Float?", *wiseGEEK* website, (2003). Availability: <http://www.wisegeek.com/why-does-ice-float.htm>. Many people have observed that ice floats in water, which seems to defy common sense, as most people expect solid forms of liquids to be heavier than their liquid forms. Like everything else that floats, ice floats because it is less dense than water, demonstrating the property of buoyancy. In addition, ice is also an illustration of the fascinating properties of water, a liquid which behaves in some very unusual ways.

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203 See Karen Beckman and Jean Ma's, "Introduction", *Still Moving: Between Cinema and Photography*, Edited by. Karen Beckman and Jean Ma. (Durham & London: Duke University Press, 2008): 10.

204 Ibid. Frits Gierstberg also comments on this: "One of the most striking results of the digital revolution is the dwindling of the once quantifiable gap between fixed and mobile images...Whereas the photographic image had always drawn movement to a halt it now starts to move. Fixed images that start to move, moving images that become almost immobile or endlessly repeat."

205 Hans Christian Andersen, "The Ice Maiden; Iisjomfruen", Translated by Jean Hersholt, *The Hans Christian Andersen Center* website, (2010). Availability: [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).

206 David Bohm, *On Creativity*, (London and New York: Routledge, 1996).

207 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 224.

208 Gaston Bachelard, *The Poetics of Space*, (Toronto: Beacon Press, 1969): xxix.

209 This image is by Ensor Holiday from the Altair Collection. David Bohm, *On Creativity*, (London and New York: Routledge, 1996): 103.

210 Later entries from my diary indicate the method for this process:

The Book – inside and out

Print 2 images from the series. The images on the outside have the close-ups on the inside as you progress through the book the images reverse. Still with the see-through holes.

211 Hans Christian Andersen, "The Ice Maiden; Iisjomfruen", Translated by Jean Hersholt, *The Hans Christian Andersen Center* website, (2010). Availability: [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).

"Was it the spirit of life or of death that overpowered him? Was he rising higher, or sinking lower and lower into the deep, deadly abyss? He knew not; but the walls of ice shone like blue-green glass; innumerable clefts yawned around him, and the water-drops tinkled like the chiming of church bells, and shone clearly as pearls in the light of a pale-blue flame. The Ice Maiden, for she it was, kissed him, and her kiss sent a chill as of ice through his whole frame. A cry of agony escaped from him; he struggled to get free, and tottered from her. For a moment all was dark before his eyes, but when he opened them again it was light, and the Alpine maiden had vanished."

212 See Louis Kaplan's, "Aleph Beat: Wallace Berman between Photography and Film", *Still Moving between Cinema and Photography*, Edited by. Karen Beckman and Jean Ma. (Durham & London: Duke University Press, 2008): 197.

213 See Nancy Davenport's, "Weekend Campus", *Still Moving between Cinema and Photography*, Edited by. Karen Beckman and Jean Ma. (Durham & London: Duke University Press, 2008): 193. Another example of this is process occurs in *Weekend Campus* by Nancy Davenport, who says of her work: "When animated, the image mimics a filmic flow, but the opposing forces of fixity and mobility are significant aspects of all digitized stills. The way we confront photography now is so often on screen and in motion. From online stills to Quicktime VR, from Photoshop to the immediate display of the digital camera screen-we hold down a key, drag the image around, zoom in, zoom out, navigating the image in an almost cinematic way."

214 See David Campany's, "Introduction/When to Be Fast? When to Be Slow?", *The Cinematic*, ed. David Campany (London and Cambridge: Whitechapel and The MIT Press, 2007): 12.

215 Joseph Addison, "No. 411 [Pleasures of the Imagination]." The Reading Selection from *The Spectator*, (1712). Availability: <http://philosophy.lander.edu/intro/articles/addisonart-a.pdf>: 6.

216 Cubitt, Sean, "Digital Landscape and Nature-Morte", *Reinventing the Medium* Conference, (Melbourne: AAANZ, 2006). Availability: [http://dtl.unimelb.edu.au/R/BLNL4G42712EJ8IVEBSRLLIAG91QVBMF3FM72GX1MRYPGKTDM6-00742?func=dbin-jump-full&object\\_id=67222&local\\_base=GEN01&pds\\_handle=GUEST](http://dtl.unimelb.edu.au/R/BLNL4G42712EJ8IVEBSRLLIAG91QVBMF3FM72GX1MRYPGKTDM6-00742?func=dbin-jump-full&object_id=67222&local_base=GEN01&pds_handle=GUEST): 3.

217 Ibid., 7.

218 Ibid., 3.

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219 See Lev Manovich's, "After Effects, or Velvet Revolution", *Lev Manovich* website, (2006). Availability: <http://manovich.net/articles/>.

220 Lev Manovich, *The Language of New Media*, (Cambridge, London: The MIT Press, 2001): 36.

221 See Lev Manovich's, "After Effects, or Velvet Revolution", *Lev Manovich* website, (2006). Availability: <http://manovich.net/articles/>: 7.

222 Ibid., 7.

223 Ibid., 10.

224 Ibid., 20.

225 Gretel Ehrlich, *The Future of Ice: A Journey into Cold*, (New York: Pantheon Books, 2004): 52.

226 Ibid.



## CHAPTER 4

To see a world in a grain of sand,  
And a heaven in a wild flower,  
Hold infinity in the palm of your hand,  
And eternity in an hour.<sup>227</sup>

### **A vision of art and science relationships: David Bohm's physics and Stan Brakhage's optics**

In my previous chapter I suggested that certain aspects of my experimental practice, which investigates ice as moving image, have been shaped and informed by scientific (specifically climatological) research on ice in the landscape. In this chapter I move beyond my own practice and turn to that of the experimental film maker Stan Brakhage. Brakhage's practice resonates with my own because he consistently committed himself to experimenting with an expanded field of the moving image and an expanded field for perception as well. But I want to suggest that Brakhage can also be brought to resonate with some recent current thinking in theoretical science, also committed to expanding what it means to perceive, namely the work of theoretical physicist David Bohm. Bohm and Brakhage are not naturally interrelated but both moved with an active dynamism in their worlds attempting to define and expand new visions for it. Nonetheless I hope to show in this chapter how bringing Brakhage and Bohm into conjunction around the question of experimental vision might also generate a way for art and science to speak to each other across a shared purpose.

Bohm's work in this area can lead us to the possibilities of bringing disparate viewpoints from science into relationship with developments in contemporary media arts. Briefly stated, Bohm's work encompasses concepts of "wholeness and the implicate order", some of which I have already referred to in the previous chapter.<sup>228</sup> Bohm was interested in a totality of vision in the world. Although my work focuses on ice and its materialities, one of my driving concerns was to think this through and present it in such a way as to move us beyond its microcosm to the broader (total) context of climate change. I see a relationship between re-presenting the materialities of ice in domestic space and the landscape and how such a mode of representation might be generated to affect a more wholistic thinking about the Earth.

Bohm's interest lies in the concept of reading the world with a "wholeness" of engagement rather than breaking things into fragmentary components where thought becomes disjointed. This position of fragmentation is one device used by sceptics to dismiss the idea that the climate is changing because of human intervention. Michael Talbot summarises this argument in its historical context,

Classical science had always viewed the state of a system as a whole as merely the result of the interaction of its parts. However, the *quantum potential* stood this view on its ear and indicated that the behavior of the parts was actually organized by the whole.<sup>229</sup> (My italics)

Bohm's idea of the "quantum potential" was a new concept in scientific thinking in the late 1940s. He includes in this quantum potential his idea about "wholeness" and within that, an order that is "implicate", an order which might be either intrinsic or hidden in the structure of the world. Talbot continues, 'Bohm calls this deeper level of reality the implicate (which means "enfolded") order, and he refers to our own level of existence as the explicate, or unfolded, order.'<sup>230</sup> Enfoldment is both an active process and a theoretical concept. Bohm used an aesthetic image to assist in the illustration of his conception of universal order. His illustration comes from an image based on a Moorish arabesque by Ensor Holiday, (see Figure 29). The illustration depicts a series of woven, intersecting lines which when overlapped form circles of connection common to the lines forming its overall structure. The lines provide a visual means of showing interconnectedness between points in space but hint at a negative space, by what appear to be holes in that space. I transcribed these holes, *onto* and *through*, a series of chosen images. These became "metaphorical" holes imposed on the landscape that could function in several ways. Perception of the images could be manipulated by these holes in the landscape. They would allow a viewer to see into them. They could reveal what was behind them.

Fritjof Capra, who worked and studied in the same scientific discipline as Bohm, (experimental quantum physics) makes the explicit connection between a wholistic vision of the world and questions of ecology. Hence there is a direct relationship to the work of Bohm. Capra's theories correspond to early developments in the ecological movement (of which he was part) that became prominent in activist thinking during the 1960s and 1970s. Capra's expanded definition of the word "ecological" includes the political and the social. He was a major player in assisting in the establishment of the ecological movement of the 1960s. Capra extends his perception of ecology to encompass a "deeper" level of meaning enabling it to include 'the fundamental

interdependence of all phenomena and the embeddedness of individuals and societies in the cyclical processes of nature.<sup>231</sup> He was instrumental in taking this stance further over the years to assist in the foundation of the Center for Ecoliteracy aimed at educating children in the widest possible way to understand ecology and its influence on their future.<sup>232</sup> He saw this widening definition of a wholistic approach, to questions being asked, emerging in several areas, particularly in and around science which is certainly the case with the climatological sciences in 2011.

The ideas of Bohm and Capra are linked in a significant way to the philosophy of Taoism. Taoism is able to provide a bridge between scientific thinking and intuitive thought. A Taoist approach is relevant to my research and art practice because it links knowledge I gained from science with the processual and poetic. Taoism sees the world in process but interdependent and at the same time totally connected. A point emphasized again and again by Bohm and Capra and to a certain extent with Brakhage's history of film-making. Brakhage constantly sought the poetic through his experiential relationship of the world using both practical methods and theoretical constructs.

Taoism introduces ephemerality to the idea of process and it this ephemeral materiality which lead me to investigate ice in the initial instance of this research. Taoist thinking assisted me in my own thought processes while moving through the materiality of the glacier and lead to the conclusive video sequences generated from it. There is dynamism in the Tao that is very quiet and this quietness is echoed in Bohm to consider the flow of all things. The Tao emphasizes direct experience with the natural environment and the world not necessarily through an immediate understanding but rather a becoming of affect. But the idea from Taoism, and from Bohm, is to reconsider flows as movement that precede divisions into formed things and substance. The Tao is constantly moving, as it is by Bohm's quantum view of the world. It is slippery, elusive and difficult to grasp. Taoism is a –mode of “making sense of the world”, of grasping a fundamental way of being in the world via the poetic. This, too, is the way in which the poetic functions in *glacies lux*.

Ideas about making sense of the world can be constructed in many ways, for example, through language, theories, telling stories, by a visual means of interpretation with image-based activity and/or philosophical theories such as Bohm's. There are points where the visionary overlaps the theoretical and vice versa, for example, Blake's often quoted poetic extract at the beginning of this chapter. An artist, who walks a similar road to Bohm, is Stan Brakhage. Similar because of the conjunction between ways of seeing the world through new eyes rather than the two having similar research

interests. Later in this chapter I will explore this similar territory by examining the visionary manifesto of Brakhage's treatise on experimental filmmaking, *Metaphors on Vision* and provide a close reading of his film *Black Ice*.<sup>233</sup>

### **David Bohm: Wholeness and the Implicate Order**

Bohm's philosophical background ran parallel to his scientific research into quantum mechanics and the theory of relativity. He introduces the word "wholeness" as a key term, '...the central underlying theme has been the unbroken wholeness of the totality of existence as an undivided flowing movement without borders.'<sup>234</sup> For him "wholeness" is also about encouraging a new way of thinking about the world. His interest was to reject the fragmentary nature of thought about the world. My vision, too, is inspired by this rejection of fragmentation. For example, seeing that ice cubes in a glass could have some relationship to ice in a glacier; a glacier that then extrapolates to the landscape; and that ice, in this entire continuum, might provide supplementary ways to engage with what appears to be happening to the planet as part of climate change. Ice does not necessarily sit in isolation whether it is located in a domestic or "natural" setting.

Bohm is also important because at the heart of scientific endeavour lie attempts to redefine, reshape and point to the world both in general and in particular. These processes of scientific observation and analysis parallel my own modes of investigating ice. Bohm's research into quantum physics, as well as informed by other western scientific thought, draws from other philosophical texts and ideas. He was open to and sought views from Eastern philosophies. He met with, and had extensive discussions with Krishnamurti and the Dalai Lama. He had a working knowledge of Buddhism, Taoism and Hinduism.

One of the things I attempt to grasp artistically is making a sense of the world through process; one that moves from the microcosmic to the macrocosmic and back again. Movement in thought and action is part of what I do aesthetically.

Bohm writes in *On Creativity*, 'What is significant in this regard is not merely the content of these world views, but, much more, their proper function, which is to help organize man's ever-changing knowledge in a coherent way.'<sup>235</sup> Art might also supply some of that "proper function", too. In *glacies lux*, content (that is, the relationship to broader political and ecological issues) may not be self-evident, but maintaining a

relation to these issues and contexts assists in organizing the images in a “coherent way”. Bohm expects that ideas which attempt to make sense of the world are flexible enough to change with time, openness, information gathering and personal experience. He asked for personal reflection and thus for a person to draw on the accumulative nature of life’s experiences. He was opposed to the proposition that ideas which attempt to make sense of the world constitute “one” truth but that they are “ever-changing” like the world itself. Change is the known constant in our lives.

The experimental procedures of quantum mechanics work in tandem to develop Bohm’s ideas of wholeness. In quantum mechanics, the observer is an integral component in the experiment. I think it is important to understand that the place of the observer in these experiments. It allows me to extrapolate to a wider perceptual context where the observer is brought back to the whole, as a participant, and the experience is not seen as just a fragmentary instance of an event. For example, in Brakhage’s *Black Ice*, he is the observer and the participant of an event, falling on an icy footpath, concussing himself and later making a film about the experience.

Thomas Young’s paper, ‘Experiments and Calculations Relative to Physical Optics’, from 1804, hinted at the idea that the observer was part of any experiment and that a pure objective scientific vision was not possible.<sup>236</sup> Depending on what phenomenon was to be observed, for example, quantum physics famously elaborated a double-vision-perception of light – it could be seen as a wave and/or a series of particles. Max Planck pursued this idea in his work on heat radiation, arguing and “demonstrating” that it is not emitted continuously but as “energy packets”.<sup>237</sup> Einstein went on to name this phenomenon, “quanta”.<sup>238</sup> Fritjof Capra notes that,

The apparent contradiction between the particle and the wave picture...called in question the very foundation of the mechanistic world view – the concept of the reality of matter. At the sub-atomic level, matter does not exist with certainty...but rather shows ‘tendencies to exist’.<sup>239</sup>

For a good many years, quantum physics’ challenge to mechanistic world views has remained theoretical. But more recently advanced physics experiments, such as those using the Hadron Collider (experiments at the sub-atomic level and with particle generation), confirm findings. Moreover, in taking seriously the relation of “observer” to the observed, these experiments also take into account the very instrument assisting the observation as comprising the result of what is observed.<sup>240</sup> We cannot, as observers, be set aside from what is being observed. We are part of the whole. Bohm supports his case by careful examination of the experimental processes involved in

quantum mechanics. But the implication for him is that at a fundamental level, even a division between observer and observed no longer makes sense:

...we have to regard the universe as an *undivided and unbroken whole*. Division into particles, or into particles and fields, is only a crude abstraction and approximation. Thus, we come to an order that is radically different from that of Galileo and Newton - the order of *undivided wholeness*.<sup>241</sup>

Bohm sets aside a Cartesian view of the world and moves into the world of quantum mechanics imbued with Einstein's vision.

Bohm constantly uses the words: movement, motion, flux, and change. And these became instrumental in shaping the experimental processes involved in my project. He states that, '*...we in our act of observation are like that which we observe: relatively constant patterns abstracted from the universal field of movement.*'<sup>242</sup> The words reference the processuality of a constantly moving world. Change and movement are inherent in the universe from sub-atomic levels to cosmological events. All is in motion. All is changing physically:

I regard the essence of the notion of process as given by the statement: Not only is everything changing, but all is flux. That is to say, *what is* is the process of becoming itself, while all objects, events, entities, conditions, structures, etc., are forms that can be abstracted from this process.<sup>243</sup>

Ice, too, is ephemeral, processual. Water gathers, freezes, melts, and vaporises becoming a gas; ice is but one process of an ongoing hydrological cycle. Ice is a prime indicator of this process observed via its entropic energy. Even water, frozen as ice is moving at the sub-atomic level. Capturing these states metaphorically and re-presenting them as becoming – a *moving* image – constitutes my practice-based research for this thesis.

This processuality might seem more akin to the movement of sonic matter, and it is interesting that Bohm chooses music as an example to illustrate his points:

In listening to music, *one is therefore directly perceiving an implicate order*...it continually flows into emotional, physical, and other responses that are inseparable from the transformations out of which it is essentially constituted.<sup>244</sup>

The sonic waves which constitute the material framework of music are enfolded in an experience of listening: the notes, changes in volume, instruments, passages transitioning, rhythm, duration and so forth. These sensory responses also resonate in aesthetic experiences of many kinds, such as a video installation. In *glacies lux*, the flow of visual material attempts to also operate through an enfolding. The video sequences constitute an implicate order that is optical similar to the aural. The imagery, sequencing, editing, animation of still photos, the temporal rendition of the videos all

contribute to the “implicate” nature of the work and can be felt as a kind of musical flow.

In order to explain enfoldment, Bohm more often uses an image that relies on photographic principles. In a camera lens used to depict a two-dimensional scene. He suggests that the image is produced using a series of point-to-point relations with the “real” object in front of the camera. He then turns to the newer technology of the hologram. A hologram transmits an image of an object to a photographic plate using lasers and wave interference. It is possible to use holographic techniques to portray an object or scene in three dimensions. The hologram gives the impression of seeing the whole object from all angles. If the support material of the hologram is broken into pieces you are still able to view the whole object in each separate piece and, if broken up even further, the whole object continues to be present in the representation. The hologram is an implicate ordering of an object. But Bohm was not satisfied that the hologram metaphor completes his idea of wholistic vision, because at the time of writing holograms remained static. From these two ideas he then synthesized the term *holomovement*.<sup>245</sup> This now brings dynamism to his concept and, coincidentally presages the developing techniques of moving holography.<sup>246</sup>

### **Process as concept and practice**

Throughout Bohm’s discussion of his ideas, “process” is a crucial concept: ‘Indeed, the word “process” is based on the verb “to proceed,” which means “to step forward”...which goes step by step, with one step following another.’<sup>247</sup> This idea of process and “flow” are endemic to my art making. It is by working with process, as a mechanism for thinking that is for research – that I am able to achieve what Ernst Van Alphen names as an imagistic thinking: ‘Rather, the painter thinks, and she does that in her paintings. A painting is therefore...in the sense of the active definition, as an act of thought.’<sup>248</sup> My videographic “thoughts” enact the experience I gained in the kitchen laboratory and the glacial landscape.

Bohm employs another lengthy metaphor for his thoughts on “flow”, that of a running stream. This example is familiar to philosophical discussions from Heraclitus through to the process based-philosophy of Alfred North Whitehead.<sup>249</sup> Heraclitus gives us the famous philosophical conundrum of never stepping twice in the same stream.<sup>250</sup> Capra saw Heraclitus as a Greek “Taoist” with his saying ‘Everything flows.’<sup>251</sup> Bohm continues:



The best image of process is perhaps that of the flowing stream, whose substance is never the same. On this stream, one may see an ever-changing pattern of vortices, ripples, waves, splashes, etc., which evidently have no independent existence as such. Rather, they are abstracted from the flowing movement arising and vanishing in the total process of the flow.<sup>252</sup>

This image is additionally directly connected to Taoism. Water is a key idea in Taoism, its English translation being the Watercourse Way.<sup>253</sup> Francisco Varela, a neuroscientist, who like Bohm is also influenced by Taoism, argues for a way to approach Tao:

...To us [its] formulation sounds like a paradox, and that it is, but not a vicious, circular one. To resolve it we must combine both sides of it; we must exercise a metalevel of understanding beyond the reach of logical analysis alone, as many a frustrated scholar has discovered. My point is that *wu-wei* points to a journey of experience and learning, not to a mere intellectual puzzle that one solves. It points to the process of acquiring a disposition where immediacy precedes the radical distinction between subject and object.<sup>254</sup>

Varela, like Bohm, selects words such as; “journey”, “experience”, “learning” and “immediacy”. The immediacy he refers to here precedes our usual understanding of a world that has been radically divided into categories such as subject and object.

Taoism originated in China and is a philosophy that finds parallels in much of Bohm’s thinking. Much of its philosophy is attributed to the writings and teachings of Lao-tzu and Chuang-tzu (its two main exponents). There are numerous translations and interpretations of the Tao; in a contemporary Western context Taoism can seem to be made up of enigmatic paradoxes as alluded to by Varela. Alan Watts wrote extensively on Taoism and sees it as:

... a view of the universe which is organic and relational - not a mechanism, artefact, or creation...Thus the Tao is the course, the flow, the drift, or the process of nature, and I will call it the Watercourse Way.<sup>255</sup>

Watts states that it is difficult for the Tao to be described or denominated only linguistically. He quotes Chuang-tzu:

...it may be attained but not seen, or, in other words, felt but not conceived, intuited but not categorized, divined but not explained. In a similar way, air and water cannot be cut or clutched, and their flow ceases when they are enclosed.<sup>256</sup>

Ice can be included in this elemental universe with air and water and even when it is enclosed it is still able to flow as glacier. The glacial, then, is a kind of natural experience of the Tao of water, not a cutting off of it into a different substance but rather a continuation of its flow at a different speed. In the context of my research, the use of intuitive lends itself less to ‘spontaneity’ and more to a practical method of

moving through processes of making. Tao's reference to certain elemental materials, namely, air and water, as not being able to be cut or clutched indicates that water *never stops flowing* if we understand it processually. When water is enclosed there is a point where, given certain physical and chemical circumstances, it might change. But the idea from Taoism, and from Bohm, is to reconsider flow as movement that precede divisions into formed things and substance. These procedural instances form the basis of *glacies lux*, the book and video installation: the artworks core to this practice-based research.

Lao-tzu and Chuang-tzu wrote poetic texts, which preclude the difficulties of language used descriptively or as a mode of denomination. The texts, *Tao Te Ching* (Lao-tzu) and the works of Chuang-tzu (as collected writings) do not supply logical philosophical ideas, which follow favoured Western modes of reasoning. Instead they contain stories and verses, which are meant to be "intuited" not critically analysed. It is from these writings that philosophical knowledge is gained. For example:

(As I) sit quietly, doing nothing,  
Spring comes and grass grows of itself.<sup>257</sup>

This two-line poem evokes duration and change – the world becoming without human intervention. In Taoism nature is in the spotlight, and water features in particular, because of its transient properties. Water offers a suitable idea for living in the moment, or to use the vernacular, "going with the flow".

Fritjof Capra wrote a seminal text in 1972 called, *The Tao of Physics*, in which he related Western physics to Eastern philosophies and which provides a link to Bohm.<sup>258</sup> He introduced two concepts from an expanded systems theory which also helps to shed light on these various ideas of process as both an idea and a "way":

The first aspect of systems thinking concerns the relationship between the part and the whole...The second characteristic aspect of systems thinking concerns a shift from thinking in terms of structure to thinking in terms of process. Systems thinking is process thinking.<sup>259</sup>

Systems thinking acknowledges that things shift over time, Bohm's "holomovement" is also a mode of systems thinking. The systems approach infiltrated much thinking in the 1960s. It was also taken up by Jack Burnham, an artist and theorist of the time, in his 'Systems Esthetics'.<sup>260</sup> In this essay, Burnham outlined how a systems approach, derived in the first instance from information theory, current in post-World War II cybernetic research, might be applied to art practice of the time. Burnham introduces the concept by saying, 'We are now in transition from an object-oriented to a systems-

oriented culture. Here change emanates, not from things, but from the way things are done.’<sup>261</sup> Burnham instigated a systems approach in art criticism and discussed the burgeoning “new media” arts of the time: experiments with art and technology (EAT); video (then a very new technology); happenings; land art and so on. He saw the technologies of the time making a significant impact on society and art then (the 1960s) and into the future.<sup>262</sup> He foresaw the development of “computer art” but not necessarily the extent of its influence and dominance in the twenty-first century.

Burnham also suggests that interdisciplinarity had become a contributing factor in the art making process, especially in the art forms of happenings and land art. But he also saw this extending to relations between the arts and sciences. Artists had begun to speak to scientists and engineers to make their work. Hence Burnham’s notion of systems very much echoes the idea of an enfolded relation to the world that preceded the breakdown into separate disciplines or cultures such as “art” and “science”. The technically oriented and isolated view of the world was giving way to something multi-dimensional: ‘The scope of a systems esthetic presumes that problems cannot be solved by a single technical solution, but must be attacked on a multileveled, interdisciplinary basis.’<sup>263</sup> Bohm’s “holomovement” resonates in Burnham’s conception of systems themselves, ‘...that most systems move or are in some way dynamic...’<sup>264</sup> This dynamic continues to fuel contemporary art and its relations with technologies, namely video and new media, which are effected by rapidly changing software and hardware technical dynamics. Yet, Burnham chose a particular artist’s work – Hans Haacke – who was neither explicitly technologically oriented nor an outright example of socio-political art, to demonstrate the emergence of a systems aesthetic.



**Figure 39. Hans Haacke, *Condensation Cube*, plexiglass and water, Hirshhorn Museum and Sculpture Garden, begun 1965, completed 2008.**

Burnham says that,

Since the early 1960s Hans Haacke has depended upon the invisible components of systems. In a systems context, invisibility, or invisible parts, share equal importance with things seen. Thus air, water, steam, and ice have become major elements in his work.<sup>265</sup>

*Condensation Cube* by Haacke is an example of a systems approach to making art. The work is a piece of sculpture constructed from a thirty centimetre cube of transparent plexiglass. Inside the cube is a twenty millimetre layer of water (approximately). The cube is sealed from its environment. When the cube is placed in a gallery or the Hirshorn Museum and Sculpture Garden, as in Figure 39, a gallery light is trained on the cube to focus its space but to also to implement its systems cycle. The air and the water inside the cube heat up to a certain temperature. The water evaporates and after reaching a certain humidity it then condenses on the sides of the cube. This water accumulates and falls down the side of the cube where it heats up again to begin the cycle once more effecting the hydrological cycle inside a transparent cube. Thus the cube is reliant on its own environment and the environment in which it is placed. *glacies lux* could be seen as an acknowledgement to this territory as well.

Francis Halsall has argued that Haacke thought that his art had political implications because of its uptake of a systems perspective.<sup>266</sup> Haacke is quoted as saying,

Information presented at the right time and in the right place can potentially be very powerful. It can affect the general social fabric...The working premise is to think in terms of systems: the production of systems, the interface with and the exposure of existing systems...Systems can be physical, biological, or social.<sup>267</sup>

“The right time and right place”, in my case, concerns the debate on climate change and the use of images to affect a rethink of our relation to the landscape. It is with this in mind that I position the content in *glacies lux* as political. And as Bohm puts it, ‘Indeed, content and process are not two separately existent things, but, rather, they are two aspects of views of one whole movement. Thus fragmentary content and fragmentary process have to come to an end *together*.’<sup>268</sup>

Simon Penny reassesses Burnham’s ideas with respect to more recent computational culture and aesthetic.<sup>269</sup> Penny updates Burnham’s argument to include contemporary advances in technology and speaks about the new media of interactive art. He sees Burnham’s text as “under acknowledged” and wishes to apply some of Burnham’s thinking to the field of interactive art, a product of the computer:

...most practitioners in these fields refer to the ‘user’ or the ‘visitor’ as opposed to ‘viewer’, the experience is no longer one of passive contemplation but of engagement and ongoing interaction with quasi-intelligent systems through time.<sup>270</sup>

Penny observes that, ‘the prodigious experimentation in the visual arts of the sixties and seventies, can be interpreted, with hindsight, as conceptual research into the art of future media...’ thus echoing the opinions of Youngblood in *Expanded Cinema*.<sup>271</sup> Penny brings back or re-invigorates the word “interdisciplinarity” when speaking about “computer media” or new media. Collaborators are needed to realise the art made with computers, from programmers to hardware technicians. This perhaps is also part of what is meant by a systems approach – a more wholistic way of making art that is not cut off from the rest of its social, ecological, political and cultural contexts. Halsall argues that a systems approach to the aesthetic,

...can therefore be employed as part of a retrospective critical discourse...Thus conceived, systems aesthetics allows for an expanded field of practice implying a shift from singular art objects to the use of systems as artistic mediums. These descriptions include: the "dematerialised" art object (Lucy Lippard); "Intermedia" (Dick Higgins); and the "post-medium condition" (Rosalind Krauss).<sup>272</sup>

Thus far in this chapter I have focused primarily on critical discourse and theoretical ideas about wholistic modes of perceiving art and science, their relations to each other and to the world. I have paused at pertinent points to reflect upon where and how my own practice has been influenced by and pursues these relations. In the last part of this chapter I want to turn to the experimental art of Stan Brakhage. Brakhage is not an obvious choice in this context. He is not an example of “art-science” collaboration nor is he obviously influenced by, for example, quantum mechanics. Much of his work is intimate and personal. However, he is certainly someone who pushed process to an art form. I take up Brakhage here because his actual work, and the ways in which it deals with natural and landscape phenomena in particular, demonstrate an enfolded “implicate” approach to vision.

### **Brakhage: *Metaphors on Vision***

Stan Brakhage was an American avant-garde film-maker whose work spanned the period from 1952 to 2002. His is an extensive body of work. His view of the world was close to hand: his family, his wife, and his children, trips to the country, direct life experiences, and later, the contents of his studio. Brakhage says of his practice that, ‘so much of my life had been photographing the story of my life.’<sup>273</sup> I think that it is

possible to re-visit Bohm's concept of wholeness to describe Brakhage's output. There seems to be an implicate order at work in the entirety of his work. I do not see that the "grand statement" was the concern of Brakhage, but rather a quiet poetic chronicling of life as he encountered it.

There were two distinct periods of artistic production in his career. The first was where he made films from his immediate surroundings using a loosely based non-traditional narrative, an example of which is the film, *Creation* (discussed in Chapter 1). In the second period, he developed what ostensibly may be a [second] manifesto, based on what he called "closed-eye vision" or "hypnagogic vision." The hypnagogic refers to the transitional state preceding sleep, and the visual images that may occur in a semi-conscious state.<sup>274</sup> My interest in Brakhage comes from examples, which span both periods and includes the personal philosophy he developed over the years of his practice and is encapsulated in the book, *Metaphors on Vision*.<sup>275</sup> I see Brakhage's philosophical theory resonating with that of Bohm's and of the Tao. The sense he made of the world was tempered by his wish to see the world with new eyes:

Imagine an eye unruled by man-made laws of perspective, an eye unprejudiced by compositional logic, an eye which does not respond to the name of everything, but which must know each object encountered in life through the adventure of perception. How many colors are there in a field of grass to the crawling baby unaware of "Green?" How many rainbows can light create for the untutored eye? How aware of variations in heat waves can that eye be? Imagine a world alive with incomprehensible objects and shimmering with an endless variety of movement and innumerable gradations of colour. Imagine a world before the "beginning was the word."<sup>276</sup>

It seems as though what Brakhage is describing here is that affective moment – pre-personal, before language. He was hoping to approach this experience through the films he made. Brakhage advocates a new visionary practice for the filmmaker attempting to break away from the conservative vision of the traditional narrative embraced by Hollywood cinema. He asks that we see things anew and to apply this vision as active practice, just as Bohm encourages. He was not necessarily interested in the need for language to translate what we see. The visual experience is the whole. Although my work is not directly influenced by the processes Brakhage used in his film practice, I am very interested in his approach to seeing the world anew. For me the image has the ability to present an idea with strong artistic content. The concept which links Bohm and Brakhage is that of enactive perception, as found in the work of Varela. In *Ethical Know-How* Varela defines enactive perception as a sensory mode of encountering the world via concrete, embodied, lived experiences; it is a precursor to gaining knowledge



and comes about through a relation between the perceiver and “situatedness.”<sup>277</sup> Perception, then, is enactive rather than given – it is the relation created between perceiving organism and the situation it finds itself in. Physical and ecological location plays a crucial part in the process of making sense of and being in the world. Varela revisited the work of Piaget and determined that, ‘cognition is grounded in the concrete activity of the whole organism, that is, in sensori-motor coupling.’<sup>278</sup> Varela sums up his position on this by saying that the world is accumulative through all of our senses and all of our direct experiences with it. It is not something given to us. He calls it “*cognition as enaction*” becoming in the world by the physical embodiment of all it has to offer us.<sup>279</sup> Rather than putting forward a fragmentary view of experience Varela makes the point that we constantly react to events in the constant flow of the present and that these events provide “micro-identities” and these, in part, correspond to a given situation in a “micro-world”.<sup>280</sup> Rather than fragments, “micro-identities” are micro-cosmic recursions of an entire order or mode of being in the world. Varela bring us back to the whole, just as Bohm does, by acknowledging that the world or reality is “perceiver-dependent,” because the perceiver makes sense of the world in their own terms and with their own active experience of gathering, encountering and making sense in that world.<sup>281</sup> Varela sees differences between an environment and the world; an environment being local and the world having a wider context. We inhabit both but not necessarily in an equivalent way. An environment establishes a simple, more direct response to our accumulating experience of the world.<sup>282</sup> And more importantly Varela emphasizes this by saying that we pick and chose what is important or not depending on our generated interest.<sup>283</sup>

Brakhage’s earlier quote confirms this; “the story of my life” is output in film but not necessarily in overt ways. Brakhage’s filmic and autobiographical history is evidence of this enacted perception. His whole life was the subject of his films. He moved through domestic environments, the natural landscape and his world carrying a camera and viewed that world through its viewfinder. The camera became an extension of his body. He chose to film instances of his life but was not making a documentary. Events that occurred in his life became the subject of his films and so-called small autobiographical events take prominence, such as taking a trip to Alaska or falling over and concussing himself because of some black ice. He thought long and hard about what film was to him and its wider theoretical construct by formulating his own unique thoughts on what film should constitute. The transition between the two states of his filmic output measures the use of his enactive perception over his history: the camera-



based work as opposed to “closed-eye vision” work. He then relied on the materiality of the world, using the contents of his studio such as moth’s wings and other substances, drawing implements and dead film stock to enact a new perception, without a camera. I see the entire oeuvre from Brakhage as enacted perception.

The two periods of Brakhage’s practice coincided with two very different approaches in his film-making process. His earlier methodology involved experimental hand-held camera work with unconventional editing practices, such as mixing up takes, changing the order of the take, finding the rhythm in the movement of things with the camera, and the experimental processing of film for dramatic effect. In the second period there was an almost complete change of approach to process. He worked directly with manual techniques applied to celluloid, ostensibly leaving the camera behind. During this period Brakhage modified his manifesto by building on his earlier ideas and introducing a more mature concept of, “closed-eye vision.” This meant, literally, asking the question: what do you see with your eyes closed? Brakhage made a series of films that used this technique, some examples being: *Black Ice* (1984), *Prelude* (1996), and *Mothlight* (1963).

Brakhage used a refined technique, which took the form of hand-drawn processes on discarded film leader (which is transparent) and/or the ends of film (which is black) as a support for his chosen imagery. There was no lens-based image capture. Brakhage worked directly on the film with paint, scalpels (to cut away the black of the film), coloured markers, ink, gluing on moth’s wings, or whatever came to hand and was relevant to his chosen ideas. These hand-drawn roughs were then dispatched to the (film) printer for further technical enhancement, sometimes with post-camera intervention, and from which print copies were made for projection. During this hands-on period Brakhage was even more interested in immediate and direct experience of the visual. For the task of making and describing his films to the viewer he felt that language was inadequate. The viewer had to experience the image/s directly; as ‘closed-eye vision’ does; the traditional narrative all but disappears from his work. His primary interest of seeing things in a new way - seeing the world through fresh eyes became his guiding mantra. Brakhage’s advocacy of this idea could be seen as a clarion call to the filmmaker or artist to conceive of new visual forms that communicate in new ways without reliance on written or oral languages. At this point in his career Brakhage, seems to embody Van Alphen’s notion of thought with images; he is enacting experience by making films without a camera.

Brakhage incorporated other formal techniques in his film practice that included ideas of the poetic and an interest in the structural forms of music to guide his film work. During his life, he worked with, and befriended, many American poets. His discussions with them fed his philosophical and filmic output. The manifesto contained in *Metaphors on Vision* is elaborated upon throughout his work. Charles Olson (an American poet) was very influential in Brakhage's thinking and he felt a deep affinity with him: 'Charles Olson put it this way: Of rhythm is image/ Of image is knowing/ And of knowing there is a construct.'<sup>284</sup> This takes us back to Bohm's ideas about process as a dynamic and what is "implicate" in this. All the components of a given work contribute to its experience. What Olson says here forms the kernel of Brakhage's experimental cinematic practice: simplicity itself, something to aspire to, but it also engages with the complexities of the cinematic process. Brakhage seeks poetry in film, 'I think those people who regard my films as hard are simply disregarding the fact that they're poems, that they're little cine-poems. They're to be looked at completely differently.'<sup>285</sup> He encourages an enactive perception; the viewer has to work to situate themselves in relation to the film. Bizzochi in his manifesto on "ambient video" likewise takes up this point, 'As artists and creators work within a new medium, its effective poetics are revealed through practice and experimentation.'<sup>286</sup> Although the ambient embraces the poetic in Bizzochi's work, it fails to sustain any affect beyond something fleeting. His ambient videos can be likened to moving postcards. For Bizzochi, 'ambient video will be a more purely visual medium—relying on pictorial impact and the subtle manipulation of image, layer, flow, and transition.'<sup>287</sup> It loses the density of Brakhage's personal vision of the world and a sense of the processes of visual becoming in which the viewer must also engage.

*Black Ice* from 1994 is an example of one of Brakhage's closed-eye vision films and is an excellent example of enactive perception.<sup>288</sup> It forms part of an artistic genealogy for my proposal that ice can be materially and affectively understood as (moving) image. Brakhage's film enacts a personal experience by ways of the poetic that become integrated into the film-making process. The film's duration is one minute and fifty five seconds. It contains no recognizable imagery but begins with a white flash of light as the projector begins to play the work. It then moves rapidly through a series of colour-field frames into the body of the film. These abstractions are images painted on the raw film leader. Brakhage used abrupt methods of intercutting and the superimposition of images to construct the film because the image flow is very inaccurate in terms of sequence when painting directly onto blank film. This inaccuracy

comes from the difficulty of repeating an image without some sort of mechanical intervention such as the camera.

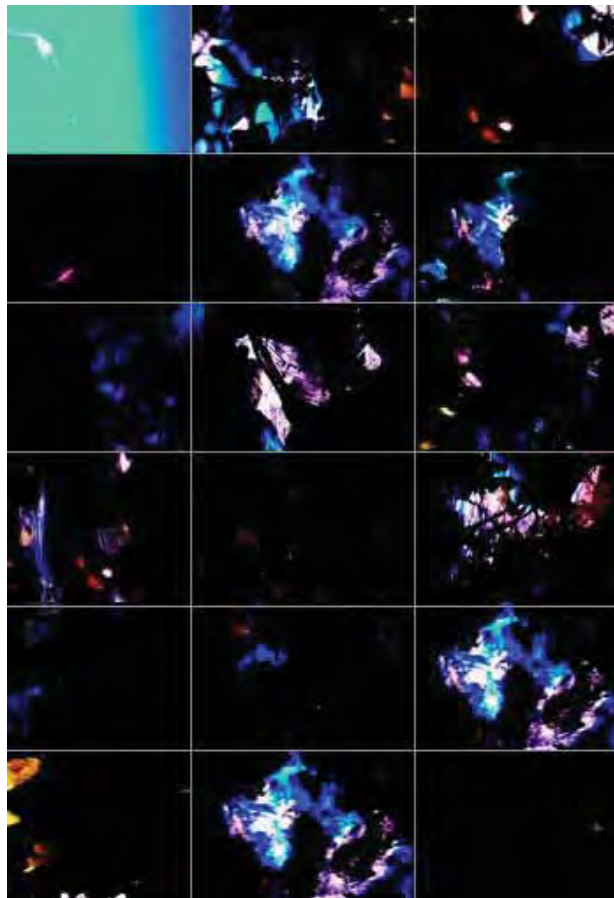


Figure 40. Stan Brakhage, *Black Ice*, Random still sequence. 1994

The time the film takes to reach its conclusion is deceptive. By filmic standards its duration is short and this might assume that its tempo would feel rapid. But its duration seems much slower. As the images wash over the eye, they engage vision, allowing the eye to be drawn into the film's colourful world. Nonetheless, the film's palette is restricted. Most of the frames are black with splotches of colour interspersed throughout the blackness. A frame-by-frame analysis of the film reveals a palette of reds, blues, greens and purples with flashes of white light. Beginning with a white flash, and then moving through a series of coloured whole frames that introduce a painting and/or scraping of the film's emulsion little variation in colour is actually used. The frames are broken up with black and colour mixtures. A subtle envelopment by colour draws the viewer "into" the imagery of the film. An impression of zooming *in* occurs, difficult to accomplish with a non-lens based film. Brakhage's optical printer has added this into the work: 'The rushing sensation results from zooms made on an optical printer, a device used for "special effects" that can re-photograph the filmstrip a frame at a time

with a variety of changes...'<sup>289</sup> Just as the film begins with random flashes of colour it seems to end in the black at 1:30 min but at 1:35:11 there is another flash of colour continuing into more white light flashes. The credits come in at 1:38:05 and then at 1:42:20 is the statement, 'This film is to be considered in collaboration with Sam Bush, optical printer at Western Cine, in the sense that I was the composer, he the visual musician.'<sup>290</sup>

*Black Ice* is a tangible example of ice evoked via a (moving) aesthetic image. But in this instance the ice is indicated by the title rather than through the imagery. To a certain extent, then, the ice in Brakhage's film is evoked non-representationally. The imagery is instead abstract, but immediate; a kaleidoscopic visual sequence observed via the eyes hitting the optic nerve. Its making is connected directly to Brakhage's personal experience. Apparently, he fell over on some black ice and was concussed. This "micro-crisis" to turn back to Varela's ideas about the ongoing constitution and enaction of perception, is imaginatively recomposed for film. Enactive perception becomes enactive imagination in Brakhage's work. An embodied experience becomes a film. The film's flashes of white light resonate with a kind of abyss of concussive imagery. Brakhage is offering us an entirely new way of seeing, as if one saw the world through the refraction of not just black ice but simultaneously *the loss of conscious vision*: closed-eye vision. While *Black Ice* may be viewed as presenting a fragmentary visuality it fits wholly within Brakhage's conception of both visual perception as active process and his art making as commitment to processuality. It becomes part of the becoming of his work, across his entire filmic output, and of what it is to be a film maker. There is a connection here with Bohm's emphasis on process and flow: although an artist might use fragmentary images these might actually pertain – especially in the editing and 'enfolding' process – to an overall flow of vision, indicative of an encountering of the world. As Bohm states, '*...we in our act of observation are like that which we observe*: relatively constant patterns abstracted from the universal field of movement.'<sup>291</sup> *Black Ice* unfolds a perceptual process of art making that visually, sensorially engages its world.

Imaginative visions of the world assist us in making sense of its complexity. And the imaginative power in David Bohm's philosophy emphasizes interconnectedness *in* and *of* the world. He encourages us, as participants of that world, to observe and experience it as a whole not as one that is divided into mechanistic categories such as things and substances. He sees fragmentation as a major problem in which we, as world citizens, thereby neglect what is happening to the world as an entire

system, choosing only to focus on one isolated issue at a time. While Stan Brakhage's imaginative vision asks us to see with *unruled* eyes and to *encounter life through the adventure of perception*. He wants us to bring freshness to how we see the world, to challenge "stale" ways of seeing presented to us by well-worn paths of mediated image. It is the imaginative power of David Bohm's enfolding and unfolding as dynamic process and Stan Brakhage's visionary aesthetics that I endeavour to combine in a way to present us with a means with which science and art might equally point us toward the ways in which experiments on, with and about vision might also provoke different visions *for* the Earth.

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227 William Blake, "Auguries of Innocence", *The Literature Network* website, (2010). Availability: <http://www.online-literature.com/donne/612/>.

228 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002).

229 Michael Talbot, *The Holographic Universe*, (London: Harper Collins Publishers, 1996): 41.

230 Ibid., 47.

231 Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, (London: Flamingo, 1982): 358.

232 See the website "Center for Ecoliteracy" for more details, *Center for Ecoliteracy* website, (2004-2011). Availability: <http://www.ecoliteracy.org/>. Capra was co-founder of The Center for Ecoliteracy, established to assist in educating school children about ecology and sustainability.

233 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963), unpaginated.

234 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 218.

235 David Bohm, *On Creativity*, (London and New York: Routledge, 1996): 86.

236 Thomas Young, "The Bakerian Lecture: Experiments and Calculations Relative to Physical Optics", *Philosophical Transactions of the Royal Society of London*, (1804): 94.

237 Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, (London: Flamingo, 1982): 77.

238 Ibid., 78.

239 Ibid., 78.

240 An example of such an experiment can be found at "The ATLAS Experiment", *Atlas Experiment* website, (2010). Availability: <http://www.atlas.ch/>.

"ATLAS is a particle physics experiment at the Large Hadron Collider at CERN. The ATLAS detector is searching for new discoveries in the head-on collisions of protons of extraordinarily high energy. ATLAS will learn about the basic forces that have shaped our Universe since the beginning of time and that will determine its fate. Among the possible unknowns are the origin of mass, extra dimensions of space, unification of fundamental forces, and evidence for dark matter candidates in the Universe."

241 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 169.

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242 David Bohm, *On Creativity*, (London and New York: Routledge, 1996): 94.

243 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 62.

244 Ibid., 253.

245 Ibid., 191.

246 Research is still be carried out in this discipline with results only just surfacing, for example, Engineering Research Center Program of the National Science Foundation, *Center for Integrated Access Networks* website, (2008). Availability: <http://cian-erc.org/index.cfm>. A project from the Centre for Integrated Access Networks in 2010: "Holographic telepresence means we can record a three-dimensional image in one location and show it in another location, in real-time, anywhere in the world. This advance brings us a step closer to the ultimate goal of realistic holographic telepresence with high-resolution, full-colour, human-size, 3D images that can be sent at video refresh rates from one part of the world to the other," said Nasser Peyghambarian, project leader.

247 David Bohm, *On Creativity*, (London and New York: Routledge, 1996): 97.

248 Ernst van Alphen, *Art in Mind*, (Chicago: University Of Chicago Press, 2005): 2.

249 Alfred North Whitehead, *The Concept of Nature*, The Tarnier Lectures, (Dublin: 1919): 159. For example in this book, Whitehead speaks of the electron as a "stream of events" rather than a substance in and of itself.

250 Heraclitus, Translated by William Harris, "Heraclitus: The Complete Fragments: Translation and Commentary and the Greek Text", *Humanities and the Liberal Arts: Greek Language and Literature: Text and Commentary*. (1994): Availability: <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>: 51.

"20. They do not step into the same rivers . It is other and still other waters that are flowing. This is the classic statement of the Continuum for which Heraclitus is so famous then and now, that little comment is necessary.

110. Into the same rivers we step and do not step. We exist and we do not exist.

This presses the figure of the river one step further. It is not only a different river, but the WE is different from day to day, and furthermore the WE fluctuates between being and not being. This posits a continuum between what IS and what is NOT, which Parmenides has tried to answer by saying: Deal with what is as IS, and what is not, as IS NOT. Whether the problem has been solved to date, is and also is not clear."

251 Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, (London: Flamingo, 1982): 128.

252 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 62.

253 Lao-tzu, *Tao Te Ching*, (London: Penguin, 1964). The Tao Te Ching is one of the prime texts regarding its philosophical concepts.

254 Francisco J. Varela, *Ethical Know-How: Action, Wisdom, and Cognition*, (Stanford: Stanford University Press, 1999): 33.

255 Alan Watts and Ai Chung-Liang Huang, *The Watercourse Way*, (New York: Penguin Books, 1975): 41.

256 Ibid., 41.

257 Ibid., 45.

258 Fritjof Capra, *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, (London: Flamingo, 1982).

259 Fritjof Capra, "This Systems Approach to Seeing", *Futures*, October, (1985): 475-48.

260 Jack Burnham, "Systems Esthetics", *Artforum*, Vol. 7, No. 1, (New York: September 1968): 30-35.

261 Ibid.

262 Maurice Tuchman, *A Report on the Art and Technology Program of the Los Angeles County Museum of Art: 1967-1971*, (Los Angeles: Los Angeles County Museum of Art, 1971).

Experiments in Art and Technology was founded in 1966 by engineers Billy Klüver and Fred Waldhauer and artists Robert Rauschenberg and Robert Whitman.

263 Jack Burnham, "Systems Esthetics", *Artforum*, Vol. 7, No. 1, (New York: September 1968): 30-35.

264 Ibid.

265 Ibid.

266 Francis Halsall, "Systems Aesthetics and the System as Medium", *Systems Art: Symposium* website, edited by Peters Lang, (2008). Availability: [http://www.systemsart.org/halsall\\_paper.html](http://www.systemsart.org/halsall_paper.html).

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267 Ibid.

Note: This was Hans Haacke's response (1971) to the cancelling of his show at the Guggenheim. Quoted in Lucy Lippard, *Six Years: the Dematerialization of the Art Object 1966–1972*, (Berkeley: University of California Press, 1997 [1974]): xiii.

268 David Bohm, *Wholeness and the Implicate Order*, (London and New York: Routledge Classics, 2002): 23.

269 Simon Penny, "Systems Aesthetics and Cyborg Art: The Legacy of Jack Burnham", *Sculpture*, 18. Jan/Feb 1, (1999).

270 Ibid.

271 Ibid.

272 Francis Halsall, "Systems Aesthetics and the System as Medium", *Systems Art: Symposium* website, edited by Peters Lang, (2008). Availability: [http://www.systemsart.org/halsall\\_paper.html](http://www.systemsart.org/halsall_paper.html).

273 Stan Brakhage and Pip Chodorov, "Stan Brakhage with Pip Chodorov", *The Brooklyn Rail* website, (2003). Availability: <http://brooklynrail.org/2008/03/lastwords/stan-brakhage-with-pip-chodorov2>.

274 *Compact Oxford English Dictionary*, (USA: Oxford University Press, 1991)

275 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963), unpaginated.

276 Ibid.

277 Francisco J. Varela, *Ethical Know-How: Action, Wisdom, and Cognition*, (Stanford: Stanford University Press, 1999): 7.

278 Ibid., 8.

279 Ibid.

280 Ibid., 10.

281 Ibid., 13.

282 Ibid., 55.

283 Ibid.

284 Stan Brakhage and P. Adams Sitney, *Metaphors on Vision*, (USA: Film Culture Inc., 1963), unpaginated.

285 Stan Brakhage and Pip Chodorov, "Stan Brakhage with Pip Chodorov", *The Brooklyn Rail* website, (2003). Availability: <http://brooklynrail.org/2008/03/lastwords/stan-brakhage-with-pip-chodorov2>.

286 See Jim Bizzocchi's article, "Ambient Video: The Transformation of the Domestic Cinematic Experience", *Small Tech: The Culture of Digital Tools*. Edited by Byron Hawk, David Rieder, and Ollie Oviedo, (Minneapolis: University of Minnesota Press, 2008).

287 See Jim Bizzocchi's article, "Ambient Video: The Transformation of the Domestic Cinematic Experience", *Small Tech: The Culture of Digital Tools*. Edited by Byron Hawk, David Rieder, and Ollie Oviedo, (Minneapolis: University of Minnesota Press, 2008).

288 Fred Camper, "Brakhage Stills", *Fred Camper* website, (2010). Availability at: <http://www.fredcamper.com/Film/BrakhageS.html>. *Black Ice*, 1994, 16mm, colour, silent, 2 min. (Held in the collections of: Canyon Cinema (San Francisco), The Canadian Filmmakers' Distribution Centre (Toronto), and Light Cone (Paris).

289 Fred Camper and Stan Brakhage, *About Films by Brakhage: An Anthology*, (New York: The Criterion Collection, 2003).

290 *Black Ice*, 1994, 16mm, colour, silent, 2 min. (Held in the collections of: Canyon Cinema (San Francisco), The Canadian Filmmakers' Distribution Centre (Toronto), and Light Cone (Paris).

291 David Bohm, *On Creativity*, (London and New York: Routledge, 1996): 94.



## CHAPTER 5

Water is H<sub>2</sub>O, hydrogen two parts, oxygen one,  
but there is also a third thing, that makes it water  
and nobody knows what it is.  
The atom locks up two energies  
but it is a third thing present which makes it an atom.<sup>292</sup>

In Chapter 1 I introduced the idea of viewing the materiality of ice through the lens of science and other cultural forms; folk tales, fairy tales, or other selected vocabularies and in Chapter 4 that these could then be refracted through the other interpretative visions of the world such as Bohm's and Brakhage's thus bringing us closer to a certain poetic quality I see in ice.

This chapter discusses the idea that an image is a "mixed medium", to paraphrase W. J. T. Mitchell, rather than just an optical one. It looks at how the idea of mixing and blending chosen 'textual' sources are able to inform the visual. A pertinent example of the idea of this blend is summarised by D. H. Lawrence's poem, *The Third Meaning*, quoted *in toto* above. The poem returns us to a central component of this thesis, that of the blend, which in his poem relies on scientific knowledge but is presented in a poetic form. "Nobody knows what it is" – this mysterious something that holds the atoms together to form one of the most ubiquitous elements on the planet. Extrapolating from Lawrence's poem we could say that a poetics can be derived from my own blend of elements included in *glacies lux*. This blend may be seen as a greater sum than its parts. The "select ratio" of this blend contributes to the experience of the work. These new media combinations may assist in a further understanding of how ice might be seen in a material context with a distinct relevance to contemporary society.

The "textual medium" is also a visual medium. Andersen's fairy tale, *The Ice Maiden* was the primary source of a textual medium that I inmixed with my optical images and poetic descriptions to *blend* new visual images. *The Ice Maiden* became a tool in the re-negotiation of ice as image in a visual form. Poetic elements and devices from *The Ice Maiden* were important to the development of the visual style of *glacies lux*.

This chapter compares how images and text may come to work with each other visually calling on the recent work by W. J. T. Mitchell on theories of visibility and looking back toward the work on the folk tale and fairy tale in Mikhail Bakhtin and Vladimir Propp to determine elements which take their place in the blend of my images.

This chapter also examines the importance of poetic and imaginative spaces relative to the development and pursuit of a specific aesthetic style in the work that is *glacies lux*. The poetic and imaginative spaces were reliant on the language and vocabulary of a fairy tale. I am interested in how these poetic and imaginative spaces may contribute affectively at a visual level and assess two contemporary art works by Polixeni Papapetrou and David Haines as examples of this.

Here I turn to ideas of the poetic in the writings of Gaston Bachelard. Bachelard sought to describe the power of imaginative or poetic space via a textual form. Bachelard is a key writer on the poetic and his conception of spaces demonstrate the poetic bridge between textual and imagistic spaces.

### **The poetic**

Mathew Watts has argued that Bachelard's conception of the poetic occurs when '...the real and the unreal are joined together...' <sup>293</sup> Putting images and video sequences next to each other from both the 'real' – documentation of the ice experiments and glacial ice – and the "unreal" digital manipulation of this imagery into their new moving forms or video sequences, provided a similar kind of join. This enabled me to move between scientific concepts and imaginative spaces; in Raul Ruiz's words: '...language is discourse *about* the world, photography and cinema are languages *of* the world.' <sup>294</sup> Ruiz's words bring the discussion back to the idea of oscillation between language and the visual that I introduced at the beginning of this dissertation.

Bachelard, too, oscillated between types of knowledge that constitute imaginary spaces. He writes in *Water and Dreams* that there are two types of imagination, 'a *formal imagination* and a *material imagination*...images of matter, images that stem directly from matter. The eye assigns them names, but only the hand truly knows them.' <sup>295</sup> When Bachelard classifies these two types of imagination he assigns "material imagination" to the classic alchemical elements of fire, air, water and earth. He sees parts of these elements as a core in all poetics even if only in minute quantities. <sup>296</sup> My connection at this point is with water and its frozen state, ice. It is the material imagination and a connection to the elemental that has driven the research and poetics of my practice for this thesis. The poetic is a kind of space of habitation in which we resonate with these materialities. Bachelard introduces the idea of the "resonance-reverberation doublet":

The resonances are dispersed on the different planes of our life in the world, while the repercussions invite us to give greater depth to our own existence. In the resonance we hear the poem, in the reverberations we speak it, it is our own. The reverberations bring about a change of being. It is as though the poet's being were our being...the poem possesses us entirely.<sup>297</sup>

Bachelard here makes reference to all that is experiential: resonances occur at different levels in our life and in their reverberation we apprehend, using Addison's sense of the term, the content for our own becoming. He argues for a poetics of painting, suggesting that receptivity to the poetic comes by apprehending the painterly image in its immediacy. But with the development of a poetics of the *moving* image – and especially ambient video – resonance might take place over time within the looping image, compounding the image's reverberations. I see the video sequences that make up *glacies lux* as a series of poetic events that resonate and reverberate *in* and *amongst* each configuration.

Bill Seaman has experimented with ideas about video and the poetic coining the term “recombinant poetics.”<sup>298</sup> Seaman supports the idea of a compounding of visual, and especially moving image, poetic engagement taking place through the remixing of media elements in contemporary art video: ‘As media elements are combined, both in real-time and through temporal arrangement, a depth of subtle experience is generated, enfolding many different meaning-states through interaction.’<sup>299</sup> This combination or mixing of media and experiential engagement is discussed further by interrogating W. J. T. Mitchell's idea of images as “mixed media.”

### **Images as Mixed Media**

Images although traditionally thought of optically have been more recently reconceived as “mixed” or to refer back to Seaman, “recombinant” media. Bernard Cache's suggests that images be considered less as things themselves and more part of a broader field of the visual:

...we pass from visible objects to visibility itself. The word ‘image’ then places us in a purely optical register where effects are produced without reference to any given object.<sup>300</sup>

W. J. T. Mitchell has more thoroughly asserted this idea by suggesting that there is no purely visual, in the sense of solely optical, medium.<sup>301</sup> Mitchell applies a much wider net around the word image than does Cache. Visual media (images) fall within the scope of our entire “sensory modalities”.<sup>302</sup> He boldly concludes from this that all media are mixed.<sup>303</sup> He argues that it is difficult to state categorically that any media

being viewed is just visual. He asks the questions: is there more of one sensory modality contained within the image or another way of perceiving what is happening with an image? Is the image purely optical? Although he evaluates painting as the most exclusively visual medium he adds the caveat that most art from the modernist period onward requires the accompaniment of text.<sup>304</sup> Photography too is “riddled with language,” citing the theoretical lineage of Roland Barthes to Victor Burgin as an accompaniment to photography in the post-modern period:

Photography of this sort [what cannot be seen with the naked eye] might be better understood as a device for translating the unseen or unseeable into something that looks like a picture of something that we could never see.<sup>305</sup>

Mitchell’s argument is located within the context of contemporary hybrid art practice: ‘...all media are mixed media. That is, the very notion of a medium and of mediation already entails some mixture of sensory, perceptual and semiotic elements.’<sup>306</sup> There is no purely aural, tactile or olfactory media either. Instead what distinguishes each medium from the other are the specific proportional mixtures or “specific selected ratios” that a medium gains via cultural, technical and historical practices.<sup>307</sup> When the idea of specific ratios is applied to the work generated for this thesis it is possible to understand how complexity inheres in its images.

Mitchell then appropriates two terms to define how these ratios become relevant to a methodology of practice in art. The first one is a, ‘... phenomenon that I would call “nesting”, in which one medium appears inside another as its content.’<sup>308</sup> The next term Mitchell introduces is “braiding”, which occurs when human senses or signs intertwine with another in a faultless way. This is followed by the idea of “suture” employed in the same way as many film theorists to describe the joining together of disjunctive shots or edits.<sup>309</sup> All of these terms are useful when attempting to come to terms with the processes involved in and the methodologies associated with my practice-based research. For my own purposes I have modified Mitchell’s concepts slightly to an overall concept of *blending*. The term *blending* is closer to the way I construct an image that contains many elements which are mixed in varying degrees of complexity. I vary the “sensory ratios”, between imaginative spaces, thoughts and logistical considerations in the blend of images, visual styles and forms in the work. Many elements may be hidden or obscure within a blend but can still contribute markedly to the experience of those images. One example lies with the way the literary form of Andersen’s *The Ice Maiden*, which constitutes the imaginative space of travelling *into* a glacier, has helped to visually track the entry through the glacial images in *glacies lux*. The visual emphasis is on the luminescence of colour rather than panoramic shots, resonating with the

images of colour in Andersen's story. Mitchell's argument about the impurity of the optical rests on his understanding of visual perception as always inmixed with other sensory modes, 'there is no purely visual media because there is no such thing as pure visual perception in the first place.'<sup>310</sup>

I place most importance on the optical and its *ratio* of supplementary elements in the blend involving material taken from scientific ideas, cultural representations of ice, and fairy tales. The ratio of this supplementary material to the original documented image may be implied or not altogether obvious. I use the idea of *blending* layer upon layer of implicit material in the work in order to increase the perceptual density of an image in the viewing experience. The processual methodology of "thinking through", of both the ideas and materials, this blending of elements, contributes to the overall work that is *glacies lux*.

I have previously mentioned the notion of "thinking through" as art process from van Alphen. In my case, acts of thought can be found in the picture descriptions of Andersen's fairy tale. My interest in these stems from how these descriptions may be incorporated into a video sequence, not illustratively but as a transforming layer of the image sequence actively engaging affect. Historically fairy tales and folk tales demonstrate a capacity to generate word pictures and imaginative spaces. In the following discussion of the fairy tale and the folk tale, my focus will not be upon an extensive survey of the form but on a small sampling from each, in order to show how their "word pictures" supply another dimension of materiality to my exploration of ice. As stated, the method I use to inform the practice-based aspects of this research varies according to the project I am currently working on. I may focus on spectral colour descriptions or the tone of the language or structural time scales in the narrative or the pictorial symbols implied by certain words or how the story is formally structured depending on my requirements at a given time. Andersen's beautiful, evocative *picture descriptions* triggered an engagement with an imaginative space – that of ice. The device I distilled from his word images was that of entry *into* an unknown and unseen world. It is through the particular literary forms of the fairy tale and the folk tale that I see a heightened synergy between an optical and linguistic image.

## *The Ice Maiden*

The Andersen fairy tale is situated near glacial ice:

Two such glaciers lie in the broad ravines under the Schreckhorn and the Wetterhorn, near the little mountain town of Grindelwald. They are strange to look at, and for that reason, in summertime many travelers come here from all parts of the world.<sup>311</sup>

In his tale, Andersen constructed a unique vision of the world. He was a writer of stories and poetry, an artist, as well as an avid traveller who contributed a wealth of published travelogues for his audience. *The Ice Maiden* is the story of a boy called Rudy as he grows into manhood. The antagonist is the Ice Maiden, ‘...the queen of the glaciers. It is she whose mighty power can crush the traveller to death, and arrest the flowing river in its course.’<sup>312</sup> She meets a young Rudy when he and his mother fall into a crevasse on the glacier and she is killed. He becomes an orphan who now lives with his grandfather. The Ice Maiden “...kissed” Rudy “...but had not kissed him to death.”<sup>313</sup> It is her pursuit of Rudy that propels the story to its conclusion where the Ice Maiden reclaims Rudy as he drowns in a glacial lake. But it is less the narrative or moral elements that interest me and more his use of language to describe an imaginative space and evoke an image.

Andersen, in much of his writing used a technique known as “picture description”, that is, a method of visualization using words to suggest an immediate sense of place. Andersen’s pictorial use of language is more evident from the original translations rather than in those stories from which the original has been sifted and drained by many other interpreters of the story. Mogens Davidsen says that Andersen, ‘...first and for all was a man of the eye, with a formidable ability to generate images through words’ and that ‘His images are raw material, they are present before the story, before the “meaning”.’<sup>314</sup> It is interesting to note that Davidsen positions the image before all else. Andersen, as a visual artist, used watercolours on his travels through Europe to make drawings of things and places he saw. He was skilled at fashioning exquisite, intricate paper cuttings that combined many of the visual symbols and decorative imagery used in his evocative stories:

...The glacier appears as if a rushing stream had been frozen in its course, and pressed into blocks of green crystal, which, balanced one upon another, form a wondrous palace of crystal for the Ice Maiden—the queen of the glaciers.<sup>315</sup>

Andersen was a person who had direct experience of the ice that makes up a glacier and his language resonates clearly with my first experience on and subsequent visual documentation of the Franz Josef Glacier in New Zealand. He takes one directly into the

world of what might be seen while wandering on the ice. I asked some crucial questions of myself; is it possible to enter into that world through the crevasses that form in the glacier? Is a video experience able to replicate that experience? Andersen takes us back to the story:

The earth was black where the mountain torrents or the melted ice had poured upon it, but the bluish green, glassy ice sparkled and glittered... the snow sparkled as if covered with glittering diamonds...He could see the edges of the glaciers, looking like green glass against the soiled snow, and the deep chasms beneath the loftiest glacier.<sup>316</sup>

Andersen's description and use of language is deeply suggestive of place. In my experience the ice of the glacier IS the colour and texture described by Andersen. For me Andersen amplifies *the* highly poetic component of ice's chemical and physical structure and this is what I attempt to capture in my final exhibited works.

I continue to maintain that although science can provide a rational explanation of the chemistry and physics of the ice in the glacier, its beauty, magic and poetics are often better expressed with an image. As ice builds up over the centuries from rain and snow it is bounded by the surrounding geological formations. It becomes more and more compacted by the pressure and weight of each of its layers. As oxygen is driven out of the ice, this process gives the ice of the glacier or an iceberg its particular 'bluish-green, glassy' colour.<sup>317</sup> But Andersen's picture descriptions were vital to the provision of this supplementary poetic for the image material that is embodied in *glacies lux*.

Scientific research into ice core samples reveals a wealth of data as history: pollen count, oxygen levels, temperatures over the years, carbon dioxide levels and so on, these may not be accessible to a lay audience. The incorporation of this knowledge in a poetic manner required a twisting of this information into the images from fairy tales. In this way, and particularly, by using photographic documentation of the seldom directly seen one can bring new insight to a conventional presentation of fact. The words of Andersen firmly embed themselves in a history through which poetic descriptions and fairy tales connect us with our own and other cultures through time. During the development of this work I asked myself another question: Does ice have a history and how might this be relevant in a contemporary context? But the question also turned on the issue of the kind of history I might want to be evoking. *glacies lux* is a response, a partial answer to the question of the history of ice. I believe we can learn from this literary history and that it can provide ways of experiencing the world that contribute to a contemporary viewing context.



### Contemporary Art Practice: Examples of the Use of Fairy Tales

Contemporary visual artists are returning to folk tales and fairy tales as a way of connecting past and contemporary visual cultures and cosmologies. Of the 2007 exhibition, *Who's Afraid of the Big Bad Wolf? Mythology, Fairytales and the Occult*, curator Emma Bugden cites Joseph Campbell in the catalogue, 'Myth is the secret opening through which the inexhaustible energies of the cosmos pour into human cultural manifestation.'<sup>318</sup> Bugden also draws on the tradition of surrealism and its attempt to make a connection between dreams and reality. She reveals her curatorial perspective as one which selected artists for their ability to deploy the structures of dreams and the fairy tale in order to connect up with other realities or to draw on Bachelard again, imaginative spaces. The artists in the exhibition were, '...using existing narrative structures, or in other cases creating their own access routes to the other worldly.'<sup>319</sup> Not all the works are able to draw out this connection as well as others. In Polixeni Papapetrou's photographs, she places her daughter as Alice (in the series *Wonderland*) by having her perform in painted sets based on the John Tenniel drawings from *Alice in Wonderland*. For me, the mystery or magic or the "obtuse" (to quote Barthes) has disappeared from these images. They are "obvious", they are well produced coloured photographic images acknowledging their original source material. I do not think that they contribute greatly to the debate on how useful fairy tales may be read in a contemporary context but rather fulfil an illustrative function.

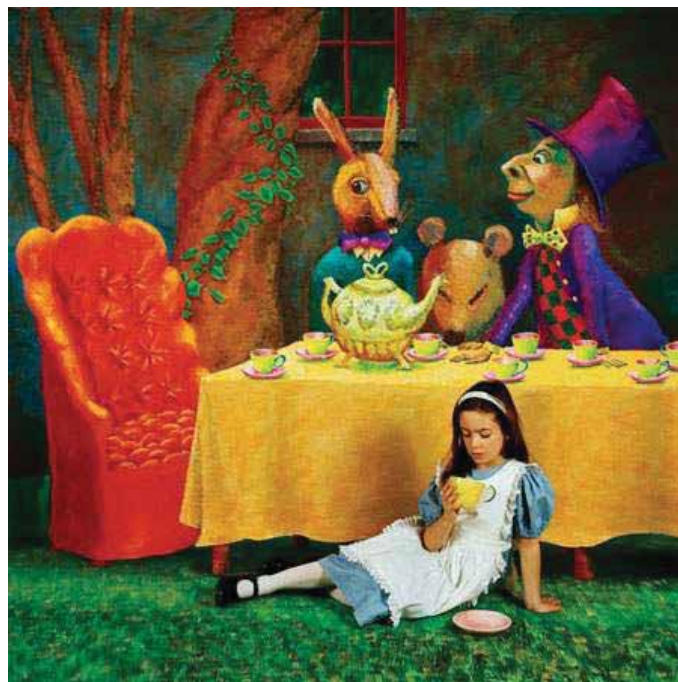


Figure 41. Polixeni Papapetrou, *I'm not myself you see*, from the series 'Wonderland'. 2004

On the other hand, *The door*, by David Haines, is a complex two channel video installation and embedded soundscape, which evokes place via the image and the aural. Two videos are projected into the corner of a room adjacent to each other thus “pressing” the space into itself. The image appearance and spatial confinement place the viewer in a tight, enclosed space. The image on both screens is the same – a mid-range shot of a pine plantation in semi-darkness tinged with green and shadowy. The image is disturbing, reminiscent of the shadowy world evoked in the Brothers Grimm fairy tales. Like expectant viewers of a narrative we assume something is about to happen over the work’s duration but it never does. Suspense is sustained and there is no movement in or through the space by the camera. Mikhail Bakhtin’s idea of the chronotope is relevant here. Bakhtin delineated as series of “time-spaces” – the chronotope – by structurally analysing an extensive body of literature from Greek and Roman writing to fairy tales to contemporary novels. He presented these as a series of formal functional structures enabling key discussions to occur of how time-space was used by each literary genre for future analysts. Because the chronotopes were so well defined they may be useful to other art forms, particularly to video in the editing process. Video inhabits both time and space and it is thinking through chronotopic relationships within the structure of a video that one is able to draw on Bakhtin’s information as guide to assist in the editing process. With Haines’ work time ebbs in a personal manner; it is “autobiographical” time where time moves according to the personal duration of the viewer in the space. The viewer is present in the given space of the gallery and the space of the work. But the landscape image also contains space both metaphorically and visually. Paradoxically, the image’s frame does not move; yet the image unfolds in the context of the viewer’s time spent with it. It is the viewer who unfolds time or rather duration. Trees and weeds sway gently in the breeze and our perception begins to play tricks on us. Is that something moving under the tree? The lighting of the image contributes to a foreboding pictorial menace. What does the title, *The door*, have to do with the piece? *The door* to where? Is the door going to open? What is behind the door? Haines allows the mind of the viewer to play its full range of perceptual tricks but he does not provide a solution to what is presented to us. Nevertheless he does suggest the key lies in the 5.1 surround-sound audioscape that:

...does all the spooking...things fly at the viewer through the room via sound and remain unseen...from gunshots far in the distance, distant logging trucks rumbling up a steep gradient to a growling dog running past so close yet out of sight.<sup>320</sup>

The narrative sonically places the audience somewhere in the middle of something but there is no story. The affect evoked is one of hesitancy. The sensory aspects of the audio further complicate the obvious in this work but contribute impressively to its obtuse qualities.



**Figure 42. David Haines, *The door*, high definition video; 5:1 surround sound, video still. 2006**

In my view Haines is more successful than Papapetrou with this work. He embraces the curatorial brief of an “alternate path of dream and reality” and in the process gives us a work which is ambiguous. The viewer is able bring their own perceptual experiences into the mix and unfold an imaginative space.

### **Approaches to Fairy Tales**

In the following I consider how imagistic aspects and devices from fairy tales have been analysed historically and then how this analysis might be useful in a contemporary art context. In particular I am interested in the ways in which a fairy or folk tale may produce entry points, through these devices, into Bachelard’s imaginative spaces or Bugden’s alternate paths. I am less interested in the ways in which either the folk tale or fairy tale reveals some kind of relation to pre-historical origins or culture.

Andrew Lang organized and published an influential collection of twelve fairy tale books in the late 1890s known as the *Coloured Fairy Books* and each named after a certain hue of colour spectrum; that is, blue, red, green and so forth. The books contain a wide variety of stories that are still published in contemporary fairy tale collections. In 1943, J. R. R. Tolkien expanded on an earlier lecture he gave to celebrate Lang’s scholarly achievements in publishing. The stimulating essay outlines three key points

that he wished to question regarding the fairy story (sic fairy tale); ‘What are fairy stories? What is their origin? What is the use of them?’<sup>321</sup> Tolkien defines fairy stories as those not written “about fairies” but ‘stories written about humans in Faerie, the realm or state in which fairies have their being,’ a state of magic and unreality.<sup>322</sup> A point he addresses in the essay is the possible origin of the fairy tale in which he disputes the “solar” theory of Max Müller and the “anthropological” theory of Andrew Lang. Müller’s hypothesis simply states that these types of stories originated in pre-history as oral traditions. They attempted to decipher natural phenomena encountered by cultures asking questions such as: Why does the sun come up and go down? Why the phases of the moon? These stories include the many creation tales from pre-history and come from a wide range of cultures.

Lang’s approach differed from Müller in that he used a comparative “anthropological” approach, using folk and fairy tales:

...to compare the seemingly meaningless customs or manners of civilised races with the similar customs and manners which exist among the uncivilised and still retain their meaning.<sup>323</sup>

The theories of Müller and Lang are indicative of a history of the interpretation of mythological tales and folklore. Tolkien neither agreed with Lang’s “digging for evidence” in the stories nor to the “scientific” approach to dissecting a story.<sup>324</sup> He was more interested in the story as a complete form. Tolkien was attracted to the way in which a tale was generated. Was this via “independent invention,” or “diffusion,” or “inheritance”?<sup>325</sup> He introduced his own term, “sub-creation,” which described the process of the interaction between imagination and language that, he thought, gave rise to a secondary world, an imaginative world, which I see Andersen doing exactly in *The Ice Maiden*.<sup>326</sup>

In this imaginative, secondary world, time can be compressed or expanded at will. Space can be traversed – macroscopically or microscopically - in the time it takes to read one sentence of a story. These other times and spaces penetrate and transform the imagination of the reader:

What really happens is that the story-maker proves a successful 'sub-creator'. He makes a Secondary World which your mind can enter. Inside it, what he relates is 'true': it accords with the laws of that world. You therefore believe it, while you are, as it were, inside.<sup>327</sup>

This idea is very important to my argument for the process of image construction and supports what I am attempting to achieve in *glacies lux*, using, especially, the glacial crevasse as an entry point into this other place.

## The Structuralist Approach to Fairy Tales

We need to look to the work of Vladimir Propp and Mikhail Bakhtin relative to the fairy tale (folk tale). There is a significant difference in the starting point between the two: Bakhtin shows concern with time and space in narrative and Propp is primarily concerned with “the functions of the *dramatis personae*,” that is, the make up of the characters, places and events within the story. I acknowledge the work done by Propp but his work is less relevant to the question of image. Vladimir Propp wrote the *Morphology of the Folk Tale* as an interpretative theory of this literary genre.<sup>328</sup> He relies on a very formal, almost mathematical, structuralist approach in his analysis of the folk (fairy) tale. In his study Propp’s use of the term “morphology”, (the study of forms) drew on an extensive knowledge of the Russian folk tale. He identified what the problems were with the current analytical techniques and introduced his own methodology according to the functions of the characters in the story.<sup>329</sup> He decided on a simple numbering system for his method and it is with this system that Propp draws his raw material. This led to a system of thirty-one functions that were given numerical and alphabetized codes, some examples being; 1. *absence*, 3. *violation*, 4. *interrogation*, 11. *departure*, 16. *struggle (H)* and so on.<sup>330</sup> To fully engage with the complexity and length of Propp’s methodology would not be appropriate for this dissertation, suffice to say that his structuralist approach concludes with a series of tables, charts and algebraic formulae that depict how one could deconstruct just about any fairy tale in existence using his method. While this might be useful to playwrights and film makers it is not as useful in the context within which I work because he focussed on the “*dramatis personae*.” My work is not about characters or a defined narrative. I am looking at other properties of the tale, as stated earlier, the imaginative use of language, the time-space continuum [Propp’s term here, where there is some relationship, uses his function named *spatial translocation (G)*] but I prefer to focus here on Bakhtin’s contribution to my argument and his invented term – “chronotope.”<sup>331</sup> During my research I became more interested in what constitutes time and space from many viewpoints primarily that of science and the role affective imagination plays in its definition.

Bakhtin writing in *The Dialogic Imagination*, and most notably in the essay on “Forms of Time and of the Chronotope in the Novel”, provides a key term to this research on how time and space are used in story structure – the chronotope.<sup>332</sup> Bakhtin defines it as the inherent methodology of linking time and space through appropriate artistic means, in particular, literary forms.<sup>333</sup> He outlines his concept of the chronotope



in a methodical way by analysing a series of historical literary forms: Greek and chivalric Romance, Apuleius and Petronius, ancient biography and autobiography and the folkloric and its relation to Rabelais, and the idyllic novel. He analyses these forms in minute detail to show how each uses time and space arguing for a sense in which time becomes denser in these forms and then achieves a kind of aesthetic visibility.<sup>334</sup> For an artist of the moving image, the following aspects of what the chronotope does to condensations of space and time in literature found their way into my visual forms:

- i) adventure time, where events are linked by sudden interruptions.<sup>335</sup>
- ii) everyday life, where life unfolds as a slow metamorphosis in time and space linked by key instances of the history,<sup>336</sup>
- iii) the biography, where a life is broken into ‘well-marked steps’.<sup>337</sup>

For example, when capturing one of the last sequences of *glacies lux* I would consider each of the above time-space options in its makeup (see Figure 33). This occurred when I was at the Tasman Glacier where I had more considered “adventure time” in the landscape. The “well-marked steps” became my choices: to drive to the lake, to decide on vantage points for setting up the camera and then my boot-tracks over the landscape while traversing the edge of the lake and its surrounding moraines (hilly deposits of stone and debris). The “sudden interruptions” were my chosen decisions to move in and over the landscape to get a better camera angle or to frame a new event occurrence of the ice on the lake’s surface. The video footage entered the realm of everyday life after it was brought back to the studio and I began to think about how to edit it. Most of the footage occurs in real time “where life unfolds as a slow metamorphosis in time and space” and this reflection directly influenced the editing process with a decision not to apply any effects to it. The links (transitions or edit cuts) were made by instances of changes in viewpoint and very small events influencing the ice such as close-ups of bubbles escaping from the melting ice.

A summary of terms that come under the concept of Bakhtin’s chronotope resonate with many of my own editing techniques and art-making processes in this research: ‘extratemporal, counterpose, circular, moment, vertical and horizontal axes, fragments, dream time, allegorical, disunified, cycles, spatial, concrete, historic time, personal time, and unity of rhythm.’<sup>338</sup>

If I continue describing the sequence of video above I am able to associate several of these concepts to its structure. The edited sequences takes “fragments” from watching the ice travel in the wind across the lake. It moves both vertically and horizontally on the surface plane of the melting water. The rhythm of movement is governed by wind circulating the ice of the surface of the water. I allowed this rhythm

its own moment throughout the sequence with very little interference. Circularity is key temporal structure for a video installation and is evident in all of the sequences used in *glacies lux*. They repeat endlessly until turned off.

Perhaps one of the most effective descriptions of time in literary forms for Bakhtin comes with the real or durational time of life's flows: 'Time here is without event and therefore almost seems to stand still. Here there are no "meetings," no "partings." It is a viscous and sticky time that drags itself slowly through space.'<sup>339</sup> This is the ever-continuing present that Bohm and the Tao speak about. Time as a continual now. Bakhtin develops this idea of time as visible and physical, and finds it in a literary context, but which I found useful to explore by slowing down video sequences. As the sequence of images slowed the image time or flow also became "viscous and sticky," for example, where the ice boulder rolls around with the river flowing over it. This seemed to give both the ice and the moving image a denser kind of materiality.

For Bakhtin, time without event gains viscosity, density and intensity. This intensification of time is revisited in Cees Nooteboom's *In the Dutch Mountains*, a short novel/meta-fairy tale based on *The Snow Queen* by Hans Christian Andersen.<sup>340</sup> Nooteboom appropriates the structure of Andersen's fairy tale and intersperses his own comments and asides on the narrative structure of fairy tales. At the same time he constructs a rolling narrative loosely based on Andersen's story. He asks: 'What is a fairy tale? An intensified form of story, while a story is, or ought to be, not a copy but an intensified form of reality, history torn out of its slow chronology.'<sup>341</sup> I use images of ice torn out of their own slow, or sometimes fast, chronology of glacial transition to sustain my own chronology of the experience of ice. Then this new chronology is re-interpreted through my art as an aspect of making. Nooteboom elaborates on this proposition when he says, ...everything happens differently there...In fairy tales the story is contracted still further... That it has something to do with an intensified process of time is obvious.<sup>342</sup> The contraction (of the story or in my case journey onto the ice) is pushed further into the time of video – a ten to fifteen minute loop. Just as a fairy tale is self-contained, so too is a video loop contained *in* and *by* time and the imagery it holds. Time can be digitally slowed to the point of heavy viscosity and stickiness and this intensification reveals the elemental change of ice to water.

The visual is evident in the textual medium as well as in purely optical media. My concern here has been with how textual media could inform an image and how the textual could blend into an optical medium. This has been accomplished in my practice by combining select elements such as the optical image infused with hue and given a



chronotopic role of imparting the duration of journeying *into* a glacier. The results – that is, the many artefacts that make up *glacies lux* – have been consistently guided by a coherent, probing dialogue between imaginative ways of perceiving the world, particularly Andersen’s *The Ice Maiden*, and ice’s physical, optical and climatological materialities. There is a processual line of reasoning from the theoretical to the practical, which affects the entirety of my research regarding ice. By looking at the poetic, as outlined by Bachelard’s conception of imaginative spaces and the chronotope in Bakhtin, I was able to infuse video sequences with expanded ways of entering the image.

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What I have sought in this work is to establish a material contact with an expanded materiality for ice and for this materiality to infuse my image-making practice. In Chapter 1 I addressed the different ways in which a materiality of ice might be understood by drawing on many disparate sources: the climatological sciences and scientific descriptions of glacial processes; a Western art tradition of experiencing and then representing ice-related landscape; and the lived material experience of intercultural relations with ice. The conception of an expanded materiality also drew from the recent history of experimental moving image theorisation and practice that I investigated in Chapters 2 and 5. In particular, it looked at the notion of “expanded cinema” outlined by Gene Youngblood and advanced through Stan Brakhage’s experiments with vision. But it also updated this history by looking at more recent experiments of experiencing the landscape, with video and the moving image, under the banner of ambient video. I also sought to expand this form by creating moving image, “imaginative spaces” that connect the viewing and landscape in more affective and contemplative ways. My aim has to been to expand both the materiality of the ice and to extend W.J. T. Mitchell’s mixed viscosity, giving the visual not just optical but also textual and even material properties. Here I have drawn on the work of David Bohm’s idea of a wholeness, which I put together with Brakhage’s work on vision in Chapter 4. The expansion of that mixed viscosity takes in Hans Christian Andersen’s picture descriptions and Mikhail Bakhtin’s time-space devices within literature in Chapter 5. My aim has been, therefore, to also expand what a moving image dealing with landscape might do and affect. My work takes place in the context of images and debate around climate change and the image of ice plays a key role in that debate. My question has been: how can we actually sensorially, materially and experientially connect to images of ice, which most of us only experience by way a short media image bite?

I have developed a mixed processual mode of practice-based activity, the *blend*, to achieve this. I see myself as part of a history of experimental practice on the image from expanded cinema and video onwards. What I have achieved in the context of ambient video is to expand its defining characteristics by adding two new elements to it, that of, affect and a covert relation to a politics of environment and perception of that environment.

The journey of this research outlines a morphology that develops via the artistic processes with which I am engaged. This moving morphology could be described as that of going *into*: I begin at the microcosmic level of ice as (moving) image and then I move out to the macrocosmic dimension of ice's place in a globally changing climate. This is not a progressive movement in my work but always a backwards and forwards, most of the time this involves being in process and then pausing to allow time for reflection. The question that has driven this research has been how to investigate and render ice as a (moving) image. An image that affects us, poetically, and gives us an opportunity to rethink our relation to landscape and to establish a connection with that landscape through a processual manipulation of its subject matter in time and space. This was achieved by applying the idea of enactive perception to an affective imaginative space, that of, inhabiting the blueness of an enveloping ice crevasse. It was this imaginative positioning that leads me from my initial contact with the glaciers, affecting me with a sense of awe, through to making the work. This affect permeated my artistic process and, I hope, seeps into *glacies lux*. It sits within a broader context of mainstream mediated images which often position ice as a "breaking point" or crisis in climate change debate.

*glacies lux* is the resolution of a defined period of research, although it is still in transition, still in process, just as the globally changing climate continues to shape itself as I sit and witness the enormity of the floods affecting Australia in 2011. The massive scale of a globally changing climate continues to enfold and unfold. What I have done is challenge the complacency and visual laziness that exists in habitual modes of viewing the world by approaching it in a poetic manner.

I have shown this through the artefact of an artist's book and an immersive time-based video art installation. I have used the optical aesthetics of ice as a way forward to consider ambient video. I think that as a form it has the ability to be open to interpretation rather than be prescriptive and didactic. Moreover, I have brought attention to this openness, its subtlety of execution and clarity of image presentation allowing delicate entry into the work for a viewer.

Art has the capacity to embody the enormity of affective experience because it has the facility to bring together disparate elements in order to visualize and speak about affective experience in innovative and fresh ways. What I have achieved with this work is to mobilise the landscape as poetic and political through the enactive perception of ice as (moving) image.

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292 D. H. Lawrence, *Complete Poems*, Edited by Vivian de Sola Pinto and Warren F. Roberts, (London: Penguin Twentieth-Century Classics, 1994): 515.

293 See Matthew Watts' online article, "Gaston Bachelard and the Poetic Imagination", (London: The University of East London, 1999). Available at: <http://www.zen7560.zen.co.uk/work/bach/>.

294 Raul Ruiz, *Poetics of Cinema*, Translated by Brian Holmes, (Paris: Editions Dis Voir): 32.

295 Gaston Bachelard, *Water and Dreams*, Translated from the French by Edith R. Farrell, (Dallas: The Pegasus Foundation, 1983): 2.

296 Ibid., 3.

297 Gaston Bachelard, *The Poetics of Space*, (Toronto: Beacon Press, 1969): xviii.

298 See Bill Seaman's, "Recombinant Poetics: Emergent Explorations of Digital Video in Virtual Space", *New Screen Media: Cinema/Art/Narrative*, edited by Martin Rieser and Andrea Zapp, (London: British Film Institute, 2002): 253.

299 Ibid., 240.

300 Bernard Cache, *Earth Moves: The Furnishing of Territories*, translated by Anne Boyman, edited by Michael Speaks, (Boston: The MIT Press 1995): 3.

301 W. J.T. Mitchell, "There Are No Visual Media," *Journal of Visual Culture*, 4, (2005): 257-266

302 Ibid., 257.

303 Ibid..

304 Ibid., 258.

305 Ibid., 260.

306 Ibid.

307 Ibid., 261.

308 Ibid., 262.

309 Ibid.

310 Ibid., 264.

311 Hans Christian Andersen, "The Ice Maiden; Iisjomfruen", Translated by Jean Hersholt, *The Hans Christian Andersen Center* website, (2010). Availability: [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).

Note: Grindelwald is the town depicted in Samuel Birmann's images, see Figure 4.

312 Ibid.

313 Ibid.

314 Mogens Davidsen, "Hans Christian Andersen and the Image", in *Hans Christian Andersen, A Poet in Time*, ed. Johan de Mylius, Aage Jørgensen and Viggo Hjørnager Pedersen, Papers from the Second International Hans Christian Andersen Conference 29 July to 2 August 1996. (Odense: Odense University Press, 1999): 576 pages.

315 Hans Christian Andersen, "The Ice Maiden; Iisjomfruen", Translated Jean Hersholt, *The Hans Christian Andersen Center* website, (2010). Availability: [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).

316 Ibid.

317 Ibid.

318 See the catalogue for *Who's Afraid of the Big Bad Wolf?*, Emma Bugden and Pita Turei, *Who's Afraid of the Big Bad Wolf?: Mythology, Fairytales and the Occult*, (Auckland: Auckland Te Tuhi Centre for the Arts and Clouds Publishing 2007): 6.

- 
- 319 Ibid., 9.
- 320 Ibid., 21.
- 321 J. R. R. Tolkien, *On Fairy-Stories: Expanded Edition with Commentary and Notes*, Edited by Verlyn Flieger and Douglas A. Anderson, (London: Harper Collins 2008): 27.
- 322 Ibid., 10.
- 323 Andrew Lang, *Custom and Myth*, (1884), 21-22. Cited in J. R. R. Tolkien, *On Fairy-Stories: Expanded Edition with Commentary and Notes*, Edited by Verlyn Flieger and Douglas A. Anderson, (London: Harper Collins 2008).
- 324 J. R. R. Tolkien, *On Fairy-Stories: Expanded Edition with Commentary and Notes*, Edited by Verlyn Flieger and Douglas A. Anderson, (London: Harper Collins 2008): 10.
- 325 Ibid., 11.
- 326 Ibid., 12.
- 327 Ibid., 52.
- 328 Vladimir Propp, *Morphology of the Folk-Tale*, (Austin: University of Texas Press, 2005).
- 329 Ibid., 20.
- 330 Ibid.
- 331 M. M. Bakhtin, *The Dialogic Imagination: Four Essays*, Translated by Caryl Emerson and Michael Holquist, Edited by Michael Holquist, (Austin: University of Texas Press 1981): 32.
- 332 Ibid.
- 333 Ibid., 84.
- 334 Ibid.
- 335 Ibid., 88.
- 336 Ibid., 111.
- 337 Ibid., 130.
- 338 Ibid.
- 339 Ibid., 247.
- 340 Cees Nooteboom, *In the Dutch Mountains*, (London: The Harvill Press, 1995).
- 341 Ibid., 57.
- 342 Ibid., 90-105.

## BIBLIOGRAPHY

---

Compact Oxford English Dictionary. USA: Oxford University Press, 2<sup>nd</sup> Sub-edition, 1991. Print.

Addison, Joseph. "No. 411 [Pleasures of the Imagination]." The Reading Selection from The Spectator (1712). Web. <http://philosophy.lander.edu/intro/articles/addisonart-a.pdf>.

Aitken, Doug. *Broken Screen*. New York, D.A.P./Distributed Art Publishers, Inc., 2006. Print.

Aitken, Doug. "Doug Aitken Biography." Doug Aitken website, 2007. Web. [http://www.303gallery.com/artists/doug\\_aitken/index.php?bio](http://www.303gallery.com/artists/doug_aitken/index.php?bio).

Aitken, Doug. *New Ocean*. Koln, D.A.P. / Distributed Publishers, 2002. Print.

Allison Ian, Xiao Cunde, and Li Yuansheng. "Dome A - the Coldest Place on Earth." 2007. Web. <http://www.aad.gov.au/default.asp?casid=288>.

Alphen, Ernst van. *Art in Mind*. Chicago, University Of Chicago Press, 2005. Print.

Andersen , Hans Christian. Translated Jean Hersholt, "The Ice Maiden; Iisjomfruen." ed. Hans Christian Andersen Center. Odense: Hans Christian Andersen Center, 2010. Web. [http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden\\_e.html](http://www.andersen.sdu.dk/vaerk/hersholt/TheIceMaiden_e.html).

Antin, David. "Video: The Distinctive Features of the Medium." *Video Culture: A Critical Investigation*. Ed. John G. Hanhardt. New York: Visual Studies Workshop Press, 1986. Print.

Artnewyork, "Mary Lucier: Video Installations." 1991. Web.<http://www.youtube.com/watch?v=iMlYe5F-9Bw>.

Association, Times Square District Management. "Advertising in Times Square." 2004. Web. [http://www.timessquarenyc.org/about\\_us/advertisingtimessquare.html](http://www.timessquarenyc.org/about_us/advertisingtimessquare.html).

Australian Antarctic Division, "Australian Antarctic Division, Department of Sustainability, Environment, Water, Population and Communities." 2010.Web. <http://www.antarctica.gov.au/>.

Bachelard, Gaston. *The Poetics of Space*. Toronto, Beacon Press, 1969.

- Bachelard, Gaston. *Water and Dreams*, Trans. Edith R. Farrell, Dallas, The Pegasus Foundation, 1983. Print.
- Baker, George. "Photography's Expanded Field." *Still Moving: Between Cinema and Photography*, ed. Karen Ma and Jean Beckman. Durham & London: Duke University Press, 2008. Print.
- Bakhtin, M. M. *The Dialogic Imagination: Four Essays*. Trans. Caryl Emerson and Michael Holquist. Austin, University of Texas Press, 1982. Print.
- Ball, Philip. *Life's Matrix: A Biography of Water*. Berkeley and Los Angeles, University of California Press, 2001. Print.
- Barthes, Roland. *Image/Music/Text*. Translated by Stephen Heath. New York, Hill and Wang, 1978. Print.
- Barthes, Roland. *Mythologies*. Translated by Annette Lavers. London, Paladin Grafton Books, 1989.
- Bennett, Jill. *Empathic Vision: Affect, Trauma and Contemporary Art*. Stanford, Stanford University Press, 2005. Print.
- Biernoff, Suzannah. "The Corporeal Sublime." *Australian and New Zealand Journal of Art*, Vol. 2/3, No. 2/1, 2002.: 60-75. Web.  
<http://search.informit.com.au/documentSummary;dn=596336279951588;res=IELHSS>.
- Bizzocchi, Jim. "The Aesthetics of the Ambient Video Experience." *Fibreculture Journal*, Issue 11, 2008. Web.  
[http://journal.fibreculture.org/issue11/issue11\\_bizzocchi.html](http://journal.fibreculture.org/issue11/issue11_bizzocchi.html).
- Bizzocchi, Jim. "Ambient Video." 2004. Web.  
<http://www.sfu.ca/~bizzocch/AmbientVideo/index.html>.
- Bizzocchi, Jim. "Ambient Video: The Transformation of the Domestic Cinematic Experience." In *Small Tech: The Culture of Digital Tools*, eds. Byron Hawk, David Rieder, and Ollie Oviedo. Minneapolis, University of Minnesota Press, 2008. Print.
- Bizzocchi, Jim. "Winterscape." 2004.  
 Web.<http://www.sfu.ca/~bizzocch/AmbientVideo/Winterscape.html>.
- Blake, William. "Auguries of Innocence." 2000-2011. Web. <http://www.online-literature.com/donne/612/>.

Bohm, David. *On Creativity*. Ed. Lee Nichol. London and New York, Routledge, 1996. Print.

Bohm, David. *Wholeness and the Implicate Order*. London and New York, Routledge Classics, 2002. Print.

Brakhage, Stan. *Black Ice*. 1994. Web. <http://www.youtube.com/watch?v=g-rACt6IX5c>.

16mm, colour, silent, 2 min. (Held in the collections of: Canyon Cinema (San Francisco), The Canadian Filmmakers' Distribution Centre (Toronto), and Light Cone (Paris).

Brakhage, Stan. *Brakhage at the Millennium: The Words of Stan Brakhage*. Ed. Mike Hoolboom. *Millennium Film Journal*. 47/48/49 (2007). New York, Millennium Film Journal, 2010. Print.

Brakhage, Stan, and Pip Chodorov. "Stan Brakhage with Pip Chodorov." Interview transcript. British Columbia, The Brooklyn Rail, 2003. Web. <http://brooklynrail.org/2008/03/lastwords/stan-brakhage-with-pip-chodorov2>.

Brakhage, Stan, and P. Adams Sitney. *Metaphors on Vision*. USA, Film Culture Inc., 1963. Print.

Brick, Andreas. "Fire Pattern - Frost Pattern." Deutschlandradio Kultur, 2006. Web. [http://www.andreasbick.de/en/music/radiokunst/fire\\_and\\_frost\\_pattern.php](http://www.andreasbick.de/en/music/radiokunst/fire_and_frost_pattern.php).

Buckland, David, ed. *Burning Ice: Art & Climate Change*. London: Cape Farewell, 2006. Print.

Burnham, Jack. "Systems Esthetics." *Artforum* September (1968). Web. [http://www.arts.ucsb.edu/faculty/jevbratt/readings/burnham\\_se.html](http://www.arts.ucsb.edu/faculty/jevbratt/readings/burnham_se.html).

Cache, Bernard. *Earth Moves: The Furnishing of Territories*. Trans. Anne Boyman. Ed. Michael Speaks. Boston, The MIT Press, 1995. Print.

Campany, David. "Introduction//When to Be Fast? When to Be Slow?" In *The Cinematic*, ed. David Campany, London and Cambridge: Whitechapel and The MIT Press, 2007. Print.

Camper, Fred. "Brakhage Stills." 2010. Web. <http://www.fredcamper.com/Film/BrakhageS.html>.

Camper, Fred. "End Games." 2001. Web. <http://www.fredcamper.com/Film/Brakhage2.html>.



- Camper, Fred, and Stan Brakhage. "About Films by Brakhage: An Anthology." New York: The Criterion Collection, 2003. Print.
- Capra, Fritjof. *The Tao of Physics: An Exploration of the Parallels between Modern Physics and Eastern Mysticism*, London: Flamingo, 1982. Print.
- Capra, Fritjof. "This Systems Approach to Seeing." *Futures* October (1985). Print.
- Center, National Snow and Ice Data. "National Snow and Ice Data Center." 2010. Web. <http://nsidc.org/>.
- Charuk, Peter E. *Research Diary*. 2007. Unpublished. Print.
- Cole, Dave. "Cold Regions Research and Engineering Laboratory's (Crrel)." Education Center, US Army Corps of Engineers Engineer Research and Development. US Army Corps of Engineers, 2010. Web. <http://www.crrel.usace.army.mil/>.
- Coleridge, Samuel Taylor, "Hymn before Sun-Rise, in the Vale of Chamouni." (originally published 1802), *Poetry Foundation* website. Web. <http://www.english.upenn.edu/Projects/knarf/Coleridg/hymn.html>.
- Corporation, Microsoft. "Encarta® World English Dictionary [North American Edition]." 2009. Web. Developed for Microsoft by Bloomsbury Publishing Plc. [http://encarta.msn.com/dictionary\\_1861676902/Inuit.html](http://encarta.msn.com/dictionary_1861676902/Inuit.html).
- Cubitt, Sean. "Digital Landscape and Nature-Morte." *Reinventing the Medium* Conference. Melbourne: AAANZ, 2006. Web. [http://dtl.unimelb.edu.au/R/BLNL4G42712EJ8IVEBSRLLIAG91QVBMF3FM72GX1MRYPGKTDM6-00742?func=dbin-jump-full&object\\_id=67222&local\\_base=GEN01&pds\\_handle=GUEST](http://dtl.unimelb.edu.au/R/BLNL4G42712EJ8IVEBSRLLIAG91QVBMF3FM72GX1MRYPGKTDM6-00742?func=dbin-jump-full&object_id=67222&local_base=GEN01&pds_handle=GUEST).
- Davenport, Nancy. "Weekend Campus." *Still Moving: Between Cinema and Photography*. Ed. Karen Ma and Jean Beckman. Durham & London: Duke University Press, 2008. Print.
- David, Catherine, "Photography and Cinema." *The Cinematic*. Ed. David Company. London and Cambridge: Whitechapel and The MIT Press, 2007. Print.
- Davidson, Mogens. "Hans Christian Andersen and the Image." Second International Hans Christian Andersen Conference, ed. Johan de Mylius, Aage Jørgensen and Viggo Hjørnager Pedersens.: The Hans Christian Andersen Center, Odense University, Odense University Press. Web. <http://www.andersen.sdu.dk/forskning/konference/tekst.html?id=10945>.

- Davis, Douglas. "Filmgoing/Videogoing: Making Distinctions." *Video Culture: A Critical Investigation*. Ed. John G Hanhardt. Rochester: Visual Studies Workshop Press, 1986. Print.
- Dibbets, Jan. *TV as a fireplace*. Net Media Art. 1969. Web.  
<http://www.medienkunstnetz.de/works/tv-as-a-fireplace/>.
- Division, Australian Antarctic. "Australian Antarctic Division." 2010. Web.  
<http://www.antarctica.gov.au/>.
- Ecoliteracy, Center for. "Center for Ecoliteracy." 2004-2011. Web.  
<http://www.ecoliteracy.org/>.
- Ehrlich, Gretel. *The Future of Ice: A Journey into Cold*. New York: Pantheon Books, 2004. Print.
- Ehrlich, Gretel. *This Cold Heaven: Seven Seasons in Greenland*. New York: Vintage Books Random House, 2001. Print.
- Eliasson, Olafur and Hans Ulrich Obrist. *Experiment Marathon*. London: Reykjavik Art Museum, Serpentine Gallery and Koenig Books, 2009. Print.
- Eliasson, Olafur. *Life in Space 3*. Studio Olafur Eliasson, Dornbirn: Zumtobel AG, 2008. Print.
- Eliasson, Olafur. *Take Your Time: Olafur Eliasson*. Ed. Madeleine Grynsztejn. Texts by Mieke Bal, Klaus Biesenbach, Daniel Birnbaum, , Madeleine Grynsztejn, Robert Irwin, Pamela M. Lee, Roxana Marcoci, and Henry Urbach. London: San Francisco Museum of Modern Art, Thames and Hudson, 2007. Print.
- Eno, Brian. "77 Million Paintings." 2006. Web. <http://lumenlondon.com/#million.html>.
- Eno, Brian. *A Year with Swollen Appendices: Brian Eno's Diary*. London & Boston: Faber and Faber, 1996. Print.
- Eos Project Science Office, "The Earth Observatory", 2010. Web.  
<http://earthobservatory.nasa.gov/>.
- Experiment, The ATLAS. "Atlas Experiment." CERN, 2010. Web.  
<http://www.atlas.ch/>.
- Bachelard, Gaston. *Water and Dreams: An Essay on the Imagination of Matter*. Trans. Edith R. Farrell. Dallas: The Pegasus Foundation, 1983. Print.

- Ford, Andrew, and Brian Eno. "The Music Show." ABC Radio, 2009. Interview transcript. Web. <http://www.abc.net.au/rn/musicshow/stories/2009/2642524.htm>.
- Foundation, Engineering Research Center Program of the National Science. "Center for Integrated Access Networks." 2008. Web. <http://cian-erc.org/index.cfm>.
- Frye, Brian. "Stan Brakhage." 2002. Web. <http://archive.sensesofcinema.com/contents/directors/02/brakhage.html>.
- Gee, Mark. "Loud Paper Interviews Doug Aitken." *loud paper*, 2001. Web. <http://www.loudpapermag.com/articles/loud-paper-interviews-doug-aitken>.
- Gernsheim, Helmut. *A Concise History of Photography*. New York: Dover Publications, 1986. Print.
- Gillete, Frank. "Video: Process and Metaprocess." *Video Culture: A Critical Investigation*. Ed. John G. Hanhardt. New York: Visual Studies Workshop Press, 1986. Print.
- Grimm, Brothers. *The Annotated Brothers Grimm*. Ed. Tatar, Maria. New York: W. W. Norton & Company, Inc., 2004. Print.
- Hall, Doug. "Thoughts on Landscapes in Nature and Industry." *Resolution: A Critique of Video Art*, ed. Patti Podesti. Los Angeles: Los Angeles Contemporary Exhibitions, 1986. Print.
- Halsall, Francis. "Systems Aesthetics and the System as Medium." *Systems Art*. Ed. Lang, Peters, 2008. Web. [http://www.systemsart.org/halsall\\_paper.html](http://www.systemsart.org/halsall_paper.html).
- Heraclitus. Trans. William Harris, "Heraclitus: The Complete Fragments: Translation and Commentary and the Greek Text." *Humanities and the Liberal Arts: Greek Language and Literature: Text and Commentary*, 1994. Web. <http://community.middlebury.edu/~harris/Philosophy/heraclitus.pdf>.
- Herwig, Oliver, and Axel Thallemer. *Water: Unity of Art and Science*. Berlin: Arnoldsche Verlagsanstalt GMBH, 2008. Print.
- James, David, ed. *Stan Brakhage: Filmmaker*. Philadelphia: Temple University Press, 2005. Print.
- Judson, William D., ed. *American Landscape Video: The Electronic Grove*. Pittsburgh: The Carnegie Museum of Art, 1988. Print.
- Kaplan, Louis. "Aleph Beat: Wallace Berman between Photography and Film". *Still Moving: Between Cinema and Photography*. Ed. Karen Ma and Jean Beckman. Durham & London: Duke University Press, 2008. Print.

- Keiko, Hashizume. "Bachelard's Theory of Time: Missing Link between Science and Art." *Aesthetics* No. 13 (2009): 1-9. Web.  
[http://www.soc.nii.ac.jp/bigaku/aesthetics\\_online/aesthetics\\_13/text/text13\\_hashizume.pdf](http://www.soc.nii.ac.jp/bigaku/aesthetics_online/aesthetics_13/text/text13_hashizume.pdf).
- Keltner, Dacher and Haidt, Jonathan. "Approaching Awe, a Moral, Spiritual, and Aesthetic Emotion". *Cognition & Emotion*, Volume 17, Issue 2 (January 2003): 297-314. Print.
- Kent, Rachel, ed. *Liquid Sea*. Sydney: Museum of Contemporary Art, 2003. Print.
- Kranenburg, Rob van. "The Internet of Things a Critique of Ambient Technology and the All-Seeing Network of Rfid." Ed. Geert Lovink and Sabine Niederer. 2008. Web.  
[http://www.networkcultures.org/\\_uploads/notebook2\\_theinternetofthings.pdf](http://www.networkcultures.org/_uploads/notebook2_theinternetofthings.pdf).
- Lang, Andrew. *Custom and Myth*. London: Longmans, Green & Co., originally in 1898. Web. <http://www.gutenberg.org/ebooks/14080>.
- Lao-tzu. *Tao Te Ching*. London: Penguin, 1964. Print.
- Lawrence, D. H. *Complete Poems*. Ed. Roberts, Vivian de Sola Pinto and Warren F. London: Penguin Twentieth-Century Classics, 1994. Print.
- Lobban, C. J.L. Finney and W.F. Kuhs. "The structure of a new phase of ice". *Nature* 391, (1998): 268-270. Print.
- Lopez, Barry. *Arctic Dreams: Imagination and Desire in a Northern Landscape*. New York: Vintage Books, Random House, 2001. Print.
- Lopez, Barry. "ABC Book Show." 2008. Interview transcript. Web.  
<http://www.abc.net.au/rn/bookshow/stories/2011/3088310.htm>
- Louise Poissant, Chantal Dupont, and Monique Langlois. "New Media Dictionary." *Leonardo* 34.1, (2003): 41-44. Print.
- Lovelock, James. *The Vanishing Face of Gaia: A Final Warning*. London: Allen Lane Penguin Group, 2009. Print.
- Lucier, Mary. "Wilderness: Rapture and Rupture." *American Landscape Video: The Electronic Grove*. Ed. William D Judson, Pittsburgh: The Carnegie Museum of Art, 1986. Print.

Scott McQuire, Meredith Martin and Sabine Niederer, ed. *Urban Screens Reader*. Amsterdam: Institute of Network Cultures, 2009. Print.

Ma, Karen Beckman and Jean. "Introduction." *Still Moving between Cinema and Photography*. Ed. Karen Ma and Jean Beckman. Durham & London: Duke University Press, 2008. Print.

Manovich, Lev. "After Effects, or Velvet Revolution." 2006. Web.  
<http://manovich.net/articles/>.

Manovich, Lev. *The Language of New Media*. Cambridge, Mass.: MIT Press, 2001. Print.

Manovich, Lev. "The Poetics of Urban Media Surfaces." *First Monday*, Special Issue #4, 2006. Web.  
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1545/1460>.

Martin, Meredith, ed. Meredith Martin, Sean Cubitt, Scott McQuire and Nikos Papastergiadis, "Moving Messages and Uncertain Content a Report on the Urban Screens Manchester 07 Conference." *Realtime 8*. April-May (2008): 30. Web.  
<http://www.realtimearts.net/article/84/8931>.

Mayer, Marc. "Digressions toward an Art History of Video." *Being and Time: The Emergence of Video Projection*. Ed. Karen Lee Spalding. Buffalo: The Buffalo Fine Arts Academy, 1996.

Media, V2\_: Institute of Unstable. "Test\_Lab: Urban Screen Savers ." 2010. Web.  
[http://www.v2.nl/events/test\\_lab-urban-screen-savers](http://www.v2.nl/events/test_lab-urban-screen-savers).

Mersal, Iman. "Memory of Thalg." *Findings on Ice*. Ed. Hester Aardse and Astrid van Baalen. Baden: Pars Foundation Lars Muller Publishers, 2007. Print.

Minh-ha, Trinh T. *The Digital Film Event*. New York: Routledge, 2005. Print.

Mitchell, W.J.T. *Picture Theory: Essays on Verbal and Visual Representation*. Chicago and London: University of Chicago Press, 1994. Print.

Mitchell, W. J. T. "There Are No Visual Media." *Journal of Visual Culture* 4 (2005): 257-266. Print.

Mitchell, W. J. T., "What Is an Image?" *New Literary History* 15.3 (1984): 34. Print.

Murphy, J. Stephen, "Jamming the Machine: Yves Klein's Blue Monochrome and the End of the Avant-Garde." *Paroles gelees* 14.2, 1996.  
Web.<http://escholarship.org/uc/item/3d48x20g>.

- National Snow and Ice Data Center. "Glossary of Glacier Terms." 2006. Web. <http://nsidc.org/glaciers/glossary/2009>.
- NASA. "What Is the Cryospheric Sciences Program?" 2003. Web. <http://ice.nasa.gov/>.
- Nomig. "What Is Video Painting?" 2007. Web. <http://videopainting.org/wordpress/about/what-is-video-painting/>.
- Nooteboom, Cees. *In the Dutch Mountains*. London: The Harvill Press, 1995. Print.
- O'Sullivan, Simon. "The Aesthetics of Affect." *ANGELAKI. Journal of the Theoretical Humanities*, 6.3, December (2001): 11. Print.
- Office, EOS Project Science. "The Earth Observatory." Ed. EOS Project Science Office, 2010. Web. <http://earthobservatory.nasa.gov/>.
- Osborne, Peter. "Infinite exchange: the social ontology of the photographic image". *Philosophy of Photography*, 1:1. Web. (2010): 59-68. <http://www.atypon-link.com/INT/doi/pdf/10.1386/pop.1.1.59/1?cookieSet=1>.
- Penny, Simon. "Systems Aesthetics and Cyborg Art: The Legacy of Jack Burnham." *Sculpture*, Vol. 18#1. 1999. Web. <http://ace.uci.edu/penny/texts/systemaesthetics.html>.
- Pidwirny, Michael and Scott Jones. "Introduction to the Lithosphere." *Fundamentals of Physical Geography*, eBook 2<sup>nd</sup> Edition, Okanagan: University of British Columbia, 1999-2010. Web. <http://www.physicalgeography.net/fundamentals/10ae.html>.
- Propp, Vladimir. *Morphology of the Folk-Tale*. Austin: University of Texas Press, 2005. Print.
- Ross, David. "The Success and Failure of Video." *Video History: Making Connections Conference* (October 16-18, 1998) at Syracuse University, and organized by the Experimental Television Center. Web. [http://www.experimentaltvcenter.org/history/pdf/RossDavidSuccessFailure\\_2572.pdf](http://www.experimentaltvcenter.org/history/pdf/RossDavidSuccessFailure_2572.pdf).
- Ross, David. "Truth or Consequences: American Television and Video Art." *Video Culture: A Critical Investigation*, ed. John G. Hanhardt. New York: Visual Studies Workshop Press, 1986. Print.
- Ross, David A. "Post-Modern Station Break: A Provisional (Historic) Overview of Video Installation." *American Landscape Video: The Electronic Grove*. Ed. William D. Judson. Pittsburgh: The Carnegie Museum of Art, 1988. Print.

Ruiz, Raul. *Poetics of Cinema*. Trans. Brian Holmes. Paris: Editions Dis Voir, 1995. Print.

Ruskin, John. *Modern Painters: Volume 1*. London, 1843. New edition, London: Adamant Media Corporation, 2000. Print.

Scott McQuire, Meredith Martin and Sabine Niederer, ed. *Urban Screens Reader*. Amsterdam: Institute of Network Cultures, 2009. Print.

Screens, Urban. "Urban Screens." 2005. Web. <http://urbanscreens.org/about.html>.

Seaman, Bill. "Recombinant Poetics: Emergent Explorations of Digital Video in Virtual Space." In *New Screen Media Cinema/Art/Narrative*, ed. Martin Rieser and Andrea Zapp. London: British Film Institute, 2002. Print.

Sellars, Peter and David A. Ross, ed. *Bill Viola*. New York: Whitney Museum of Art in association with Flammarion, 1998. Print.

Shelley, Percy Bysshe. "Mont Blanc." Originally published 1816. Web. <http://rpo.library.utoronto.ca/poem/1898.html>.

Shouse, Eric. "Feeling, Emotion, Affect." *M/C Journal: A Journal of Media and Culture* 8.6 (2005): unpaginated. Web. <http://journal.media-culture.org.au/0512/03-shouse.php>.

Siefken, Doug. "Blog." 2010. Web. <http://doug-siefken.blogspot.com/>.

Siefken, Doug. "What Defines Ambient Video Art?" 2008. Web. [http://www.flickr.com/groups/ambient\\_video/discuss/72157605191484118/](http://www.flickr.com/groups/ambient_video/discuss/72157605191484118/).

Sitney, P. Adams. "Tales of the Tribes." *Chicago Review* 47, no. 4. 2001: 97-115. Print.

Smith, S.E. "Why Does Ice Float?" 2003. Web. <http://www.wisegeek.com/why-does-ice-float.htm>.

Square, Federation. "Fed Square Multimedia Briefing Form." Melbourne: Fed Square Pty Ltd, 2010. Web. <http://www.fedsquare.com/index.cfm>

Square, Federation. "Fed Square Screens Program Guide." Melbourne: Fed Square Pty Ltd, 2010. Web. <http://www.fedsquare.com/index.cfm?pageID=375>.



- Square, Fed. "Federation Square Multimedia Screen Content & Usage Guidelines." Melbourne: Fed Square Pty Ltd, 2010.: 8. Web. <http://www.fedsquare.com/index.cfm>.
- Talbot, Michael. *The Holographic Universe*. London: Harper Collins Publishers, 1996. Print.
- Times Square District Management Association. "Advertising in Times Square." 2004. Web. [http://www.timessquarenyc.org/about\\_us/advertisingtimessquare.html](http://www.timessquarenyc.org/about_us/advertisingtimessquare.html).
- Tolkien, J. R. R. *On Fairy-Stories: Expanded Edition with Commentary and Notes*. Ed. Anderson, Verlyn Flieger and Douglas A. London: Harper Collins, 2008. Print.
- Tuchman, Maurice. *A Report on the Art and Technology Program of the Los Angeles County Museum of Art: 1967-1971*. Los Angeles: Los Angeles County Museum of Art, 1971. Print.
- Turei, Emma Bugden and Pita. *Who's Afraid of the Big Bad Wolf?: Mythology, Fairytales and the Occult*. Auckland: Auckland Te Tuhi Centre for the Arts and Clouds Publishing, 2007. Print.
- Turner, Mark. "Blending and Conceptual Integration." 2010. Web. <http://markturner.org/blending.html>.
- New York Times. "Mr. Ruskin on Glacial Action." *New York Times*, 1875. Web. <http://query.nytimes.com/mem/archive-free/pdf?res=980CE0D61338EE3BBC4151DFB566838E669FDE>. Web
- Urban Screens. "Urban Screens." 2005. Web. <http://urbanscreens.org/about.html>.
- Varela, Francisco J. *Ethical Know-How: Action, Wisdom, and Cognition*. Stanford, Stanford University Press, 1999. Print.
- Viola, Bill. *St. John of the Cross*, 1983. The Carnegie Museum of Art, Pittsburgh, USA, 1988; The Museum of Contemporary Art, Los Angeles, 2009. Art work.
- Watts, Alan, and Al Chung-Liang Huang. *The Watercourse Way*. New York: Penguin Books, 1975. Print.
- Watts, Matthew. "Gaston Bachelard and the Poetic Imagination." 1999. Web. <http://www.zen7560.zen.co.uk/work/bach/>.
- Webster, Donald H., and Wilfried Zibell, "Iñupiat Eskimo Dictionary." 2008. Web. <http://www.alaskool.org/Language/dictionaries/inupiaq/dictionary.htm>.

Whitehead, Alfred North. *The Concept of Nature*. The Turner Lectures. Dublin, 1919. Print.

Wiesenthal, Christine; Bucknell, Brad; Mitchell, W.J.T. "Essays into the Imagetext: An Interview with W. J. T. Mitchell." (2000). Web.  
<http://www.accessmylibrary.com/article-1G1-63859271/essays-into-imagetext-interview.htm4>.

Wilson, Eric G. *The Spiritual History of Ice: Romanticism, Science and the Imagination*. New York: Palgrave Macmillan, 2003.

Wohlforth, Charles. *The Whale and the Supercomputer: On the Northern Front of Climate Change*. New York: North Point Press, 2004. Print.

Yeomans, Donald K. "Comet." 2005. Web.  
<http://www.worldbookonline.com/wb/Article?id=ar125580>.

Young, Thomas. "The Bakerian Lecture: Experiments and Calculations Relative to Physical Optics." *Philosophical Transactions of the Royal Society of London* 94 (1804): 16. Print.

Youngblood, Gene, and Introduction by R. Buckminster Fuller. *Expanded Cinema*. New York: P. Dutton & Co., Inc., 1970. Print.

Zajonc, Arthur, ed. *The New Physics and Cosmology Dialogues with the Dalai Lama*. New York: Oxford University Press, Inc., 2004. Print.

Zapp, Martin and Andrea Rieser ed. *New Screen Media Cinema/Art/Narrative*. London: British Film Institute, 2004. Print.

Zumbühl, H.J., D. Steiner, S.U. Nussbaumer. "19th Century Glacier Representations and Fluctuations in the Central and Western European Alps: An Interdisciplinary Approach." *Global and Planetary Change* 60 (2008): 42-57. Print.  
[http://www.phzh.ch/dotnetscripts/MitarbeitendenPortraitInet/Dateien/131444/5/Zumbuehl\\_et\\_al\\_2008.pdf](http://www.phzh.ch/dotnetscripts/MitarbeitendenPortraitInet/Dateien/131444/5/Zumbuehl_et_al_2008.pdf).