

Eco-Photography:

Picturing the Global Environmental Imaginary in Space and Time

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Abstract

Eco-Photography: Picturing the Global Environmental Imaginary in Space and Time
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Engaging with art historical, visual cultural, and ecocritical analysis, this thesis asks the question: why has the environment-in-crisis become a central focus in contemporary photography? 'Eco-photography' visualizes the global environmental imaginary, both representing and contributing to the planetary awareness of environmental risk. Defining eco-photography as a category of images that participates in critical ecological and environmentalist practices by maintaining the ideal of an earth in 'balance', I reveal the conceptual underpinnings of this body of images as a continually shifting set of social values and relations.

In Part I, I frame this category of eco-photography as a communicative genre that reflects and contributes to environmental discourse in public cultural spheres. The photographs I analyse employ realism as a rhetorical and aesthetic approach to envision the environmental imaginary in a direct and naturalizing manner. As such, eco-photography requires careful reading to understand how such images communicate, and especially the rhetorical, visual, and affective strategies that they employ.

Part II focuses on the temporal dissonance of eco-photography and the problem of expressing concern for the future using a medium that is bounded in time. I argue that eco-photography is best understood as a mode of temporal slippage that offers valuable insights into environmental concerns as they are evolving. Looking at examples of repeat photography, I analyse the discourse of objectivity and witnessing in eco-photography. Nuclear photography is considered in this section for its impact on our global sense of anxiety for the future. Eco-photography is seen to be a source of hope as it records for the future images of a world at risk.

Part III explores the deterritorializing impact of images and considers how the circulation of eco-photography is contributing to a sense of global cultural dislocation through the representation of local and global environmental justice issues. This section asks the question: how can photography help to visualize the complexity of humanity's relationship to the planet? I conclude by considering whether the cosmopolitan notion of a global citizenry of photography can be a positive force for promoting environmental change.

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INTRODUCTION: The Ecological Turn in Contemporary Photography

An Imaginary Encounter with Contemporary Photography

Imagine yourself in a strange town with a bit of time on your hands. You decide to visit the local art museum. On offer is a show of landscape photography, a favourite of yours. The title of the show is intriguing: *Imagining the Earth: Landscape Now!* You buy your ticket and enter the gallery. As a good gallery-goer, you begin by reading the exhibition text and then make your way slowly around the space, stopping to read each tombstone and wall panel. You notice the words 'environment' and 'ecology' are used quite a bit and that the term 'landscape' doesn't mean quite what you were expecting. Granted, some of your favourites are here: the sublime black and white mountain-scapes of Ansel Adams (Figure 1) and the intimate colour forest details of Eliot Porter (Figure 2), as well as, in a historical vein, the survey photographs of Timothy Sullivan (Figure 3) and the tourist images of Carleton Watkins (Figure 4). Earlier exposure to twentieth-century American photography has taught you about the "social landscape," so you are not surprised to see the streetscapes of Walker Evans (Figure 5) and the small towns of Stephen Shore (Figure 6). Making your way through the rooms, you are also working your way forward in time to the more recent images of Bangladeshi ship breakers by Edward Burtynsky (Figure 7) and photographs of wildflowers growing in toxic ditches by Wout Berger (Figure 8). By now, you are growing uneasy and somewhat disappointed with the exhibition. These are not relaxing images of beautiful and serene nature that you were expecting. The exhibition seems to be telling you another, rather disturbing story about the landscape.

Pressing on, you pause at last in front of a photograph by collaborators Virginia Beahan and Laura McFee, *The Blue Lagoon, Iceland* (Figure 9). The label explains that this image is from their series *No Ordinary Land*. The photograph shows a young boy pushing a boat out from the shore onto the water of a hot spring. The pale turquoise colour of the water is so clear that the sandy bottom is visible. Other swimmers are enjoying the water; their heads bobbing above the surface at random intervals in what is the middle-ground of the image. In the background, you see a row of dark green low-lying mountains. Beside the mountains, shining steel cooling towers from a power plant throw off steam in billowing jets, giving the clouds some major competition in the

picture's dramatic sky. With cooling towers in view, suddenly, the bright and clear colour of the water no longer seems natural, even though it is the normal result of the mineral content of hot springs in Iceland. But your unease has been triggered and it finds a name: contamination. Now, all you can think looking at this beautiful picture of humans at leisure in Iceland is: Can this be safe? Can this be healthy? Every picture now is haunted by the same question: what have we done to the landscape? In the back of your mind, you might also be asking: what has happened to my landscape photography?

The Ecological Turn ... and the Environmental Imaginary

As anthropogenic environmental changes are altering the balance of the earth's ecosphere—as well as transforming the economic, political, and social structures of societies and individuals around the planet—an environmentalist world-view has come to dominate the thoughts of scholars, artists, and activists alike who seek to interpret, represent, and understand what is happening to the planet. Photographers have been at the forefront of visually representing this human-derived environmental change, acting as documentarians, photojournalists, and artist-interpreters of the environment's increasing transformation. Photography is reflecting a sense of global anxiety about the greater changes occurring to our planet as well as picturing concern about humanity's impact on the earth: from visualizing mining projects, to leisure parks, to fields of wildflowers, to urban sprawl. The ecological turn in contemporary photography, I argue, both reflects and engenders the many shifting ideas about ecological balance, human development, economic justice, and environmentalism that have become part of contemporary global public discourse.

This thesis seeks to understand why contemporary photography has, increasingly since the turn of the millennium, focused on representing the environment-in-crisis, by identifying and exploring a category of photography that I call 'eco-photography'. I define the eco-photograph as an image that complicates the human understanding of the earth in 'balance' and suggests a critical ecological or environmentalist reading of photography, whether it is through the subject of the image, its materiality, or its presentation and framing. Eco-photography can be understood as a reflexive practice, in which the photographer's intentions are to impart an activist message, but this is not always the case. Some works of eco-photography, like the image by McPhee and Beahan I describe above, can be read as eco-photography not because of intentionality

but through their association with the visual and discursive tropes of environmental concern found in the history of photography and circulated through various global media and art institutions, from art galleries to photo magazines to the internet. By analyzing and deconstructing eco-photography as a cultural practice with the power to contribute to a broad environmental and ecological consciousness, I argue eco-photography is a part of the larger development of the global environmental imagination.

Looking at the work of a variety of photographers, and at the institutional structures that present and circulate their work, this thesis argues that contemporary photographic representations of the environment are steeped in an awareness of what literary scholar Lawrence Buell has called the contemporary “environmental imagination.”¹ A founder of the ecocritical literary movement who remains influential today, Buell describes the “environmental imagination” in his book of the same name. He writes that the creative and critical arts “are exerting, however unconsciously, an influence upon the emerging culture of environmental concern, just as they have played a part in shaping as well as merely expressing every other aspect of human culture.”² I argue that photography plays an important role in articulating the environmental imagination, one that is uniquely shaped by the medium’s own discursive and relational history.

My thesis looks at three important influences of photography on the environmental imagination: the impact that the circulation of photography has on the visual and cultural interpretation of environmental crisis; the challenge of representing the past, ongoing, and future threat that is environmental risk through a medium that is often understood as temporally fixed; and the spatio-temporal tensions between local and global concerns for the environment that are central to photography’s representation of far away places and people. All of these photographic concerns rest on the understanding that photography participates in various discourses, in this case discourses surrounding the environment, risk, and crisis that contribute to a rhetorical message about the future of the earth.

¹ Lawrence Buell, *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* (Cambridge, MA: Belknap Press of Harvard University Press, 1995).

² *Ibid.*, 3.

Central to this thesis are two questions: what power does photography possess as a rhetorical and conceptual tool for expressing the human concern for the planet; and what are its ethical and political parameters as a form of representation? I determine throughout these pages that eco-photography contributes to and informs many of the current debates that underpin our understanding of the role of photography in public cultural spheres, including the place of ecological and environmental concerns in politics and art. The underlying impetus for his project was to consider whether photography can help to promote a more ecologically balanced and just world.

What is Eco-Photography? An Ecocritical Approach to Photography

Terms such as eco-photography engage with ideological and cultural undercurrents of meaning that cannot be separated from their historical usages. As such, I will briefly address the contemporary understanding of certain key terms that inform this project.

Today, 'the environment' is acknowledged to include the surroundings or conditions in which a person or animal or plant lives, as well as widely used to describe a sense of place contained, such as a learning environment or a computer environment. In many cases, the environment has become a relational term that offers scholars a way to discuss the cultural relationships inherent in our human and non-human interactions. As such, one can describe the environment of the office just as easily as the environment of the zoo. Yet the adjectival use of 'environmental' has a more direct relationship to acknowledging the value of and advocating for nature, as in 'environmental activism' or 'environmental history'. Broadly speaking, the term recognises that, "the human species is part of nature, but compared to most other species we have caused far-reaching alterations of the conditions of land, sea, and air, and the living plants and other animals that share our tenure of the Earth."³

The understanding of 'landscape' as a culturally formed concept which promotes a specific "way of seeing," to which photography has contributed, is fundamental to my research.⁴ As Denis Cosgrove has stated: "Landscape is not merely the world we see, it

³ J. Donald Hughes, *What Is Environmental History?* (Cambridge, UK: Polity, 2006), 1.

⁴ John Berger, *Ways of Seeing* (London: British Broadcasting Corporation, 1977); Denis

is a construction, a composition of that world.”⁵ The term landscape, derived as it is from *landschap*, the Dutch word referring to paintings of nature, has come to be associated with the visual representation of a natural vista as seen by the human eye and, in its most narrow sense, relates to an established tradition in art. This definition has been expanded over the last forty years as scholars from disciplines as disparate as geography, anthropology, art history and literature (not to mention landscape studies) have come to understand the landscape as a culturally derived way of seeing that includes both rural and urban, natural and constructed, imagined and historical arrangements of the world upon which we gaze. Scholars have been particularly struck by the role that landscape has played in promoting various social, economic, and political agendas within society.⁶ W.J.T. Mitchell takes this argument to its furthest reach when he argues that, “landscape ... doesn’t merely signify or symbolize power relations; it is an instrument of cultural power, perhaps even an agent of power that is (or at least frequently represents itself as) independent of human intentions.”⁷ This understanding of landscape, as an ideological force and a concurrent commodity that is naturalized by its status as a part of human everyday existence has enriched the scholarly engagement with landscape.

The term 'ecology' was established in nineteenth-century, influenced, argues David Pepper, by a mix of scientific empiricism and Romantic thinking.⁸ The foundational idea of ecological equilibrium, rooted in biology and the earth sciences, is based on the theory that ecological systems are self-maintaining but will fluctuate and self-correct

E. Cosgrove, *Social Formation and Symbolic Landscape* (Madison, WI: University of Wisconsin Press, 1998); Joan M Schwartz and James R Ryan, eds., *Picturing Place: Photography and the Geographical Imagination* (London: I.B. Tauris, 2003).

⁵ Cosgrove, *Social Formation and Symbolic Landscape*, 13.

⁶ John Barrell, *The Dark Side of the Landscape: The Rural Poor in English Painting, 1730-1840* (Cambridge, UK: Cambridge University Press, 1980); Ann Bermingham, *Landscape and Ideology: The English Rustic Tradition, 1740-1860* (Berkeley: University of California Press, 1986).

⁷ Mitchell, W. J. T. Mitchell, ed., *Landscape and Power*, 2nd ed (Chicago: University of Chicago Press, 2002), 1–2.

⁸ David Pepper, *Modern Environmentalism: An Introduction* (London ; New York: Routledge, 1996), 169–170.

through the influence of elements within an eco-system. Yet ecologists have begun to worry that human activity has so drastically altered many eco-systems around the world that disequilibria may be a more common condition.⁹ In recent years, the theoretical implications and usages of ecology have expanded out from the pure sciences toward the social sciences and humanities, as scholars have begun to consider the cultural dimensions of the ecological paradigm, as both a metaphor of how humans relate to the world around them, and to each other, but also as a reflection of the relationship of art and life.¹⁰

As Kate Soper points out, citing Raymond Williams, 'nature' may be the most complex word in the English language.¹¹ In its most simplistic iteration, nature points to the world around us humans, a space outside of us made up of plants, animals, and rocks that is free of the cultural impact of human intervention. Yet scholars have been arguing about the ontological meaning of nature for at least the last forty years with increasing passion and scepticism, particularly through feminist, postmodern, and post-structuralist criticism, challenging the culture-nature divide that is often placed at the heart of nature's definition. Understanding that nature is a concept fraught with historical, cultural, and political discourses, fundamentally ideological and mythic, and—to many—an obstacle to creating a more balanced and ecological world, means to nevertheless accept the place of importance this term continues to hold in the lexicon of many.

There is an obvious connection between these four categories—environment, landscape, 'eco', and nature—and they often intersect discursively, historically, and culturally. Yet this co-mingling has led to a lack of clarity and critical thinking. In the world of photography, these terms have been bandied about almost interchangeably in recent years, as scholars and curators have attempted to reflect changing attitudes, intellectual

⁹ Klaus Rohde, ed., *The Balance of Nature and Human Impact* (Cambridge: Cambridge University Press, 2013), 1–2.

¹⁰ Mohsen Mostafavi and Gareth Doherty, eds., *Ecological Urbanism* (Baden, Switzerland: Lars Müller Publishers, 2010); TJ Demos, "Contemporary Art and the Politics of Ecology," *Third Text* 27, no. 1 (2013): 1–9.

¹¹ Kate Soper, *What Is Nature?: Culture, Politics, and the Non-Human*, 4th ed. (Oxford, UK; Cambridge, MA: Blackwell, 2004), 1.

currents, and cultural practices. As I illustrated in my preamble to this introduction, there has been a surfeit of exhibitions, books, articles, and art festivals in the last twenty years—but increasingly since the turn of the millennium—devoted to photography and the environmental imaginary.¹² Yet, on review, I found that none of these explorations push their analysis of these concepts and images beyond fatalistic and passive declarations for the right to look. In the words of Nadine Barth: "Ultimately all we can do is hope that by viewing these images we shall finally come to our senses."¹³ This lack of critical consideration for how photography expresses and influences the political, social, economic, and cultural issues that inform environmental thinking has driven the development and direction of this project.¹⁴

By defining eco-photography as critical genre that reflects an ecological and environmentalist reading of photography, I argue that eco-photography is a conceptual category that is based on continually shifting social values and relations. This means that eco-photography is not easily described as a discrete pictorial subject but instead includes many visual styles and subjects: from landscapes to portraits, from photo-

¹² International Center of Photography, *Ecotopia: The Second ICP Triennial of Photography and Video*, 1st ed (New York: International Center of Photography, 2006); Claude Baillargeon, *Imaging a Shattering Earth: Contemporary Photography And the Environmental Debate* (Rochester, MI: Meadow Brook Art Gallery, 2005); Nadine Barth, ed., *Vanishing Landscapes* (London: Frances Lincoln Limited, 2008); Maartje van den Heuvel and Tracy Metz, eds., *Nature as Artifice: New Dutch Landscape in Photography and Video Art* (Rotterdam: ALIA/NAi Publishers, 2008); Liz Wells, *Land Matters: Landscape Photography, Culture and Identity* (London: I.B.Tauris, 2011); Ann M. Wolfe, ed., *The Altered Landscape: Photographs of a Changing Environment* (New York: Skira Rizzoli, 2011).

¹³ Barth, *Vanishing Landscapes*, 7.

¹⁴ A small but significant group of key texts has contributed to this growing scholarship, and I will elaborate on their contributions and limitations in Chapter One Discursive Environments: A Critical Framework for Eco-Photography. Finis Dunaway, *Natural Visions: The Power of Images in American Environmental Reform* (Chicago: University of Chicago Press, 2005); Keri Cronin, *Manufacturing National Park Nature Photography, Ecology, and the Wilderness Industry of Jasper*, *Nature, History, Society* (Vancouver, B.C.: UBC Press, 2011); Thy Phu, ed., "Wasting Nature Special Issue," *Photography and Culture* 6, no. 2 (July 2013); Gisela Parak, ed., *Eco-Images: Historical Views and Political Strategies*, Rachel Carson Centre Perspectives (Munich, Germany: Rachel Carson Centre for Environment and Society; Deutsche Museum, 2013).

journalistic action-shots of resource wars, to event-based images of oil spills, to documentary projects that explore the impact of the globalization of the food industry.

Two examples demonstrate this conception of eco-photography. Aileen and W. Eugene Smith's photographic documentary series (1971-73) representing the people of Minamata who were poisoned by mercury pollution is a devastating example of eco-photography (Figure 10). The Smiths, who lived for two years in the town of Minamata interviewing and photographing the people affected, published their book *Minamata* in 1975.¹⁵ Their project documented both the damage done to the locals who ingested contaminated fish caught in the Minamata Bay but also captured the battle of the sick and their families to gain recognition for their plight from the Chisso Chemical Company and the Japanese government. This ecological disaster was also an environmental justice crisis, caused by a complete lack of corporate regulation and mired for years in secrecy and denial on the part of the company and government. The Smiths' photographic project reminds us just how interconnected are the health of humans and their environment and how fragile the balance between corporate economic growth and traditional regional livelihoods can ultimately be.¹⁶

Another prominent example of an image with 'eco' meaning is the so-called *Blue Marble Image* (NASA 22727), photographed from the Apollo 17 space shuttle in 1972 (Figure 11). Denis Cosgrove has written eloquently about this image, along with the earlier "Earthrise" image taken on the Apollo 8 mission in 1968, as an example of how images helped to reconstitute the geographical imagination of post-war America by not only promoting a sense of technocratic military achievement in U.S. global politics but by helping people all around the world to conceive of the earth as a single ecosystem, powerfully sublime yet in need of care.¹⁷ The "Blue Marble" images captured the popular imagination, in bright colour, and became synonymous with a series of environmentalist

¹⁵ See: W. Eugene Smith and Aileen Mioko Smith, "Death-Flow From a Pipe: Mercury Pollution Ravages a Japanese Village," *Life Magazine*, June 2, 1972.

¹⁶ W. Eugene Smith and Aileen Mioko Smith, *Minamata*, 1st ed. (New York: Holt, Rinehart, and Winston, 1975).

¹⁷ Denis E. Cosgrove, *Apollo's Eye: A Cartographic Genealogy of the Earth in the Western Imagination* (Baltimore: Johns Hopkins University Press, 2001).

actions and publications from the celebration of Earth Day to Stewart Brand's *Whole Earth Catalogue* (Figure 12).¹⁸ The "Blue Marble" photograph, an unlikely snapshot from space, has become an iconic example of what I describe in these pages as eco-photography.

I see eco-photography as one part of the larger category of 'environmental' photography, which includes not only eco-photography but also the genres of nature and landscape photography. While landscape, ecology, and nature photography can be understood as environmental, in that they reflect the relationship of humans to their surroundings, environmental photography is not necessarily *ecologically critical*. As Greg Garrard has pointed out, ecocriticism is, "[...] an avowedly political mode of analysis [...],"¹⁹ influenced by cross-disciplinary methods from Marxism to feminism, and reflecting the political and theoretical position of the author. In this conception of an ecocritical photography—eco-photography—I am indebted to the work of literary scholars who have developed a ecocritical approach that,

[...] begins from the conviction that the arts of imagination and the study thereof—by virtue of their grasp of the power of word, story, and image to reinforce, enliven, and direct environmental concern—can contribute significantly to the understanding of environmental problems: the multiple forms of ecodegradation that afflict planet Earth today.²⁰

A useful example that illustrates the complexity of delineating eco-photography is found in the *landscape* photography of Ansel Adams. While Adams's photography has had a profound impact on the cultural understanding of wilderness, particularly the western parts of North America, it also had a direct influence on the development of the nature conservation movement in the U.S.A. and has circulated widely through publications of

¹⁸ Denis E. Cosgrove, "Contested Global Visions: One-World, Whole-Earth, and the Apollo Space Photographs," *Annals of the Association of American Geographers* 84, no. 2 (June 1994): 287.

¹⁹ Greg Garrard, *Ecocriticism, The New Critical Idiom* (London ; New York: Routledge, 2004), 3.

²⁰ Lawrence Buell, Ursula K. Heise, and Karen Thornber, "Literature and Environment," *Annual Review of Environment and Resources* 36, no. 1 (November 21, 2011): 418.

the Sierra Club, a well-known American environmentalist advocacy group.²¹ Adams was concerned with the conservation and preservation of wilderness spaces and made his most famous photographs as testaments to the value of nature, meant to visually persuade viewers of its intrinsic worth (Figure 13). These images, for example his series of Yellowstone National Park, reflect and contribute to the environmental imagination through their visual and transcendental celebration of nature as wilderness.²² Yet Adams's landscapes do not in *themselves* depict the environment in crisis. What they have come to suggest is the *possibility* of crisis, of a threat to the 'pristine' wilderness he depicted, through Adams's framing of these works as representations of Natural Parks conservation, one of the major issues for which the Sierra Club advocated. This ecocritical possibility is contingent on the viewer's understanding of the context of the work's production and the anxiety about the disappearance of Adams's beloved wilderness. Without this understanding of nature at risk, these images would be incredible feats of photographic technical achievement and lasting records of nature's beauty, but little more.

Nature photography, a category of photographic production and practice that has traditionally included close-ups of flora and fauna and the scientific photography of nature, is at its very heart a response to ecology but not necessarily *ecology under threat*. An eloquent contributor to the project of environmental photography is Rebecca Solnit, who has written about the nature photographers of American photographer Eliot Porter.²³ Solnit has argued that Porter's images, influenced by his status as

²¹ See: Dunaway, *Natural Visions*; Robin Kelsey, "Sierra Club Photography and the Exclusive Property of Vision," in *Eco-Images: Historical Views and Political Strategies*, ed. Gisela Parak, vol. 1, Rachel Carson Centre Perspectives (Munich, Germany: Rachel Carson Centre for Environment and Society; Deutsche Museum, 2013), 11–26.

²² Dunaway, *Natural Visions*, 129.

²³ As a journalist and author, Solnit has written broadly on the American landscape, environmentalism, photography. See: Rebecca Solnit, "Scapeland," in *Crimes and Splendors: The Desert Cantos of Richard Misrach*, ed. Anne Tucker and Richard Misrach (Boston, MA: Bulfinch Press/Little Brown and Co., 1996), 37–58; Rebecca Solnit, *Savage Dreams: A Journey into the Landscape Wars of the American West*, 1st ed. (Berkeley, CA: University of California Press, 2000); Rebecca Solnit, *Storming the Gates of Paradise: Landscapes for Politics*, 1st ed. (Berkeley, CA: University of California Press, 2008).

photographer and environmentalist, emphasize the everyday value of nature by rejecting the majesty of traditional landscape aesthetics in favour of close-ups of small natural scenes.²⁴ (Figure 14) Solnit attempts to recuperate Porter, whose work has been condemned for being insufficiently critical of the human impact on nature, arguing that understanding his photographs, “means understanding the world in which they first appeared and the aesthetic and environmental impact they have had since.”²⁵ Strikingly, she argues for an explicitly ecological aesthetic in his work, which, “emphasizes the ordinary over the extraordinary,” and privileges the interconnectedness of living things.²⁶ While the notion of an ecological aesthetic is a powerful one, her research ultimately demonstrates that it was Porter’s engagement with environmental politics and activism that gave his work legitimacy in the context of the environmental movement. I categorize this work as eco-photography because of the way the images have been *used*, by the photographer himself and by publishers such as the Sierra Club, to address and promote a popular eco-consciousness.

In this precise way of defining eco-photography, I make a distinction between using photographs to promote a cultural understanding of the environment and images that are visually persuasive and ideologically ‘environmentalist’ in their intention and concept. This precision does not preclude our understanding of Ansel Adams’s or Eliot Porter’s work as eco-photography but neither does it assume that all environmental photography has the goal of promoting an activist mentality or awareness of the environment under threat. The intentions of a photographer are never simple. While they may set out to produce a particular image, the photographer’s cultural and aesthetic training and context ultimately shapes how they perceive their own work. The presentation of the resultant images, whether in a gallery or a magazine, also changes the way that photographic meaning is received. As such, the meaning of a photograph can evolve over time and change with the popular imagination.

²⁴ Rebecca Solnit, “Eliot Porter as an Environmentalist and Artist,” in *A Keener Perception: Ecocritical Studies in American Art History*, ed. Alan C. Braddock and Dr. Christoph Irmscher, 1st ed. (Tuscaloosa, AL: University Alabama Press, 2009), 226.

²⁵ *Ibid.*, 214.

²⁶ *Ibid.*, 225.

The work of the “New Topographers” is a case in point. William Jenkins curated the exhibition *New Topographics: Photographs of a Man-Altered Landscape* for the International Museum of Photography at George Eastman House in 1975 (Figure 15). At the time Jenkins organized the show, of nine emerging photographers who worked on the landscape, the exhibition was described as “anthropological rather than critical, scientific rather than artistic.”²⁷ This emphasis on the scientific neutrality of the show, made up of primarily 8x10, black and white images of suburban, small town, and industrial landscapes of North America, has not withstood the test of time.²⁸ Since the 1980s, *New Topographics* has become the most commonly referenced exhibition on environmentally engaged photography, held up by photographers, curators, and art historians alike as a key moment in the shifting representation of landscape.²⁹

More recent photographers like Edward Burtynsky owe a large debt to the New Topographers who sought to bring a neutral descriptive quality to the picturing of the environment (Figure 16). Burtynsky’s oeuvre places aesthetics and the ecological sublime at the center of its meaning.³⁰ Although his work does contribute to the general

²⁷ William Jenkins, “Introduction,” in *New Topographics: Photographs of a Man-Altered Landscape: Robert Adams, Lewis Baltz, Bernd and Hilla Becher, Joe Deal, Frank Gohlke, Nicholas Nixon, John Schott, Stephen Shore, Henry Wessel, Jr* (Rochester, N.Y.: International Museum of Photography at George Eastman House, 1975), 7.

²⁸ Karla McManus, “Neutralized Landscapes and Critical Spaces: An Analysis of Contemporary Landscape Photography and Environmentalism in the Art Museum” (MA Thesis, Carleton University, 2009).

²⁹ The references to New Topographics as environmentalist began as early as 1990: Andy Grundberg, “The Machine and the Garden: Photography, Technology, and the End of Innocent Space,” in *Crisis of the Real: Writings on Photography, 1974-1989* (New York: Aperture, 1990), 50–65; Deborah Bright, “The Machine in the Garden Revisited: American Environmentalism and Photographic Aesthetics,” *Art Journal* 51, no. 2 (Summer 1992): 60–71; Max Kozloff, “Ghastly News from Epic Landscapes,” *American Art* 5, no. 1/2 (Winter - Spring 1991): 109–31; More recent projects that discuss this include: Baillargeon, *Imaging a Shattering Earth*; Greg Foster-Rice and John Rohrbach, eds., *Reframing the New Topographics* (Chicago, Ill.: Center for American Places at Columbia College: Distributed by the University of Chicago Press, 2010); Heuvel and Metz, *Nature as Artifice*.

³⁰ McManus, “Neutralized Landscapes and Critical Spaces”; Patricia Ballamingie et al., “Edward Burtynsky’s China Photographs-A Multidisciplinary Reading,” *Environments: A Journal of Interdisciplinary Studies* 37, no. 2 (2011); Jennifer Peeples, “Toxic Sublime: Imaging Contaminated Landscapes,” *Environmental Communication: A Journal of*

appreciation of the earth and anxiety about its fate, many scholars have questioned his approach for its beautification of environmental destruction and what is often perceived as his cozy relationship to his corporate subjects.³¹ Yet there is no doubt in my mind that Burtynsky's photographs clearly grasp and reflect an underlying anxiety about the health of the planet and the people who live here. The conflicted and complex cultural context of his work is ultimately part of what makes eco-photography so essential to define as a category and a subject of study. Without a systemic and in depth analysis of the myriad issues that complicate and inform eco-photography, we will never come to terms with the role that photography plays in reflecting and co-creating contemporary ideas about the fate of the planet.

All categories are bounded both by their historical usages and by their circulation. The goal of this thesis is to understand how eco-photography functions to represent contemporary concerns about the environment in disequilibrium and the human anxiety about the inevitable ecological changes that continue to bombard us each day: in the news, through political and economic decisions, and in images. Understanding eco-photography requires an in-depth appreciation of how photography acts as a cultural reflection, able to document environmental change and help the viewer imagine the state of the world.

(Eco) Photographic Concerns

The body of photographs that I discuss in this thesis come from a wide range of sources including from the art and the photojournalism worlds of photography. Many of the photographers I will be discussing have parallel practices meant for both commercial and

Nature and Culture 5, no. 4 (December 2011): 373–92; Joshua Schuster, “Manufacturing and Landscapes: Edward Burtynsky and the Photography of Ecology,” *Photography and Culture* 6, no. 2 (July 1, 2013): 193–212.

³¹ Gerda Cammaer, “Edward Burtynsky’s Manufactured Landscapes: The Ethics and Aesthetics of Creating Moving Still Images and Stilling Moving Images of Ecological Disasters,” *Environmental Communication: A Journal of Nature and Culture* 3, no. 1 (March 2009): 128; Schuster, “Manufacturing and Landscapes”; For an alternative view, see Kingwell’s response to this criticism: Mark Kingwell, “The Truth in Photographs: Edward Burtynsky’s Revelations of Excess,” in *China: The Photographs of Edward Burtynsky*, 1st ed (Göttingen: Steidl, 2005), 16–19.

art markets; some define themselves as purely documentary photographers or photojournalists; still others see themselves as artists first and foremost. Yet all focus on the state of environment as a subject of critical concern that must be pictured and shown to the public. The emphasis on ethical and environmental responsibility in these works—and the communicative power of photography—parallels the tradition of socially engaged documentary photography. Rooted in the documentary practices and social landscape photography³² of the post-World War Two era, and the New Photojournalism of the nineteen-sixties, with its "[...] ability to harness creative artistic decisions to reportorial end,"³³ eco-photography aims to, above all, harness a vision of documentary realism to its purpose and focus the viewer's eye towards the current state of the planet.

Eco-photography engages with multiple and sometimes contradictory discourses, principally the notion of photographic realism and its 'truth' value. The category of documentary photography has been thoroughly interrogated and critiqued as a historical and ideologically informed category—by photographic practitioners and scholars, from Abigail Solomon-Godeau, to Martha Rosler, to Allan Sekula: those voices and others will be discussed throughout this thesis and I do not seek to repeat their positions at this juncture. I wish only to emphasise in this introduction that while documentary realism is very much a cultural notion, "[...] it is pre-eminently photography's ostensible purchase on the real that materially determines both its instrumentality and its persuasive capacities."³⁴ Any understanding of how eco-photography shapes and participates in the global conceptions of environmental crisis rests on understanding a series of conceptual and visual messages, including the rhetorical trope of the 'real'. The many rhetorical tricks of photography, its supposed truthfulness, its authenticity, and its transparency, inform the circulation and reception of eco-photography, as much as the environmental imagination helps to shape our understanding of the global environment at risk. These

³² See Nathan Lyons, *Towards a Social Landscape* (New York: Horizon Press, 1967).

³³ Brett Abbott, *Engaged Observers: Documentary Photography Since the Sixties* (Los Angeles: J. Paul Getty Museum, 2010), 25.

³⁴ Abigail Solomon-Godeau, "Who Is Speaking Thus? Some Questions about Documentary Photography," in *Photography at the Dock: Essays on Photographic History, Institutions, and Practices* (Minneapolis: University of Minnesota Press, 1991), 170.

discursive strategies are enacted at various levels of image making, circulating, and viewing and must be accounted for when considering how eco-photography functions.

This study pays attention to the afterlife of photographs, their materiality and conceptual status as objects that circulate freely through various sites of meaning. As a result of photography's flexibility in space and time, the photographic works that I discuss in my thesis will be considered not only from their aesthetic, formal, and ideological perspectives but also as objects that circulate in multiple and often contradictory ways. Photography is a medium that is easily duplicated and sent around the world; it is easily republished and re-presented to viewers. As such, the context of viewing becomes an important layer of analysis that offers a valuable structural support for my argument that eco-photography contributes to the environmental imaginary and a growing unease about the status of the earth at risk.

This thesis **Eco-Photography: Picturing the Global Environmental Imaginary in Space and Time** is organized into three Parts, with each Part broken into two chapters. This structure is designed to build on and expand the scope of each section—echoing the concerns of preceding chapters and moving outwards—from the methodological and theoretical concerns of eco-photography as a medium towards the issues of temporal dissonance and spatial displacement that are characteristic of contemporary global environmental crisis and eco-photography.

Part I of my thesis, **Circulating Eco-Photography: Public Cultures and the Environmental Imaginary**, is informed by the role of photography in the public sphere and the notion of the global environmental imaginary as a force that shapes and engenders the cultural understanding of the planet as at risk.

Chapter One *Discursive Environments: A Critical Framework for Eco-Photography* addresses the intellectual and methodological context of eco-photography to establish how key concerns from the humanities—environmental history, ecocriticism, and cultural geography—and the arts—art history, visual culture, and photographic studies—have informed my development of the category 'eco-photography'.

In Chapter Two, *Eco-Photography as Rhetoric: Imagining and Communicating Global Environmental Crises*, I explore the role of photography as a rhetorical tool for promoting a sense of concern for the planet. Through an analysis of key theorists—from Roland

Barthes and Susan Sontag to Robert Hariman and John Lucaites to Barbie Zelizer—who have questioned how viewers respond to images of suffering and crisis, I look at the representation of oil spills—both the Exxon Valdez spill of 1989 and the BP Deepwater Horizon Spill of 2010—as examples of eco-photographs that circulate in various public visual cultures. These are particularly moving types of images because of how they are predicated on a specific and dramatic event: images of oil slicks shot from above by helicopters and close ups of birds coated in oil are shocking to any viewer. Yet the meaning of these types of images often become fossilized by the strict framing and repetitive structure of the trope. By analysing the various ways that eco-images circulate, their iconic and tropic status, and how their changing contexts affect their visual meaning, I consider the implication of what Zelizer identifies as the role of contingency, emotion, and the imagination in picturing the 'reasoned information' of eco-photography.

Part II Temporal Dissonance in Eco-Photography: Risking the Future, Representing the Present, and Circulating the Past focuses on the temporal paradox of eco-photography: how can photography represent and offer hope for the future of the global environment when it is only able to capture a single moment in space and time?

Chapter Three, *Eco-Photography as Witness: Picturing the Future by Re-Photographing the Past* looks at the practice of repeat photography, or re-photography, as an example of how scientists, artists, and activists employ the idea of photographic repeatability to overcome this apparent limitation. The trope of the photographer and the photograph as witness are central to the exploration of how photography's evidentiary status influences the viewing of the eco-photograph. By analysing the discourse of photographic objectivity, neutrality, and witnessing through examples of repeat photography, including James Balog's *Extreme Ice Survey* (2007-ongoing) project about the impact of climate change on the planet's glaciers, I argue that the acceptance of photography as evidence can overwhelm the more subjective and affective impact that eco-photography can have on the perception of environmental crisis.

In Chapter Four, *Eco-Photography as Warning: Photographing Risk in the Atomic Anthropocene* I explore how the legacy of the atomic age and the Cold War helped establish our contemporary sense of environmental risk. The history and practice of nuclear photography is analysed in this section, as a prominent form of eco-photography that has contributed to the development of a sense of risk that transcends the limitations

of human life. Examples of nuclear photography, from Robert Del Tredici's *The People of Three Mile Island* (1980) to David McMillan's *Chernobyl Exclusion Zone* series (1994-ongoing), are analysed to show how eco-photography can act as a reminder of past anxieties and transgressions even when addressing the contemporary concerns for the environment's future. I conclude by considering how images of Japan's Triple Disaster of March, 2011 (the Great East Japan Earthquake and Tsunami which led to the Fukushima Daiichi meltdown) echo the past history of nuclear crisis while reflecting present anxieties about climate change, energy independence, and global economic and environmental disaster.

Part III **Spatial Displacement in Eco-Photography: Environmental**

Deterritorialization of the Global Commons will bring together the concerns of the previous two sections by questioning how the global circulation of eco-photography is contributing to a sense of the world at risk through spatial and temporal deterritorialization of environmental rights and global citizenship.

Chapter Five, *Eco-Photography as Justice: Picturing Environmental Slow Violence* addresses the role that eco-photography plays in picturing global environmental injustice, informed by Rob Nixon's conception of how environmental 'slow violence' is unevenly impacting the world's poor. Space-time compression is central to picturing slow violence; from the disregard of the rights of the few in favour of the many, to the struggles of people and animals on the periphery of the global centre, and the transformation of local environments and economies through the interests of global corporate and governmental forces. This chapter looks at three photographic projects: Munem Wasif's *Salt Water Tears: Lives Left Behind in the Satkhira* (2009), Subhankar Banerjee's *Arctic* series (2000-ongoing) and Mitch Epstein's *American Power* series (2003-2009) as examples of how photographing environmental injustices requires photographers to work with specific visual and conceptual strategies to make visible the insidious, cumulative, and spatially displacing impact of slow violence.

My sixth chapter *Eco-Photography as Citizenry: 'Sustainable' Photography in an Eco-Cosmopolitan Age* focuses on the international photography prize the Prix Pictet. In 2008, the Swiss banking firm Pictet & Cie established the first global prize devoted to photography and sustainability, placing the prize within the discourse of globalization, environmentalism, and photographic concern. In doing so, they frame photography as an

environmentally engaged medium which can help to enact a global citizenry. Through a critical analysis of the Prix Pictet, this chapter questions what role eco-photography plays in contributing to the global citizenry of photography when corporate interests are central to the message of concern. Considered through Ariella Azoulay's notion of a citizenry of photography and the political, social, cultural engagement with the ideas of cosmopolitanism, particularly Ursula Heise's idea of an eco-cosmopolitan imaginary, I argue that utopian conceptions of global identity and community can be a positive force for promoting environmental change, if they are acknowledged as ideals that are worth striving for yet necessarily incomplete and unattainable.

With the growing debates about climate change, rising sea levels, environmental pollution, and concern over the allocation of global resources, the prominence of environmental issues in political, social, and cultural debates is a fact of contemporary life. As an historian of photography, the need to question the photographic representation of environmentalism, as part of a greater awareness of the mediated world, appears to me urgent. My research, informed by my training in art historical analysis and by more interdisciplinary approaches to the subject from visual culture and photographic studies, offers a more comprehensive study of environmental crisis and photography than currently exists. Beyond the prevalence of eco-photography in the media, art and cultural institutions and publications are active sites in raising environmental awareness. By considering the visual rhetoric of images alongside the art and cultural context in which they are produced and circulated, a more complete picture of how eco-photography has participated in and contributed to the global environmental imaginary can be formed. By situating eco-photography within the larger research developments from the environmental humanities, I hope that this project will help to inform and promote the urgent development of an ecocritical art history.

**PART I Circulating Eco-Photography: Public Cultures and
The Environmental Imaginary**

CHAPTER ONE Discursive Environments: A Critical Framework for Eco-Photography

This chapter will consider how shifting ideas about nature since the second half of the twentieth century have influenced the way that contemporary eco-photography pictures the environment and, through its emphasis on a critical ecological and environmental perspective, has altered the way that viewers respond to those images. This chapter will survey three categories of interdisciplinary research that have influenced and shaped my methodological approach and my thinking on eco-photography: the environmental turn in the humanities, especially ecocriticism and environmental history; the visual and cultural histories of the landscape and natural world; and, finally, writings on the art and photography of the environment. These three areas of research have been fundamental in shaping my thinking about eco-photography as a practice and a signifier for the larger global environmental awareness that shapes today's discussions about the present state of the world and its future. By surveying key texts from the environmental humanities and arts, I will demonstrate how much the debates in environmental thought have shifted in recent years to reflect the growing awareness of anthropogenic environmental responsibility.

While this will not be a comprehensive review of all the pertinent literature, a task much too large to accomplish in one chapter, my choices are shaped by the influences of the social and cultural concerns of historians, geographers, literary and visual studies scholars who have attempted to move the environment from the background of their disciplines by demonstrating that past and present ecological thinking has shaped the way that humans have developed the land, told stories, and made images and objects. This thesis is fundamentally an interdisciplinary endeavour, which sees the environment as a central concern in the world today, one that is shaped by humanity's desire for wealth and stability in our habitat as well as humanity's fear of overreaching the ethical and physical boundaries of that growth. By placing the literature on photographic representation of the contemporary environment in context with other disciplines, I will demonstrate how certain strategies and concerns are universal in the representation and critique of the environment.

Environmental Concern in the Academy

In the last forty years, an emphasis on “greening” the academy has been taking place in history, literature, cultural studies, and philosophy but also in the social sciences, particularly cultural geography, sociology, economics, political science, and justice studies. Scholars have developed new theoretical strategies to come to terms with the impact of global economic modernity and environmental crisis on the earth, society, and on human creative expression. The notion of the ‘environmental or ecological turn’ in the humanities and social sciences has been growing, keeping pace with a thriving activist consciousness in the larger public spheres as well as a growing artistic engagement with environmental thought. This period of debate and reflection on the human relationship with the environment has challenged the very ontological stability and acceptance of categories such as human and animal, nature and culture. By placing photography within the context of this greening process in creative, academic, and popular thought, I aim to ground my own research in these larger public and intellectual movements and demonstrate the historical and philosophical importance of my research.

The wealth of scholarly discussion around environmental and ecological consciousness has resulted in a burgeoning field of interdisciplinary study in which finely tuned arguments over terminology and semantic meaning have led to some heated debates. Some of these debates have been ideological, raging between the essentialist or universalist arguments about the intrinsic value of nature and the more extreme deconstructivist perspectives that see nature as culturally constructed and ideologically produced. Complicating this debate are the distinct cultural and historical meanings of terminological like ‘ecology’ and ‘environmental’, as well as the popular uses of the terms *ecological* and *environmentalist*, and how those meanings have shifted over time.³⁵

³⁵ In Lawrence Buell, *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination*, Blackwell Manifestos (Malden, MA: Blackwell Pub, 2005) he notes that “ecology” is a term used primarily in Europe and is often associated with the Green political movement whereas “environmentalism” is more often used in North America to denote a specific social movement of environmental consciousness. Yet more radical movements such as social ecology and deep ecology reject environmentalism as too soft and prefer “ecology” as a more biological (141).

Alongside this semantic evolution, the concept of nature has also gone through the academic wringer in the last forty years, as scholars have challenged its easy usage and deconstructed its place in our lexicon.³⁶ Contemporary humanities scholarship has absorbed the scientific lessons of ecologists and physicists who have demonstrated that both at the micro-cosmic and macro-cosmic levels the world around us is made up of a series of complex interconnected systems and that humans are but one aspect of this system.³⁷ This has led to the decentering of the human subject and a more complex humanistic perspective. Nature has been thoroughly scrutinized by critical theorists who have deconstructed its authority and objectivity to inquire into its political and ideological function as a rhetorical construct, and to question its relationship to identity and biology.³⁸ A strong engagement with theories of gender and the body have also challenged traditional ideas about nature and the feminine.³⁹ This in turn has influenced the study of human and animal relationships and the ethical positioning of the non-human 'other'.⁴⁰

Some thinkers, including philosopher and ecocritical scholar Timothy Morton, have critiqued nature's limited value in creating awareness of ecological thinking. Morton writes that, "nature is an arbitrary rhetorical construct, empty of independent, genuine

³⁶ Morton, *Ecology Without Nature*, 22.

³⁷ Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (University of Minnesota Press, 1987); N. Katherine Hayles, *Chaos Bound: Orderly Disorder in Contemporary Literature and Science* (Ithaca, N.Y: Cornell University Press, 1990); Timothy Morton, *The Ecological Thought* (Cambridge, MA: Harvard University Press, 2010).

³⁸ Bruno Latour, *Politics of Nature: How to Bring the Sciences into Democracy*, 1st ed. (Harvard University Press, 2004); Soper, *What Is Nature?*.

³⁹ Donna Jeanne Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature*, 1st ed. (London: Routledge, 1990).

⁴⁰ John Berger, "Why Look at Animals?," in *About Looking* (London: Writers and Readers, 1980), 3–28; Josephine Donovan and Carol J Adams, eds., *The Feminist Care Tradition in Animal Ethics: A Reader* (New York, NY: Columbia University Press, 2007); Lorraine Daston and Gregg Mitman, eds., *Thinking with Animals: New Perspectives on Anthropomorphism* (New York: Columbia University Press, 2005); Donna Jeanne Haraway, *When Species Meet* (Minneapolis: University of Minnesota Press, 2008); Arnold Arluke and Clinton Sanders, eds., *Between the Species: Readings in Human-Animal Relations* (Boston: Pearson A and B, 2009).

existence behind or beyond the texts we create about it.”⁴¹ For Morton, promoting the concept nature as a utopian state of existence prevents us from recognizing that nature and the natural are outmoded constructs in our ecologically and technologically interconnected world. This scholarly work has blossomed into a flourishing discourse on the role that social, cultural, political, religious, and economic values have played in shaping our conception and experiences of nature. These powerful concerns have come to inform many of the recent intellectual developments of the last twenty years, including animal studies, posthumanism, and environmental justice studies.

Environmental History

In a somewhat parallel development to the intellectual currents mentioned above, environmental history has become a significant force in the academy. As J. Donald Hughes has written, environmental history “seeks understanding of human beings as they have lived, worked and thought in relationship to the rest of nature through the changes brought by time.”⁴² While not particularly revolutionary as a concept, environmental history has been a strong force in articulating a cultural materialist approach. In his 1993 book *The Wealth of Nature: Environmental History and the Ecological Imagination*, Donald Worster places Darwin’s evolutionary theory at the center of his call for “a new perspective on the historian’s enterprise,”⁴³ advocating, as famed American biologist and conservationist Aldo Leopold once did, for “an ecological interpretation of history.”⁴⁴ Much of the early environmental history saw the recovery of nature as the most important goal of the environmental history project, while others understood that the interdisciplinary nature of the endeavour made it a far more profoundly radical shift in historical practise.⁴⁵ In his introduction to the 2010 anthology A

⁴¹ Morton, *Ecology Without Nature*, 21–22.

⁴² Hughes, *What Is Environmental History?*, 1.

⁴³ Donald Worster, *The Wealth of Nature: Environmental History and the Ecological Imagination* (New York; Oxford: Oxford University Press, 1993), 30.

⁴⁴ *Ibid.*, 45; Worster cites Leopold’s most famous book of environmental writing: Aldo Leopold, *A Sand County Almanac and Sketches Here and There*, Reprint (New York N.Y.: Oxford University Press, 1949), 205.

⁴⁵ See Hughes’s discussion in “Defining Environmental History”: Hughes, *What Is Environmental History?*, 9.

Companion to American Environmental History, Douglas Cazaux Sackman explains that,

in some of the most illuminating studies [of environmental history], the environment is viewed not as a thing but as a set of relationships under ongoing construction; matters of perception, political economy, and the dynamics of living ecosystems are viewed together, using interdisciplinary approaches.”⁴⁶

The most powerful examples of environmental history place the ideas that have shaped our contemporary understanding of the natural world in context with the larger social, economic, and political upheavals and intellectual shifts of human history.

It is a common practise when discussing the origins of environmental thinking in the twentieth century to point to two key texts, Rachel Carson’s *Silent Spring* (1962) and Paul and Anne Ehrlich’s *Population Bomb* (1968). Yet environmental historian Richard H. Grove cautions us against relying on the success of these best sellers as some kind of standard historical point of origin for the global environmental movement and environmental history in general. In his own historiographical account of environmental history, Grove points to the influence of historical geographers and writers of economic and colonial history going back to the 19th century.⁴⁷ This Australian historian equally takes issue with the American emphasis of the discipline, arguing “the post-1970s claim for a slice of the environmental action by some American scholars arose after decades in which historians had actually shown a signal and embarrassing proclivity to ignore anything in the way of environmental influences upon history.”⁴⁸

Freely acknowledging the narrow historiographical accounts of the movement, Grove argues that it is “partly due to the fact that environmental history has been propelled in a

⁴⁶ Douglas Cazaux Sackman, ed., *A Companion to American Environmental History* (Chichester, West Sussex; Malden, MA: Wiley-Blackwell, 2010), xv.

⁴⁷ Grove particularly emphasises the global reach of these early studies which looked at forestry in India and land use in Australia and South Africa. Richard H. Grove, “Environmental History,” in *New Perspectives on Historical Writing*, ed. Peter Burke, 2nd Edition (University Park, PA: Pennsylvania State University Press, 2001), 262.

⁴⁸ *Ibid.*, 263.

very ad hoc fashion by the circumstances of the environmental crisis.”⁴⁹ Acknowledging how historical accounting and activism has been mutually influential, German historian Jens Ivo Engels notes in his essay “Modern Environmentalism,” that environmental history has evolved alongside the modern environmental movement. As such it is impossible to separate their development. Engels uses his essay to probe the commonly accepted claim that modern environmentalism can be traced to the “ecological turn (around 1970).”⁵⁰ Focusing on three criteria of the ecological turn, including the state of the environment, the consciousness and politics of environmentalism, and the development of environmental protection policies, Engels concludes that while environmental politicization and awareness has led to increasing conservation and pollution control practises, little in the way of economic policy and behaviour has changed.⁵¹ Whether one is willing to emphasis the 1970s as a turning point or not, it is important to acknowledge the significant influence that the post-World War Two period has had on cultural, social, and environmental awareness, whether concerned with nuclear war, population growth, technological determinism, or urban planning.⁵² Through its significant contribution, environmental history has helped to validate the ecological turn in the humanities, which sprung, while not fully formed, from this significant period.

Environmental historian William Cronon’s edited collection *Uncommon Ground: Rethinking the Human Place in Nature* is an influential case in point. When it was published in 1995, *Uncommon Ground* made an enormous impact, creating controversy and inspiring many through its reconsideration of nature in the “modern world.”⁵³ With contributions from Donna Haraway, N. Katherine Hayles, Carolyn Merchant, Kenneth

⁴⁹ Ibid., 295.

⁵⁰ Jens Ivo Engels, “Modern Environmentalism,” in *The Turning Points of Environmental History*, ed. Frank Uekötter (Pittsburgh, PA: University of Pittsburgh Press : Published in cooperation with the Rachel Carson Center, 2010), 120.

⁵¹ Ibid., 130–131.

⁵² See: Andrew Kirk, “From Wilderness Prophet’s to Tool Freaks: Post-World War II Environmentalism,” in *A Companion to American Environmental History*, ed. Douglas Cazaux Sackman (Chichester, West Sussex; Malden, MA: Wiley-Blackwell, 2010), 285–303.

⁵³ William Cronon, ed., *Uncommon Ground: Rethinking the Human Place in Nature*, 2nd Edition (New York: W.W. Norton & Co, 1996), 24.

Olwig, Anne Whiston Spirn and other influential thinkers from the interdisciplinary field of the environmental humanities, it spawned a series of publications refuting what was seen as its postmodern and cultural constructivist take on nature.⁵⁴ Others applauded its challenge of the easy classification of capital 'N' nature. In his introduction, Cronon shares two key insights that inspired this collection: the notion that nature is more dynamic than stable, and that nature as a human construction, "is so entangled with our own values and assumptions that the two can never be fully separated."⁵⁵ These simple and seemingly obvious points challenged at a profound level many of the assumptions about nature at the foundation of modern environmentalism,⁵⁶ particularly the "naïve realism" of environmental thought or eco-mimesis. As Cronon puts it,

If it now turns out that the nature to which we appeal as the source of our own values has in fact been contaminated or even invented by those values, this would seem to have serious implications for the moral and political authority people ascribe to their own environmental concerns.⁵⁷

This collection attempts to answer the question of how a more historically and culturally aware understanding of nature might appear in face of this realization.

In his own essay from the book, "The Trouble with Wilderness; or, Getting Back to the Wrong Nature," Cronon continues this reconsideration, this time taking into account the term most synonymous with environmentalist protection and glorification: wilderness. As a human concept with a rich history and cultural context, not the virgin and untouched stuff of myth, Cronon argues that wilderness "could hardly be contaminated by the very

⁵⁴ One example centered around what was perceived as the postmodern and constructivist argument against nature, spearheaded by: Cronon, *Uncommon Ground*; In direct response: Michael E. Soulé and Gary Lease, *Reinventing Nature?: Responses to Postmodern Deconstruction* (Washington, D.C.: Island Press, 1995); For a more nuanced perspective on both sides: Dana Phillips, *The Truth of Ecology: Nature, Culture, and Literature in America* (Oxford : New York: Oxford University Press, 2003).

⁵⁵ Cronon, *Uncommon Ground*, 25.

⁵⁶ Cronon defines environmentalism as "the broad cultural movement in the decades since World War II that has expressed growing concern about protecting nature and the environment against harms caused by human actions." *Uncommon Ground*, 25.

⁵⁷ Cronon, *Uncommon Ground*, 26.

stuff of which it is made.”⁵⁸ Cronon discusses the two great aesthetic and conceptual constructs of the wilderness myth: the sublime and the frontier myth, arguing that “the modern environmental movement is itself a grandchild of romanticism and post-frontier ideology, which is why it is no accident that so much environmentalist discourse takes its bearings from the wilderness these intellectual movements helped create.”⁵⁹ The sacralisation of wilderness – the sense of moral and spiritual right – is key to understanding the importance of emotional sentiment and the rejection of modernity as unquestioned tenets of this philosophy. Most interestingly, Cronon emphasises that wilderness acts as a form of historical erasure, either through its recreation of the innocence in the garden or a “savage world at the dawn of civilization.”⁶⁰ Taking to task the notion of a dualistic nature and culture divide, Cronon points out how paradoxical our understanding of wilderness is and argues that, without acknowledging this contradiction, “we [...] leave ourselves little hope of discovering what an ethical, sustainable, honourable human place in nature might actually look like.”⁶¹ By challenging the wilderness myth, Cronon offers an alternative ideology that places human responsibility for our actions squarely at its center.

Ecocriticism

The practice of ‘ecocriticism’ is another interdisciplinary field like environmental history that has had an enormous influence on my thinking. Described by Alan C. Braddock and Christoph Irmscher as “emphasiz[ing] issues of environmental interconnectedness, sustainability, and justice in cultural interpretation,”⁶² ecocriticism has expanded into a broad field of study with no singular methodology but a unifying concern with the social, cultural and political implications of the environmental imaginary and the ethical

⁵⁸ William Cronon, “The Trouble with Wilderness; Or, Getting Back to the Wrong Nature,” in *Uncommon Ground: Rethinking the Human Place in Nature*, ed. William Cronon, 2nd Edition (New York: W.W. Norton & Co, 1996), 69.

⁵⁹ *Ibid.*, 72.

⁶⁰ *Ibid.*, 79.

⁶¹ *Ibid.*, 81.

⁶² Alan C. Braddock and Dr. Christoph Irmscher, eds., *A Keener Perception: Ecocritical Studies in American Art History*, 1st ed. (Tuscaloosa, Alabama: University Alabama Press, 2009), 3.

significance of human development.

Lawrence Buell, one of the early proponents and chroniclers of the movement, wrote the influential book *The Environmental Imagination: Thoreau, Nature Writing, and the Formation of American Culture* which opened up the practise of ecocriticism to an expanded understanding of environmental thought. For Buell, the environmental imagination is a metaphorical framework that embraces the many complementary and conflicting ideas about nature, wilderness, and ecology in time and place. In *The Environmental Imagination*, he describes the environmental imagination as an “un-unified” category of ideas, values, and practises, influenced by literature, art, popular culture, the news, historical movements, and current politics.⁶³ As a way to re-think the political, cultural, and social impact of environmental thinking (and lack thereof) that is today so dominant, the environmental imaginary is a powerful idiom.

Ecocritical studies begin to appear from the late-1960s and 1970s, addressing the pastoral and romantic conceptions of landscape and nature in cultural production, primarily poetry and literature.⁶⁴ At the same time, scholars such as John Barrell were exploring how the paintings of John Constable and others of the English pastoral tradition reflected the role that social class and economic status played in shaping and envisioning the landscape.⁶⁵ Yet it wasn't until the early 1990s that the growing body of scholars, predominately American but also British, helped ecocriticism to become a solid self-defined movement.⁶⁶ This second wave of ecocriticism began in the 1990s to

⁶³ Buell, *The Environmental Imagination*.

⁶⁴ Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (Oxford: Oxford University Press, 1964); Joseph W. Meeker, *The Comedy of Survival: In Search of an Environmental Ethic* (New York N.Y.: Scribner's, 1972); Raymond Williams, *The Country and the City* (Oxford: Oxford University Press, 1975).

⁶⁵ Barrell, *The Dark Side of the Landscape*; John Barrell, *The Idea of Landscape and the Sense of Place, 1730-1840: An Approach to the Poetry of John Clare* (Cambridge, UK: Cambridge University Press, 1972).

⁶⁶ Examples of this early wave include: Jonathan Bate, *Romantic Ecology: Wordsworth and the Environmental Tradition* (London ; New York: Routledge, 1991); Karl Kroeber, *Ecological Literary Criticism: Romantic Imagining and the Biology of Mind* (New York: Columbia University Press, 1994); Buell, *The Environmental Imagination*; Cheryll Glotfelty and Harold Fromm, eds., *The Ecocriticism Reader: Landmarks in Literary*

pushed back against what new scholars argued was the previous generations limited understanding of the social constructedness of the nature-culture divide. This new direction of ecocriticism opened up the practice to include post-structuralist and postmodernist approaches of cultural criticism, including post-colonial and feminist critiques of nature and landscape, and emphasised the place of the urban environment and industrialization in the environmental imaginary.⁶⁷

Buell describes an emerging third wave of ecocriticism in his book *The Future of Environmental Criticism*. Just as environmentalism has adjusted in the last twenty years to reflect broad concerns of environmental injustice towards indigenous people, the subaltern world, the working poor, and women, ecocriticism has expanded to reflect more encompassing concerns about the global environmental imagination, global risk, and environmental justice.⁶⁸ It is in the nexus of global environmental concerns and environmental justice that I see my thesis contributing to the literature on ecocriticism.

Examples of this third wave which have influenced this thesis include Ursula Heise's book *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*, which begins from a position of dissent when she suggests that cosmopolitan thinking is the only solution to our global environmental crisis. She challenges traditional place-based environmentalist and ecocritical position by asking: how can we reconfigure our sense of local engagement with environmental concerns to think about the *world* as our backyard, in need of global protection? Heise argues that the deterritorializing impact of globalization and modern life can offer new insight into ecological consciousness. She writes that, "what is crucial for ecological awareness and environmental ethics is arguably not so much a sense of place as a sense of planet – a sense of how political, economic, technological, social, cultural, and ecological networks shape daily routines."⁶⁹ Heise favours using cultural forums to promote the appreciation of the global

Ecology (Athens: University of Georgia Press, 1996).

⁶⁷ Buell, *The Future of Environmental Criticism*, 119.

⁶⁸ *Ibid.*, 27.

⁶⁹ Ursula K. Heise, *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*, 1st. ed (Oxford ; New York: Oxford University Press, 2008), 55.

environment from a humanistic perspective, named by Heise as eco-cosmopolitanism, and she uses her book to discuss some of the more effective models.

Similarly influential on my thinking is Rob Nixon's book *Slow Violence and the Environmentalism of the Poor*. Nixon addresses the impact of environmental violence, what he calls 'slow violence', on the world's poor through the "challenge of visibility."⁷⁰ Slow violence is how Nixon describes the "violence that occurs gradually and out of sight, a violence of delayed destruction that that is dispersed across time and space," that characterizes many environmental catastrophes, from the radioactive aftermath of nuclear testing, to climate change, to deforestation.⁷¹ The delayed emergence of the effects of slow violence result in a kind of amnesia as the causes and memories of the original catastrophe fade away, leaving only casualties. As well, the media and political structures of contemporary democratic societies rely on an accelerated sense of time and action that is out of sync with slow violence. Thus visibility becomes a serious concern as "representational bias" against slow violence leads to its marginalization as a political issue.⁷²

Slow violence, according to Nixon, is further marginalizing because, "[c]asualties of slow violence—human and environmental—are the casualties most likely not to be seen, not to be counted," because of their often negligible place in global economic and political concerns. Nixon uses his book to address the question of how to make visible the insidious and pervasive impact of slow violence around the globe. He does so through key examples of "writer-activism": exploring the work of non-fiction and fiction writers such as Nigerian poet and environmental activist Ken Saro-Wiwa, Caribbean-American novelist Jamaica Kincaid, and many others who have acted as mediators to the slow violence happening around them and have lent their names and "social authority" as witnesses.⁷³

⁷⁰ Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, Mass: Harvard University Press, 2011), 5.

⁷¹ *Ibid.*, 2.

⁷² *Ibid.*, 9.

⁷³ *Ibid.*, 16.

Nixon's articulation of global environmental injustice as a form of "slow violence" offers a valuable concept to discuss eco-photography's role as a recorder of the uneven impact of environmental crisis. His deep consideration of how neo-liberal economic and political powers impose their resource needs on vernacular landscapes, and the indigenous responses to this violence, in political and literary forms, offers a model of how intellectual and public concerns can be effectively addressed in tandem. Most important may be his articulation of "the temporalities of place"⁷⁴ that are at the heart of global environmental crises, an essential concern in eco-photography, which struggles to represent the complexities of space-time compression.

Environmental history and ecocriticism, through their interdisciplinarity embrace of and contribution to recent developments in critical and cultural theory have demonstrated their usefulness and reach by influencing other fields, such as film studies.⁷⁵

Environmental history has offered a way to reconsider the historical understanding of humanity's relationship to our surroundings while ecocriticism's concern with representation and ideology has offered thinkers a way to enter into the imaginary of human existence and explore the very foundations of our relationship to the environment. Within the sphere of visual culture, the strongest challenge of these modes of thinking has been to the tradition and study of landscape.

Picturing the Landscape

The tradition of art from which my study most draws is that of western landscape art, a subject and genre that has gained enormous popularity in the 20th century, with such a larger quantity of studies that, as Malcolm Andrews has written, "even a potted history of

⁷⁴ Ibid., 18.

⁷⁵ Key examples of the "green" or ecocritical approach to cinema include: Derek Bousé, *Wildlife Films* (Philadelphia: University of Pennsylvania Press, 2000); David Ingram, *Green Screen: Environmentalism and Hollywood Cinema*, Representing American Culture (Exeter, UK: University of Exeter Press, 2000); Gregg Mitman, *Reel Nature: America's Romance with Wildlife on Film* (Cambridge, MA: Harvard University Press, 1999); Paula Willoquet-Maricondi, ed., *Framing the World: Explorations in Ecocriticism and Film* (Charlottesville: University of Virginia Press, 2010); Stephen Rust, Salma Monani, and Sean Cubitt, eds., *Ecocinema: Theory and Practice* (London; New York: Routledge, 2012).

[landscape art] would be barely manageable now, given the geographical and chronological scope,⁷⁶ of the subject. Many have argued that landscape art is a product of the enlightenment and promoted imperialist values about nature, shaped by the anthropocentric attitudes that considered the earth as part of man's dominion.⁷⁷ Scholars, such as Ann Bermingham and Mary Louise Pratt, have argued persuasively that the reduction of the world to a series of aesthetic forms, as in Edmund Burke and William Gilpin's descriptions during the late enlightenment and romantic period, be they picturesque, beautiful, or sublime, has shaped the understanding of landscape art as reflecting social, aesthetic, and cultural values about place, travel, and identity.⁷⁸ Others, including Charlotte Klonk, have analysed how landscape representation was shaped by the scientific revolution's reduction of the earth to a series of systems to be analysed.⁷⁹ Scholars have applied social criticism to the history of landscape art, seeking to decode the classist, racial, and gendered meanings in these images of the past.⁸⁰ This body of

⁷⁶ Malcolm Andrews, *Landscape and Western Art*, Oxford History of Art (Oxford: Oxford University Press, 1999), 2.

⁷⁷ Pepper, *Modern Environmentalism*, 135–140.

⁷⁸ Edmund Burke, *A Philosophical Enquiry into the Origin of Our Ideas of the Sublime and Beautiful* (Cambridge, UK: Proquest, 1999); William Gilpin, *Essay I.; On Picturesque Beauty In, Three Essays: On Picturesque Beauty; On Picturesque Travel; And On Sketching Landscape: To Which Is Added A Poem, On Landscape Painting* (Cambridge, UK: Proquest, 1999); Mary Louise Pratt, *Imperial Eyes: Travel Writing and Transculturation* (London ; New York: Routledge, 1992); Cosgrove, *Social Formation and Symbolic Landscape*; Ann Bermingham, *Learning to Draw: Studies in the Cultural History of a Polite and Useful Art* (New Haven, CT: Published for the Paul Mellon Centre for Studies in British Art by Yale University Press, 2000).

⁷⁹ Charlotte Klonk, *Science and the Perception of Nature: British Landscape Art in the Late Eighteenth and Early Nineteenth Centuries* (New Haven: Published for the Paul Mellon Centre for Studies in British Art by Yale University Press, 1996).

⁸⁰ Barrell, *The Dark Side of the Landscape*; Bermingham, *Landscape and Ideology*; Gillian Rose, *Feminism and Geography: The Limits of Geographical Knowledge* (Minneapolis: University of Minnesota Press, 1993); Peter John Brownlee, Michael S. Hogue, and Angela L. Miller, eds., *Manifest Destiny, Manifest Responsibility: Environmentalism and the Art of the American Landscape* (Terra Foundation for American Art, 2008); John Michael Vlach, *The Planter's Prospect: Privilege and Slavery in Plantation Paintings* (Chapel Hill: University of North Carolina Press, 2002); Jonathan Bordo, "Picture and Witness at the Site of the Wilderness," in *Landscape and Power*, ed. W. J. T. Mitchell, 2nd ed (Chicago: University of Chicago Press, 2002), 291–316; Brian S. Osborne, "The Iconography of Nationhood in Canadian Art," in *The Iconography of Landscape: Essays on the Symbolic Representation, Design, and Use of Past*

work raises important questions about the aesthetic, social, and political function of landscape art in the twenty-first century when economics, human rights, and environmentalism have become issues of planetary concern and consciousness.

In his collection *Landscape and Power*, cultural theorist W.J.T. Mitchell develops a radical critique by approaching landscape as a concept and as form of representation, arguing that landscape both functions as a dynamic cultural practice and a medium with its own representational and cultural value. In his introduction, Mitchell places the historical approach to landscape art history, which privileged painting as the purest form of landscape expression, exemplified by the modernist art historians E.B. Gombrich and Kenneth Clark, in balance with the post-structuralist consideration of landscape as a series of signs to be read for their psychological and ideological meaning.⁸¹ Amongst this approach, he positions the work of John Barrell and Ann Bermingham, whose explorations of the ideological meanings of landscape art have critiqued the class values of the 18th and 19th century art British establishment.⁸² While expressing sympathy with the social art history of Barrell and Bermingham, Mitchell criticises both of these perspectives, the 'idealist' and the 'sceptical' interpretations of landscape art, for "blurring of the distinction between the viewing and the representation of landscape."⁸³ Mitchell offers this book as a third way which, "aims to absorb these approaches into a more comprehensive model that would ask not just what landscape 'is' or 'means' but what it does, how it works as a cultural practice."⁸⁴ Taking to task some of the standard claims about landscape, in particular its Western European origins, Mitchell points out the hybridity of much seventeenth-century European art and landscape design, which was influenced by Chinese, Japanese, and Roman styles as much as by Dutch, English and French conventions. Mitchell, while carefully qualifying his statement, nevertheless argues for a radically different relational understanding of landscape art when he writes

Environments, ed. Denis E. Cosgrove and Stephen Daniels (Cambridge, England: Cambridge University Press, 1988), 162–78.

⁸¹ Mitchell, *Landscape and Power*, 1.

⁸² Barrell, *The Dark Side of the Landscape*; Bermingham, *Landscape and Ideology*.

⁸³ W.J.T. Mitchell, "Imperial Landscape," in *Landscape and Power*, ed. W. J. T Mitchell, 2nd ed (Chicago: University of Chicago Press, 2002), 8.

⁸⁴ Mitchell, *Landscape and Power*, 1.

that, “at a minimum we need to explore the possibility that the representation of landscape is not only a matter of internal politics and national or class ideology but also an international, global phenomenon, intimately bound up with the discourses of imperialism.”⁸⁵

Returning to notion of landscape as a medium, Mitchell clarifies his argument. Landscape, made up of rocks, trees, moss, and water, is a “representation in its own right,”⁸⁶ made up of symbolic forms that express cultural and economic values and communicating between people as well as “the Human and the non-Human.”⁸⁷ In this sense, “it is not only a natural scene, and not just a representation of a natural scene, but a *natural* representation of a natural scene,”⁸⁸ which explains why, as a form of representation, landscape is so easily naturalized or interpreted as objective and transparent to the eye. Mitchell sees this state as complementary to the imperialist discourse of expansionism, appropriation, and the ‘civilizing’ of natural space that is so prevalent in landscape art history.

Landscape photography adds an extra layer of perceptual naturalism to Mitchell’s theory. The imperialist landscape today, be it the commodification of nature, corporate large-scale industrialization, or the impact of first world pollution felt half way around the world, is rendered in striking realism in photography, regularly perceived as the truthful documentation of the state of the world. When viewers consume images of the value-laden landscape, they are often unaware of how truly *naturalized* this natural representation of a natural scene has become through the power of photography and the discourse of witnessing that documentary photography perpetuates.

The Environment in Visual Culture

Visual culture, or visual studies as it equally has been named, is an interdisciplinary field which embraces all the forms of visual artefacts, art or non-art, for the purpose of paying

⁸⁵ Mitchell, “Imperial Landscape,” 9.

⁸⁶ *Ibid.*, 14.

⁸⁷ *Ibid.*, 15.

⁸⁸ *Ibid.*

heed to those often ignored objects and “entertains the possibility that other visual artefacts may be equally capable of aesthetic complexity [...]”⁸⁹ This thesis looks to visual studies as a mode of inquiry that allows the consideration of photographs from both the art and non-art worlds, “without presupposing the placement of any privileged set of artefacts or class of people at the center of the discipline.”⁹⁰ Unlike many existing studies on how environmental issues are communicated to the public which concentrate on the ‘media’ as a general overarching category, this thesis focuses on one single medium: photography. Yet photography has the potential to cross through many different types of media and to flexibly adjust to those circumstances; its meaning is shaped by its surroundings. After all, photographs are found in film and television, in newspaper and magazine articles, in personal albums and institutional archives, and are also part of the art world. How the images are presented, in what context and with what purpose, shapes the way that their meaning is perceived. This pliability makes photography a challenging subject to analyze and requires any thoughtful researcher to address the way that photographic circulation and presentation impacts its meaning and function as an artistic and communicative medium. It also requires an acknowledgement that photography informs many academic practices. As such, my research has not ignored the interdisciplinary nature of eco-photography and has drawn from many disparate fields including anthropology, geography, literary and media studies.

From the very beginning, photography offered viewers and producers a new way to see the world, physically but also anthropologically, as well as a technique of classifying, collecting, and communicating that knowledge around the earth. In their interdisciplinary collection of essays, *Picturing Place: Photography and the Geographical Imagination*, Joan Schwartz and James Ryan argue that the study of geography underwent a visual turn, opening up to critical evaluation the cultural and visual conventions that shaped the discipline. As such, not only maps and charts but also photographs have become important objects of study for geographers. As a medium, they argue, photography offers

⁸⁹ James D. Herbert, “Visual Culture/Visual Studies,” in *Critical Terms for Art History*, ed. Robert S. Nelson and Richard Shiff, 2nd ed (Chicago: University of Chicago Press, 2003), 453.

⁹⁰ *Ibid.*, 453.

unique insight into history and brings to bear its own temporal and spatial concerns. Photography thus contributes to the 'geographical imaginary', a term most influentially used by David Harvey. Schwartz and Ryan define the geographical imaginary as, "the mechanism by which people come to know the world and situate themselves in space and time."⁹¹

The uniting interest of the essays in this collection is the consideration of photographs as serious objects of study, both as records of history and geography but also as representations of specific discourses and practices thus, "[working] towards a specifically visual historical geography that pays critical attention to the content of the images themselves as well as to the contexts of their conception, production, dissemination, consumption and preservation."⁹² Understanding the historical origins of geographical photography is essential to my thesis for it informs the attitudes and practices of photographic production and reception today. As Schwartz and Ryan put it,

To explore photography and the geographical imagination is to understand how photographs were, and continue to be, part of the practices and processes by which people come to know the world and situate themselves in space and time.⁹³

While my research is more *sociological* than historical, and grounded in new art history's call for a critical analysis of art and its histories, I am informed by the methods promoted by Schwartz and Ryan's collection, which argue that the representation of a geographical imaginary must be grounded in the historical. Their interdisciplinary engagement with photographs suggests a way forward in my thesis that reflects a dual concern with what eco-photographs *depict* as much as with the environmental 'imaginary'.⁹⁴

⁹¹ Joan M Schwartz and James R Ryan, "Introduction: Photography and the Geographical Imagination," in *Picturing Place: Photography and the Geographical Imagination* (London: I.B. Tauris, 2003), 6.

⁹² *Ibid.*, 7.

⁹³ *Ibid.*, 18.

⁹⁴ *Ibid.*, 8.

Cultural geographer Denis Cosgrove is one of the most influential thinkers of the twentieth century on the representation and conceptualization of geographical space and landscape.⁹⁵ In one of his last published essays, “Images and Imagination in 20th-century Environmentalism: From the Sierras to the Poles,” Cosgrove builds on the work of decades to argue that images of environmental crisis, particularly photographs, have helped to complicate the easy dualism of nature vs. culture that is so prevalent in much modern environmental discourse.⁹⁶ Cosgrove borrows heavily from Finis Dunaways’ research,⁹⁷ as well his own extensive writing on “globalized space” to discuss the icons of environmental imagination over time. Responding to the claims that we are ‘post-environmentalist’, Cosgrove argues that images and imagination “are not bounded by the conceptual binaries of which Modernist environmentalism stands accused”⁹⁸ and that they have, in fact, helped to reveal the shifts of environmental thought. Cosgrove develops a history of ‘environmental images’, which he describes as “landscape paintings and photographs, maps and digital images, nature films and videos,”⁹⁹ that illustrate the shifting discourses of environmentalism in the 20th century. Cosgrove makes a deeper assertion for the power of images, describing them as “affective and sensuous, rather than syllogistic and analytic,” in more ways than the purely aesthetic.¹⁰⁰ For Cosgrove, looking at images combines a culturally specific evaluative process with a more immediate emotive response introducing a process where the visual object,

⁹⁵ While John Berger coined the phrase in his BBC series and later book *Ways of Seeing* (1972), it was the geographer Denis Cosgrove who first argued that geographical representations contribute to a specific and dominant “way of seeing” the landscape in his book *Social Formation and Symbolic Landscape* (1984).

⁹⁶ Influential works by Cosgrove include Denis E. Cosgrove, “Environmental Thought and Action: Pre-Modern and Post-Modern,” *Transactions of the Institute of British Geographers*, New Series, 15, no. 3 (1990): 344–58; Cosgrove, “Contested Global Visions”; Cosgrove, *Apollo’s Eye*; Denis E. Cosgrove, *Geographical Imagination and the Authority of Images: Hettner-Lecture with Denis Cosgrove* (Stuttgart: Steiner, 2006); Denis E. Cosgrove, *Geography and Vision: Seeing, Imagining and Representing the World* (London: I.B. Tauris, 2008); Denis E. Cosgrove and William L. Fox, *Photography and Flight*, 1st ed. (Reaktion Books, 2010).

⁹⁷ Dunaway, *Natural Visions*.

⁹⁸ Denis E. Cosgrove, “Images and Imagination in 20th-Century Environmentalism: From the Sierras to the Poles,” *Environment and Planning A* 40, no. 8 (2008): 1863.

⁹⁹ *Ibid.*, 1864.

¹⁰⁰ *Ibid.*, 1864.

embodying a direct reference to its subject, becomes “an active agent in cofabricating the social world.”¹⁰¹ The process he describes offers a unique balance of the social constructivist position of images with a more relational appreciation of how meaning is created and communicated. Citing photography as a central player in this shift, because of its malleability, accessibility, and reproducibility, he situates the roots of environmental images in Romantic aesthetics.

Cosgrove stresses that one major aspect of the shift in environmental images was from the sublime nature of pure wilderness to images that reflected the conflict of natural and social processes on the landscape or what he describes as the shift in the representation of geographical deep time to that of historical time, exemplified by images of the American dustbowl in the 1930s and, later, the 1960s interest in representing suburban sprawl. His transition example to contemporary representations focuses on the Apollo mission images, *Earthrise* (1968) and *Whole Earth* (1972), photographs that became emblems of global environmentalism. His final example, climate change images of polar bears stranded on ice flows, illustrates that the binaries of nature and culture may be sharper today than in the modern period as representations of the Arctic, or indeed images of the fragile globe floating in space, emphasis catastrophic change over the stable space of deep time and the evolutionary time of history.¹⁰²

In their 2009 collection, *Ecosee: Image, Rhetoric, Nature*, Sidney I. Dobrin and Sean Morey bring together a series of essays that consider “the visual facet of environmental rhetoric.”¹⁰³ Coming from a media and communications background, they argue that the practices of ‘ecoseeing’ and writing are a way to “better understand the role of image and visual representations of nature in constructing the politics of nature and environment.”¹⁰⁴ Influenced by post-structuralist methods of cultural and media studies, such as discourse and rhetoric analysis, semiotics, psychoanalysis, and deconstruction,

¹⁰¹ Ibid.

¹⁰² Ibid., 1878.

¹⁰³ Sidney I. Dobrin and Sean Morey, eds., *Ecosee: Image, Rhetoric, Nature* (Albany, N.Y.: State University of New York Press, 2009), 2.

¹⁰⁴ Ibid., 4.

they argue for the importance of 'ecosee' both for "purely hermeneutic but also heuristic ones,"¹⁰⁵ acknowledging the intentional activism of this writing and analytic practice. Sean Morey's essay, "A Rhetorical Look at Ecosee" continues in the direction of the introductory essay by arguing that,

Our current notion(s) of environment and nature could only have developed within a culture of seeing and understanding nature in terms of images; and this understanding, a construction of nature through images, has direct material effects on how we treat nature.¹⁰⁶

There are limitations to Morey's approach, most obviously in his sweeping assessment and generalization about the power of images, going so far as to write that, thought of in a certain way, "all images are environmental images."¹⁰⁷ That said, he asks us to consider the visual culture of environmentalism as interconnected discursively and visually, an important argument in support of the environmental imaginary.

Of particular interest to my research is the work of communications scholar Julie Doyle. Her essay, "Seeing the Climate?: The Problematic Status of Visual Evidence in Climate Change Campaigning," takes as its topic the use of repeat photography as deployed in Greenpeace advertisements. In her analysis of photography's ability to communicate complex scientific and environmental information about climate change, she argues that their meaning is limited by the rhetoric of objective truth. By presenting images as witnesses of past events, "photography cannot visualize the future as a present threat,"¹⁰⁸ as is the case with the ongoing and future crisis of climate change. Doyle's interest in the way Greenpeace photography engages with temporal and geographical slippages, by showing the relative and relational nature of these images, has influenced my understanding of eco-photography's ability to communicate the future risk of

¹⁰⁵ Ibid., 12.

¹⁰⁶ Sean Morey, "A Rhetorical Look at Ecosee," in *Ecosee: Image, Rhetoric, Nature*, ed. Sidney I. Dobrin and Sean Morey (Albany, N.Y.: State University of New York Press, 2009), 24.

¹⁰⁷ Ibid., 29.

¹⁰⁸ Julie Doyle, "Seeing the Climate? The Problematic Status of Visual Evidence in Climate Change Campaigning," in *Ecosee: Image, Rhetoric, Nature*, ed. Sidney I. Dobrin and Sean Morey (State University of New York Press, 2009), 294.

environmental crisis.

In her larger book project *Mediating Climate Change*, Doyle argues that climate change is one of the most discussed forms of environmental crisis today and yet is possibly the most difficult to represent. According to Doyle, this problem rests in climate change's "temporal complexity [...] and its inherent invisibility."¹⁰⁹ Doyle's interest in 'mediation' focuses on the "intersecting knowledges, discourses and social practices, across science, environment, media, politics and culture."¹¹⁰ Doyle argues that climate change mediation has failed to appeal to the public, not because of its complexity as an issue, but because it seems spatially and temporally distant, as well as socially irrelevant. According to Doyle, the way forward is to make climate change meaningful to citizens, which requires us to understand how climate change has been communicated and what processes influence our perception of this crisis. Doyle's discussion of the spatial and temporal limitations of visual representations of climate change could be extended to the representation of almost all environmental crisis: unless the crisis is taking place close to one's home, it can be very difficult to become engaged.

Doyle sees the possibility of a more engaged public discourse brought about through art. She writes that, "Cultural and creative engagements with climate change do not fix meaning, but present the possibility for multiple ways of perceiving, engaging and understanding."¹¹¹ While Doyle's response to art's political power may be rather utopian, she does offer criticism of artworks that do not sufficiently engage their audiences, arguing that climate change must be made culturally meaningful to people's social realities. This does not only mean that local concerns should be privileged because, "climate change is about making us question our sense of selves and our actions which may transcend the specificity of place."¹¹² Art, according to Doyle, offers a way to complicate the easy reading of climate change that dominates the popular imagination.

¹⁰⁹ Julie Doyle, *Mediating Climate Change*, Environmental Sociology (Burlington, VT: Ashgate, 2011), 71.

¹¹⁰ *Ibid.*, 7.

¹¹¹ *Ibid.*, 145.

¹¹² *Ibid.*, 148.

The History of Environmental Art versus Ecocritical Art History

Beginning in the 1960s but increasingly since the 1990s, artists have been producing more environmentally engaged art and a number of books and essays have been published on land and environmental art. Land and Earth Art by conceptual artists such as Robert Smithson, Nancy Holt, Walter De Maria, Anna Mendieta, along with many others, has led to a number of publications that emphasise the site specific and ephemeral nature of their work as well as their concern for a more engaged experience of the landscape.¹¹³ The environmental art of Jeanne-Claude and Christo, Mark Dion, and Andy Goldsworthy to name only a few, reflects the notion that art is embedded in social relations with communities and cultural values.¹¹⁴ Malcolm Andrews astutely describes the relational and conceptual quality that encompasses most environmental art when he writes: “if we continue to think in the nature-art dialectical manner, then such a work of art may be seen as a portrait of a dialectic.”¹¹⁵ These ideas about the

¹¹³ Gyorgy Kepes, ed., *Arts of the Environment* (New York, NY: George Braziller, 1972); Lucy R Lippard, *Overlay: Contemporary Art and the Art of Prehistory*, 1st ed. (New York: Pantheon Books, 1983); Alan Sonfist, *Art in the Land: A Critical Anthology of Environmental Art*, 1st ed (New York: Dutton, 1983); Gilles A Tiberghien, *Land Art* (New York: Princeton Architectural Press, 1995); Jeffrey Kastner, ed., *Land and Environmental Art, Themes and Movements* (London: Phaidon Press, 1998); William Malpas, *Land Art: A Complete Guide to Landscape, Environmental, Earthworks, Nature, Sculpture and Installation Art*, 1st ed (Maidstone, Kent, UK: Crescent Moon, 2004); John Beardsley, *Earthworks and Beyond: Contemporary Art in the Landscape*, 4th ed (New York: Abbeville Press, 2006); Suzanne Paquet, *Le Paysage Façonné: Les Territoires Postindustriels, L'art et L'usage*, Géographie. Recherche (Québec, Qué.: Les Presses de l'Université Laval, 2009); Amanda Boetzkes, *The Ethics of Earth Art* (Minneapolis: University of Minnesota Press, 2010).

¹¹⁴ Arnold Berleant, ed., “Art, Environment and Experience,” in *Environment and the Arts: Perspectives on Environmental Aesthetics* (Burlington, VT: Ashgate Pub, 2002), 192; Sue Spaid, *Ecovention: Current Art to Transform Ecologies* (Cincinnati, OH: Contemporary Arts Center, 2002); Sarah S. Brophy and Elizabeth Wylie, *The Green Museum: A Primer on Environmental Practice* (Lanham, MD: AltaMira Press, 2008); John K Grande, *Art Nature Dialogues: Interviews with Environmental Artists* (Albany: State University of New York Press, 2004); Florian Matzner, ed., *Public Art: A Reader* (Ostfildern-Ruit: Hatje Cantz, 2004); Yates McKee, “Land Art in Parallax: Media, Violence, and Political Ecology,” in *Nobody's Property: Art, Land, Space, 2000-2010* (New Haven, CT: Yale University Press, 2010); Linda Weintraub, *To Life!: Eco Art in Pursuit of a Sustainable Planet* (Berkeley: University of California Press, 2012).

¹¹⁵ Andrews, *Landscape and Western Art*, 205.

environmental compatibility of art, its situated-ness in culture and nature, its temporal and relational qualities, its critique of the nature-culture dualism in Western art, have been important to promoting a critical consciousness about landscape art.

Yet alongside this engagement with the environmental art of the last forty years, there has been very little attempt to develop an ecological art history.¹¹⁶ In her dissertation from 2004, Keri Cronin calls for a more engaged ecocritical approach to art history, one that is interdisciplinary and that's "task is to focus on how imagery has complicated, constructed, and sustained relationships between humans and the nonhuman world. In addition, consideration of the environmental impact of systems of image production and distribution must be taken into account."¹¹⁷ Environmental historian Andrea Gaynor and art historian Ian McLean have gone so far as to accuse art history of being indifferent to the ecological and environmental implications of landscape art.¹¹⁸ In the last ten years, there has been a growing response to this absence, including the 2009 publication of *A Keener Perception: Ecocritical Studies in American Art History*, edited by Ian C. Braddock and Christoph Irmischer. In their introduction, Braddock and Irmischer describe ecocritical art history as "[paying] sharper attention to the environmental embeddedness of art within a world that is both stubbornly real and infinitely vulnerable. Perhaps most importantly, ecocritical art history recognizes that this world is not exclusively the province of human beings."¹¹⁹ This thesis is a contribution to the project of ecocritical art history that builds on the writings about landscape and environmental art that have come before yet offers a more embedded understanding of what ecocritical art is and how it reflects and amplifies the larger global environmental imaginary.

¹¹⁶ Some exceptions to this absence include: Johanne Sloan, *Ecology and Contemporary Landscape Art: Some Canadian Examples* (Montréal: Université de Montréal, 1992); Keri Cronin, "Manufacturing National Park Nature Photography, Ecology, and the Wilderness Industry of Jasper" (Dissertation, Queen's University, 2004), 27–31; the first collection of self-proclaimed ecocritical art history was published in 2009. Braddock and Irmischer, *A Keener Perception*.

¹¹⁷ Cronin, "Manufacturing National Park Nature Photography, Ecology, and the Wilderness Industry of Jasper," 2004, 29.

¹¹⁸ Andrea Gaynor and Ian Mclean, "The Limits of Art History: Towards an Ecological History of Landscape Art," *Landscape Review* 11, no. 1 (2005): 5.

¹¹⁹ Braddock and Irmischer, *A Keener Perception*, 4.

To paraphrase Donald Hughes, if environmental photography, like environmental history, seeks to *represent* human beings as they have lived, worked, and thought in relationship to the rest of nature, eco-photography takes as its goal a more critically engaged relationship between photography and its subject. This ecocritical approach emphasises not only the interconnectedness of human existence and the natural world but considers the ethical and sustainable relationships that this interconnected culture-nature dialectic implicates. Vulnerability, a key component in ecocritical analysis, is essential to understanding how eco-photography differs from the larger representation of nature or the environment. Eco-photography shows the viewer the very deep anthropogenic changes that humanity is making to the planet, brought about through cultural, political, and economic decisions. It also reflects back to us the mentality that has been fostered by the sense of vulnerability and anxiety about the present and future of the planet. Eco-photography also places the global environmental crisis in larger context by showing viewers the large impact and reach of the problem.

Landscape, Nature, and Environmental Photography

While landscapes and nature have been represented since the very beginning of photography, the way that art historians, cultural theorists, and viewers have come to understand photographs of the natural world has changed dramatically since the those early days.¹²⁰ Larger global concerns about the health and sustainability of our planet, alongside profound intellectual and cultural shifts in thinking, have challenged our understanding of the human relationship to the environment. While landscape photography has been studied for its aesthetic, cultural, and geographical value in picturing the environment, as well as for its gendering and colonialist discourses, until recently there has been little scholarly consideration of the photographic representation of environmentalist attitudes and ecological concerns.¹²¹

¹²⁰ Joan M. Schwartz, "Photographic Reflections: Nature, Landscape, and Environment," *Environmental History* 12, no. 4 (October 2007): 966–93.

¹²¹ Examples of the recent and growing interest in photography and critical environmentalism includes the writing of Kevin DeLuca and Yates McKee. See Kevin Michael DeLuca, *Image Politics: The New Rhetoric of Environmental Activism*, *Revisioning Rhetoric* (New York: Guilford Press, 1999); Kevin Michael DeLuca and Anne

Landscape photography has always been a significant genre within the arts, and especially in the world of the museum and exhibition, but it wasn't until the mid-1980s that a small number of scholars and critics began to probe the ethical and aesthetic implications of representing the contemporary landscape in pictures.¹²² This gap in the literature is part of what attracted me to the subject of eco-photography because its absence raises an important question of how photography could be so overlooked as a significant contributor to the critical representation of environmental thinking.

One early exception to the dearth of critical analysis on landscape photography is the work of photographer and critic Deborah Bright who wrote two of the most influential essays on the role of photography in the cultural construction of the environment and the idea of nature. "The Machine in the Garden Revisited: American Environmentalism and Photographic Aesthetics" (1989) was written as a history of landscape photography and environmental thought in the United States. "The Machine in the Garden" was a follow up to her 1985 essay, "Of Mother Nature and Marlboro Men: An Inquiry into the Cultural

Teresa Demo, "Imaging Nature: Watkins, Yosemite, and the Birth of Environmentalism," *Critical Studies in Media Communication* 17, no. 3 (September 2000): 241–60; Yates McKee, "Wake, Vestige, Survival: Sustainability and the Politics of the Trace in Allora and Calzadilla's Land Mark*," *October* 133 (Summer 2010): 20–48; Yates McKee, "'On Climate Refugees': Biopolitics, Aesthetics, and Critical Climate Change," *Qui Parle* 19, no. 2 (January 2011): 309–25; Yates McKee, "Of Survival: Climate Change and the Uncanny Landscape in the Photography of Subhankar Banerjee," in *Impasses of The Post-Global*, ed. Henry Sussman, Theory in the Era of Climate Change 2 (Ann Arbor, MI: Open Humanities Press, 2012), 76–105; Keri Cronin and Finis Dunaway have also made strong contributions: Cronin, *Manufacturing National Park Nature Photography, Ecology, and the Wilderness Industry of Jasper*, 2011; Finis Dunaway, "Hunting with the Camera: Nature Photography, Manliness, and Modern Memory, 1890-1930," *Journal of American Studies* 34, no. 2 (August 2000): 207–30; Finis Dunaway, "On the Subtle Spectacle of Fallen Leaves," *Environmental History* 9, no. 4 (October 2004): 730–34; Dunaway, *Natural Visions*.

¹²² Two early examples of critical thinking about landscape photography include: Grundberg, "Crisis of the Real"; Kozloff, "Ghastly News from Epic Landscapes"; Within the museum, a critical take on the "human-impacted" landscape begins to appear around the same time: Ken Baird, ed., *Tainted Prospects: Photographers and the Compromised Environment* (Niagara Falls, N.Y.: Castellani Art Museum, 1991); Tōkyō-to Shashin Bijutsukan, *Critical Landscapes* (Tokyo, Japan: Tokyo Metropolitan Culture Foundation, 1993).

Meanings of Landscape Photography,”¹²³ which she has described on her website as an attempt to answer the question, “Why are there no great women landscape photographers?”¹²⁴ While “Of Mother Nature and Marlboro Men” fails to fully answer the underlying question of why women have never been successfully acknowledged in landscape photography, Bright does describe many of the feminist art historical and photographic attempts to address this ongoing gender imbalance, from the essentialising of feminine sensibilities of nature to the recuperation of the category as a critique of the landscape as a male bastion of the artist-photographer. Yet this essay does so much more. By placing landscape photography within the larger cultural and historical context of the American nature consciousness, weaving politics, aesthetics, and interdisciplinary thought into the discourse, such as the writings of cultural geographer J.B. Jackson, Bright effectively exposed the myths of American landscape photography.

Bright continued this practice in “The Machine in the Garden.”¹²⁵ Arguing that photography’s aesthetic response to nature throughout history, from the optimism of industrialization to the transcendence of wilderness to its most recent iteration, which she calls “the sublimity of the spectacle of our own fall,”¹²⁶ is deeply embedded in larger social, political, and cultural concerns. Surveying the radical environmentalist movements of the 1980s, from deep ecology to eco-feminism and indigenous ecological movements, she writes that while some photographers turned towards activism,

¹²³ First published in 1985, the article was later republished in Richard Bolton’s seminal text on critical theory and photography. See: Deborah Bright, “Of Mother Nature and Marlboro Men: An Inquiry into the Cultural Meanings of Landscape Photography,” *Exposure* 23, no. 4 (Winter 1985): 5–18; Deborah Bright, “Of Mother Nature and Marlboro Men: An Inquiry into the Cultural Meanings of Landscape Photography,” in *The Contest of Meaning*, ed. Richard Bolton (Cambridge, MA: MIT Press, 1989), 125–43.

¹²⁴ Deborah Bright, “Publications: Of Mother Nature and Marlboro Men,” *Deborah Bright*, accessed December 3, 2013, <http://www.deborahbright.net/>.

¹²⁵ Reference to: Leo Marx. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. Oxford: Oxford University Press, 1964. Bright may also have read Andy Grundberg’s essay, “The Machine and the Garden: Photography, Technology, and the End of Innocent Space,” published in his book, *Crisis of the Real: Writings in Photography 1975-1989*. New York: Aperture, 1990.

¹²⁶ Bright, “The Machine in the Garden Revisited: American Environmentalism and Photographic Aesthetics,” 66.

documenting actions and protests, “in the mainstream art-photography world, works have tended to remain indebted to the past rather than pointing the way toward any significant new expressive vision of human and environmental relations.”¹²⁷ She equally sees fault in postmodern attempts that a-historicize crisis,¹²⁸ ultimately arguing that photography of environmental crisis must be locally and historically grounded.

Coming from a strong position of social and historical rootedness, and deeply influenced herself by post-structural engagements with critical gender and cultural studies, Bright’s criticism is a product of its time, but her attack on an art system that privileges aesthetics over politics remains relevant today as examples of the artistic aestheticization of human expansion are as prevalent as ever.¹²⁹ Yet, in the ensuing twenty years, her call for locally grounded environmentalist photography has not had a significant impact on the medium even while the environmental movement has increasingly moved towards global consciousness-raising. As well, her concerns with the masculine gendering of landscape, while not a focus of this study, continue to be of concern to feminist scholars across disciplines.¹³⁰

As one of the only full-length studies on the relationship of photography and environmentalism,¹³¹ environmental historian Finis Dunaway’s book *Natural Visions: The*

¹²⁷ Ibid., 68.

¹²⁸ *Artificial Nature* at the Deste Foundation of Contemporary Art in Athens, Greece, 1990, curated by Jeffrey Deitch.

¹²⁹ My master’s thesis explored this same concern through the work of Edward Burtynsky. See: McManus, “Neutralized Landscapes and Critical Spaces.”

¹³⁰ Melody Hessing, Rebecca Raglon, and Catriona Mortimer-Sandilands, eds., *This Elusive Land: Women and the Canadian Environment* (Vancouver: University of British Columbia Press, 2004); Liz Wells, *Viewfindings: Women Photographers: Landscape and Environment* (Tiverton, England: Available Light, 1994); Rose, *Feminism and Geography*.

¹³¹ Another earlier book worth mentioning is Kevin Michael DeLuca’s *Image Politics: The New Rhetoric of Environmental Activism*. New York: Guilford Press, 1999. DeLuca’s book focuses primarily on images (particularly video segments) as “events” in their own right that are used by activists to promote specific rhetorical understandings of their social movement’s purposes and activities. As such, it is more concerned with the subversion of media and the politics of images as discursive texts than art historical issues of aesthetics or meaning.

Power of Images in American Environmental Reform offers a useful point of departure for my thesis. Beginning at the turn of the 20th century, Dunaway develops a history of the American environmental conservation movement and its “tradition of linking visual images to environmental reform.”¹³² Dunaway investigates “why American environmental reformers have felt an enduring attraction to the camera,”¹³³ and how the role of emotion, memory, and aesthetics helped to promote an awareness of the importance of nature, as well as an appreciation for its representation. While Dunaway’s examples include both photography and films, such as the New Deal documentaries made during the depression about the dustbowl, he also looks at the environmental coffee table book that became synonymous with post-war Sierra Club environmentalism. Photographers Ansel Adams and Eliot Porter were both members of the powerful organization and major actors in the production of environmental images that circulated through the Sierra Club’s publishing house. His close consideration of how coffee table books functioned to promote “a world without machines, a space apart from the problems of modern civilization”¹³⁴ offers an interesting example of how photographic presentation and circulation contributes to the development of an environmentally aware public.

Dunaway’s most useful contribution may be found in his epilogue, where he defines the term ‘ecological sublime’ as a contemporary response to picturing nature, in all its postmodern complexity. Dunaway writes that,

[The ecological sublime provides a way to rejoin beauty and sublimity, to turn the ordinary into the astonishing, to find awe in the diminutive, to seek wonder in the everyday. By refusing the flight from history and rejecting the appeal to purity, it offers a way to recognize the ties between people and place.¹³⁵

Dunaway argues that, for a certain generation of environmentalists, representing the

¹³² Dunaway, *Natural Visions*, xvi.

¹³³ *Ibid.*, xvii.

¹³⁴ *Ibid.*, 119.

¹³⁵ Finis Dunaway, “Reframing the Last Frontier: Subhankar Banerjee and the Visual Politics of the Arctic National Wildlife Refuge,” in *A Keener Perception: Ecocritical Studies in American Art History*, ed. Alan C. Braddock and Dr. Christoph Irmscher, 1st ed. (Tuscaloosa, Alabama: University Alabama Press, 2009), 212.

ecological sublime in *pictures* was the central method of communicating to viewers about the value and wonder of the everyday natural world.¹³⁶ I argue in this thesis that this reflection is still as true as it ever was.

The limitations of Dunaway's study are made apparent in the section "Picturing the American Earth." While Dunaway does demonstrate the value of focusing on the nationalistic understanding of an American 'environmental imaginary', particularly as he is careful to link the photographs and films he discusses to their real-life impact on political and economic policies and legislation, he leaves out a large part of the picture when he ignores the global impact of American photography. Why acknowledge that America helped to shape the picturing of the Earth if you do not plan to address this visual and cultural hegemony? Another important absence is that Dunaway never fully defines his use of the term "environmental photography," which appears throughout the book.

More recently, there have been two collections published that explore the relationship of photographic images and ecology. In 2013, Gisele Parak edited a collection of essays, first presented as part of a workshop at the Rachel Carson Centre for the Environment and Society in 2012, and published through the RCC Perspectives series, on the 'eco-image'. Parak defines the eco-image as "images informed by a decisively environmental agenda," while acknowledging that there has been little consensus on what makes an image ecological.¹³⁷ Writing that eco-images are "are distinguished from other forms of landscape and nature depictions by their purposeful, non-verbal communicative function," she describes eco-images as assigned meaning by their conceptual framework and context of viewing.¹³⁸ Parak's asserts that "[t]he subject of the picture is not obvious; on the contrary, its subliminal political agenda is concealed."¹³⁹ What is lacking in Parak's configuration of 'eco-imagery' is a more developed understanding of how 'eco-images' should be situated in the larger intellectual context of the

¹³⁶ Dunaway, *Natural Visions*, 209.

¹³⁷ Parak, *Eco-Images: Historical Views and Political Strategies*, 5.

¹³⁸ *Ibid.*, 5–6.

¹³⁹ *Ibid.*, 6.

environmental humanities.¹⁴⁰

In *Wasted Nature*, the July 2013 special issue of *Photography and Culture*, editor Thy Phu describes an ecocritical approach to the collected essays, arguing that the relationship between photography and nature, is one that “is often vexed by a growing awareness of the latter’s fragility...”¹⁴¹ Phu writes that,

An ecocritical attention to photography uncovers a fuller range of nature’s function for the camera as well as the camera’s function on behalf of nature, in the causes that we now recognize as and call environmentalism. [...] An ecocritical framework, moreover, draws attention to photography’s uneasy implication in the very exploitive forms of extraction critiqued in the work of select practitioners and decried by many spectators.

While *Wasted Nature* takes as its subject, “the mutual influence of photography and nature,”¹⁴² the articles included approach this relationship by considering various photographic strategies for engaging in ecocritical inquiry, from the ethics of the “waste gaze”¹⁴³ to the “industrial sublime,”¹⁴⁴ to photography as an exploration of ecology,¹⁴⁵ a phenomenological embodiment,¹⁴⁶ and as an activist strategy. These multiple

¹⁴⁰ This collection a variety of types of images including but not exclusively photography. Examples include Kelsey, “Sierra Club Photography and the Exclusive Property of Vision”; Erika Marie Bsumek, “Imaging Indians and Revisiting Reclamation Debates,” in *Eco-Images: Historical Views and Political Strategies*, ed. Gisela Parak, vol. 1, Rachel Carson Centre Perspectives (Munich, Germany: Rachel Carson Centre for Environment and Society; Deutsche Museum, 2013), 27–41; Gisela Parak, “‘Our Only World’: An American Vision,” in *Eco-Images: Historical Views and Political Strategies*, ed. Gisela Parak, vol. 1, Rachel Carson Centre Perspectives (Munich, Germany: Rachel Carson Centre for Environment and Society; Deutsche Museum, 2013), 53–59.

¹⁴¹ Thy Phu, “Introduction,” *Photography and Culture* 6, no. 2 (July 1, 2013): 129.

¹⁴² *Ibid.*, 130.

¹⁴³ Thomas Barnes, “Framing Postwar Litter: The Photojournalism of Fenno Jacobs and Keep America Beautiful’s Public Service Announcements,” *Photography and Culture* 6, no. 2 (July 1, 2013): 175–92.

¹⁴⁴ Schuster, “Manufacturing and Landscapes.”

¹⁴⁵ James Nisbet, “Atmospheric Cameras and Ecological Light in the Landscape Photographs of Eadweard Muybridge,” *Photography and Culture* 6, no. 2 (July 1, 2013): 131–55.

¹⁴⁶ Derek Gladwin, “Eco-Haptic Photography: Visualizing Irish Bogland in Rachel Giese’s The Donegal Pictures,” *Photography and Culture* 6, no. 2 (July 1, 2013): 157–74.

approaches paint photography as imbricated and implicated in nature yet they don't offer much insight into how meaning is attributed to images by their circulation in global public cultural spheres.

The emerging interest in eco-images and photography that I describe above shows that the ecological turn at work in visual culture and art history continues to grow. Influenced by the foundational work of scholars from environmental history, ecocriticism, and cultural geography, the value of the growing ecocritical turn in photography is immense as it sets out to rethink the representation of nature and landscape by stripping back these categories and revealing their aesthetic, ideological, and naturalizing foundations. Yet, to my mind, much of this research has been too tentative in its exploration of the ontological role of photography that, through its relationship to the real, has challenged scholars for decades to consider how the representation of 'the thing itself' can offer insight into time, space, and the affective response of the viewer. Eco-photography, through its relationship to contemporary concerns that come already emotionally and theoretically charged, offers a valuable access point through which to consider the imaginative and communicative power of photography.

CHAPTER TWO Eco-Photography as Rhetoric: Imagining and Communicating Global Environmental Crises

Photography's great accessibility as a medium rests in its ability make the viewer feel as though they were looking directly at the represented subject matter, as though through a window frame, or equally rhetorically, a mirror.¹⁴⁷ Eco-photography not only represents the world in all its ecological complexity but also engages viewers by connecting to their imaginative and emotional responses to environmental issues, drawing on a sense of concern and empathy for the planet. This relationship, between the more factual representation of events in time and space and the affective impact of photographic images, must be examined together when considering eco-photography's ability to communicate and impact its audience. I argue that the sense of immediacy and transparency of the medium helps the viewer to feel a strong sense of visceral engagement with photography and contributes to the understanding and discussion of photographic meaning.¹⁴⁸

Yet as multiple scholars have argued, how photographs are presented and circulated, in what context and to what purpose, shapes the way that their meaning is perceived—and influences the viewer's interpretation.¹⁴⁹ By looking at the presentation of eco-

¹⁴⁷ John Szarkowski made this analogy in John Szarkowski, *Mirrors and Windows: American Photography Since 1960* (New York ; Boston: Museum of Modern Art ; distributed by New York Graphic Society, 1978); His modernist approach to photographic history has been thoroughly deconstructed, particularly in: Richard Bolton, ed., *The Contest of Meaning: Critical Histories of Photography* (Cambridge, MA: MIT Press, 1989).

¹⁴⁸ Abigail Solomon-Godeau argues this best in her essay, "Who is Speaking Thus? Some Questions about Documentary Photography," when she writes that documentary photography, a complex and contradictory category, rests on the problem of realism: "for it is pre-eminently photography's ostensible purchase around the real that materially determines both its instrumentality and its persuasive capacities." Abigail Solomon-Godeau, *Photography at the Dock: Essays on Photographic History, Institutions, and Practices*, Media & Society (Minneapolis: University of Minnesota Press, 1991), 170.

¹⁴⁹ Photography scholars from various positions have been arguing this since the mid-twentieth century. For more recent discussions see: John Tagg, *The Burden of Representation: Essays on Photographies and Histories* (Minneapolis: University of Minnesota Press, 1993); Geoffrey Batchen, *Burning with Desire: The Conception of Photography* (Cambridge, Mass: The MIT Press, 1997); Elizabeth Edwards, "Material Beings: Objecthood and Ethnographic Photographs," *Visual Studies* 17, no. 1 (January

photography, from the gallery, to the magazine article, to the web page, I argue throughout this thesis that the interpretation of photographs as environmentally or ecologically motivated greatly depends on their context of display. To understand how meaning is established in eco-photography, we must consider the way that eco-photographic images are circulated and how their movement through time and space shapes both the viewer's individual response and the larger public debates about the environment.

The importance of photography in the competing and multiple public cultural spheres is significant and has been established in countless studies, from discussions of the ideological and semiotic power of the news image to the ethics of representing disasters.¹⁵⁰ The tension between eco-photography's polemical role and its usage as a 'neutral' document shapes its influence in the public sphere. Photographers, journalists, activists, editors, and curators (or, as often is the case, a combination of all of these roles) utilize this tension to direct and shape the viewer's response to both the subject represented and the images produced. As well, eco-photographs often employ a particular combination of representational tropes and typologies to represent today's environmental concerns. These strategies are reinforced by public responses that, in a circular manner, are primed and anticipated by established visual iconography and by those who produce and distribute the images.

This chapter will focus on how the discursive qualities of photography—its communicative and affective powers—contribute to its strength as a form of public art. By coming to terms with the important role that photography has played in picturing the world and shaping our planetary consciousness, I argue that eco-photography has influenced how we understand the political, ethical, and scientific aspects of the current environmental crisis. This requires an in depth consideration of the how eco-photography

2002): 67–75.

¹⁵⁰ Stuart Hall, "The Determinations of News Photographs," *Working Papers in Cultural Studies*, no. 3 (1972): 53–88; Roland Barthes, *Mythologies: The Complete Edition, in a New Translation* (Macmillan, 1972); Susan Sontag, *On Photography* (New York: Farrar, Straus and Giroux, 1977); Sharon Sliwinski, *Human Rights in Camera* (Chicago ; London: University of Chicago Press, 2011).

functions in the public sphere.

Photographic Meaning

The rhetorical power of photography—its ability to persuade an audience of its dominant meaning—has been of concern to theorists since the mid-twentieth century when Roland Barthes first attempted to decode its message.¹⁵¹ In his later work, *Camera Lucida*, Barthes establishes two central facts about the medium: photography cannot be separated from its referent or its place in history; and photographs impact different people in different ways, alternatively pricking the viewer deeply, lightly, or not at all. Barthes's insight into photography's communicative and affective powers rests in his understanding that photography cannot be isolated from its place in time and space, and that the viewer's individual experiences—including their own situatedness in geographical space and historical time—shape their response to what is depicted. Barthes was deeply engaged with understanding how photography bears evidence of time's passage, to reveal the inevitable entropy of all living things. As Barthes puts it: "Whether or not the subject is already dead, every photograph is this catastrophe."¹⁵² Photography's representation of "what has been" and its ability to make far away places and past events seem immediate renders it a valuable tool for the study of environmental crisis.

Similarly, in her seminal text *On Photography* Susan Sontag focuses on the ontological meaning of photography—and finds much to criticize. Sontag describes how photography is often accepted as truthful without deeper consideration of the influence

¹⁵¹ Barthes's early understanding of the image as a form of visual semiotics with both a denotative and connotative meaning gave photography strong legitimacy as a form of communication, while exposing the ideological underpinnings that both the creator and the viewer bring to the image. Barthes later offered a more nuanced interpretation of photography when he endeavoured to determine the deeper ontological nature of the medium, beyond the structural and semiotic meanings embedded in the cultural artefact that is the image. See: Roland Barthes, "The Photographic Message," in *Image, Music, Text*, trans. Stephen Heath (London: Fontana, 1977), 15–31; Roland Barthes, "Rhetoric of the Image," in *Image, Music, Text*, trans. Stephen Heath (London: Fontana, 1977), 32–51; Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1980).

¹⁵² Barthes, *Camera Lucida*, 96.

of political, cultural, and social arenas on the medium. Considering photography's reality effect as a kind of camouflage that disguises deeper ideological and aesthetic meanings, Sontag writes that, "th[e] very passivity—and ubiquity—of the photographic record is photography's 'message,' its aggression."¹⁵³ Sontag takes exception to the way that photography's transparency effect seems to encourage voyeurism by divorcing the viewer from any deeper ethical engagement with the subject represented. In part, this reflected what she saw as photography's disengagement with suffering and its disavowal of any responsibility to the viewer and humanity as a whole. Like Barthes, Sontag later reconsidered her critique of photography, centrally, her belief that photographic overexposure to human suffering renders the viewer inured to the plight of the subject. In *On Regarding the Pain of Others*, she challenges the traditional humanist expectations placed on the medium:

[T]hat we are not totally transformed, that we can turn away, turn the page, switch the channel, does not impugn the ethical value of an assault by images. It is not a defect that we are not seared, that we do not suffer enough, when we see these images. [...] Such images cannot be more than an invitation to pay attention, to reflect, to learn, to examine the rationalizations for mass suffering offered by established powers. [...] with the understanding that moral indignation, like compassion, cannot dictate a course of action."¹⁵⁴

Sontag came to appreciate that photography's rhetorical power—its pervasiveness and appearance of truthfulness—was not responsible for the failure of the viewer to act when faced with suffering. She came to believe that photography has a role to play in raising public awareness about human suffering but that to demand that an image communicate universal values to a broad audience of viewers was expecting too much.

I mention these two great writers on photography because their essential goal to understand the fundamental meaning of photography—the ethical and emotional impact of the image on the collective and the individual—was the starting point for this project.

¹⁵³ Sontag, *On Photography*, 7.

¹⁵⁴ Susan Sontag, *Regarding the Pain of Others*, 1st ed (New York: Farrar, Straus and Giroux, 2003), 116–117.

Barthes's sense that photography acts as a *recorder* of what has been, "an emanation of past reality,"¹⁵⁵ and Sontag's understanding that photography brings with it the moral requirement to look and think, *as a witness* to suffering; these two perspectives are the foundation of my study on eco-photography. Between the recorder and the witness lies much fruitful territory.

Eco-photographs show us difficult and, sometimes, traumatic representations of the global environment in crisis, and their depiction of the suffering of the planet, including the people, plants, and animals who reside upon the earth, can evoke moral indignation and compassion in the viewer similar to the viewing of a war photograph.¹⁵⁶ And yet sometimes they do not. This lack of response shows that the meaning of photography is never fixed, not in the image itself or in the eyes of the viewer. That a viewer's emotional response to an image is so contingent on their own experience, their own psychological state and their choice for breakfast that morning, makes it impossible to rely solely on the image itself as a vessel of meaning. The context of the image, its place in time and space, must always be considered as part of the meaning of photography. Equally, I see the critical work of revealing a photograph's ideological and aesthetic influences as an ethical duty to both the audience and the image itself, one that requires a deep engagement with photography's history, its place in time and space, and our very human reactions to the medium.

Photography and the Public Imagination

Barbie Zelizer has offered a powerful way to understand how photography can influence the ethical and emotional response of the viewer. In her 2010 book *About To Die: How News Images Move the Public*, she argues that documentary photographs used by the news industry communicate more than just the straight facts of suffering. While traditional journalism has often seen photography as a support for the textual reporting

¹⁵⁵ Barthes, *Camera Lucida*, 88.

¹⁵⁶ Sharon Sliwinski has argued that the photographic encounter has become central to our contemporary understanding of human rights, developing a "widely shared 'interior feeling'" through the circulation of images. Sharon Sliwinski, *Human Rights in Camera* (Chicago ; London: University of Chicago Press, 2011), 5.

of events, Zelizer believes that news images rely on more than just rational information—sometimes to the surprise of the larger news apparatus. According to Zelizer, news images depend heavily on the viewer’s imagination, emotions, and sense of contingency—which she describes as the viewer’s “as if” response, or subjunctive perspective on an image, in direct opposition to the “as is,” the factual interpretation of the news image.¹⁵⁷ Building on Barthes’s well-established notion of the denotative and connotative meaning of an image, Zelizer writes that “contingency softens the fact-driven force of the photograph by introducing chance, relativity, implication and hypothesis into the act of viewing, forcing people to imagine and interpret a sequence of action beyond the picture’s taking.”¹⁵⁸ Zelizer describes this as the “voice” of the image, which “orients to the ways in which an image travels via these other associations to other contexts, can be used by other people, seen through other images, and activated for other aims.”¹⁵⁹ This ambivalence towards an image’s less controlled reception—its emotional, imaginative, and contingent meanings—has primarily been ignored by the news media who attempt to ground the image in fact through captions, text, and conventions of presentation and composition. Yet according to Zelizer, “as if” images often dominate in news coverage today. These images offer contemporary public cultures—which are consumed by questions of what images are appropriate to look at and show—a simultaneously safer and more ambiguous sense of reality. In opposition to the modern project to rationalize the public sphere, Zelizer argues that the contingency of much contemporary documentary news photography, “suggests instead that images play to different impulses altogether.”¹⁶⁰

Zelizer’s book focuses on the about-to-die image, a trope that she calls “conventional and repetitive in design.”¹⁶¹ These images are often recycled and circulated both inside journalistic spheres and in the larger public spheres and they contribute to collective

¹⁵⁷ Barbie Zelizer, *About to Die: How News Images Move the Public* (Oxford; New York: Oxford University Press, 2010), 17.

¹⁵⁸ *Ibid.*, 6.

¹⁵⁹ *Ibid.*, 13.

¹⁶⁰ *Ibid.*, 23.

¹⁶¹ *Ibid.*, 53.

memory, taking on an “afterlife through mnemonic practises that create a curious separation of the images of impending death from the events themselves.”¹⁶² Zelizer is fascinated by this common image trope because of its ability to produce a morally ambiguous response in the viewer. She writes:

On the one hand, the photos can facilitate the articulation of a certain degree of moral indignation, responsibility, empathy, and compassion, forced by the fact that viewers need to decide where they stand in regard to what they see. On the other hand, the images can produce more deleterious responses—shame, voyeurism, spectacle, complicity, and indifference.¹⁶³

Looking at an about-to-die image can cause the viewer to compound these variable emotional responses in a variety of ways. Most surprisingly is the viewer's interpretation of about-to-die images' meaning as unsettled, achieved by imagining that the death being depicted *may not occur*. The possibility of altering the past, or at the very least imagining the future differently, makes these powerful discursive images with the potential to move public sentiment in surprising ways.

About-to-die images share a similarly complicated status with eco-photography, a morally ambiguous and socially significant type of image that has the potential to create opposing and multiple responses in viewers. To paraphrase Sontag, eco-photographs can offer a viewer the opportunity to pay attention, to learn, and to consider our rationalizations for today's environmental policies and the resulting suffering. But our reaction to those images, whether we are emotionally and ethically impacted by photographs of environmental destruction or whether we are numbed into indifference or complicity, cannot be controlled or even reliably predicted.

Recourse to Zelizer's images of people 'about-to-die' informs my analysis of photographs that represent the earth in its death throes. Eco-photographs also rely on empathy, imagination, and contingency as part of their communicative strategy. The factual component of the image brings the viewer face-to-face with another kind of

¹⁶² Ibid., 66.

¹⁶³ Ibid., 63.

suffering: the suffering of the earth and the species that make the planet their home, including humans. While an image of human suffering has a power that cannot be easily described, I would argue that the destruction of an ecosphere can be similarly evocative. And, as is the case with many ecological issues, people often feel a sense of uncertainty and contingency, of wishful thinking and hope for change, when looking at photographs of the earth in crisis. This is why the visual strategies employed by photographers, the presentation decisions made by curators and editors, and the circulatory impact of eco-photographs are so significant to the viewer's response.

Eco-Photography in Circulation

The relationship between the presentation, circulation, and interpretation of photography can be understood as rooted in the photograph's status as an object. Considering the 'objecthood' of photography helps to remind the viewer that photographs are flexible and contingent, shaped by their surroundings as much as their historical meanings. Visual anthropologist Elizabeth Edwards has written extensively about the importance of photographs as objects with physical and social relations to the world around them and, most importantly, to the viewer. Considering photography from within a material culture framework, Edwards writes that, "a [photographic] object cannot be fully understood at any single point in its existence but rather should be understood as belonging in a continuing process of meaning, production, exchange and usage."¹⁶⁴ This understanding of photography not only repositions the photographic object as an active participant in the creation of meaning but also reminds us that the photograph is more than a single moment frozen in time. Instead we must consider the photograph as part of a larger visual and material cultural context, with the understanding that social relations, and memories of past events, are part of the act of viewing. This is a valuable reminder that the context of viewing is as important to our understanding of a photograph as the original intentions of the photograph's creator. While flexibility can lead to the meaning of a photograph being freed to be interpreted more loosely than originally intended, the circulation of an image can also steer viewers to perceive the work through a more

¹⁶⁴ Edwards, "Material Beings," 69.

structured and narrow interpretation—structured by the institutional forces that control its presentation. The tension between the subjective viewer’s response to the image and its history and a more institutionally determined interpretation is essential to understanding the way eco-photography functions as a complex communicative tool and aesthetic object.

A closer look at one project reveals how the meaning of a photographic object can shift when viewed within different contexts and formats. Take the work of Ed Kashi, a photojournalist, whose more than thirty-year career has focused on global humanitarian issues. To create his series, *Curse of the Black Gold: Fifty Years of Oil in the Niger Delta* (Figure 17), Kashi travelled to Nigeria with *National Geographic* staff writer Tom O’Neill to photograph the impact of the oil industry in the resource-rich but economically troubled nation. Published originally in the February 2007 issue of the magazine, the photo-essay introduces the reader to the startling poverty and environmental hazards facing the people who live in close proximity to the oil fields that have transformed the Niger Delta landscape. From the text we learn important facts about the Nigerian oil industry and its impact on people and the environment. We also come to understanding the American magazine’s perspective on Nigerian human rights and environmental policies, as well as the foreign (non-American) exploitation of these lax rules.

Since its foundation in 1888 as a scientific journal, *National Geographic* magazine has become a global leader in picturing the world.¹⁶⁵ As Stephanie L. Hawkins puts it, *National Geographic* has become a modern cultural icon, helping to develop a “sense of proximity to otherwise distant peoples and regions that make expanded cultural

¹⁶⁵ Some examples of scholarship that has looked at National Geographic’s visual and cultural impact include: Catherine Lutz and Jane Lou Collins, *Reading National Geographic* (Chicago: University of Chicago Press, 1993); Julie A Tuason, “The Ideology of Empire in National Geographic Magazine’s Coverage of the Philippines, 1898-1908,” *Geographical Review* 89, no. 1 (January 1999): 34–53; Stephanie L. Hawkins, *American Iconographic National Geographic, Global Culture, and the Visual Imagination*, Cultural Frames, Framing Culture (Charlottesville: University of Virginia Press, 2010); Chaseten Remillard, “Picturing Environmental Risk: The Canadian Oil Sands and the National Geographic,” *International Communication Gazette* 73, no. 1–2 (January 6, 2011): 127–43.

awareness possible without having to leave home.”¹⁶⁶ Through its use of the photo-essay, a form that Stuart Hall once described as giving a photograph its “ideological theme,”¹⁶⁷ *National Geographic* uses photography as a form of narrative story telling.

National Geographic's cultural authority also derives from the use of certain visual conventions, which readers come to rely on and expect. In *Curse of the Black Gold*, we see the magazine's typical use of full-page bleeds and double-page spreads with text overlaid on the images. Some of the images are embedded in the text to ground the photographs within the story. On other pages, quotations in bold typeface address Kashi's photographs, lending the images a textual “voice” that shouts out at the reader. Through its standardized visual conventions, *National Geographic Magazine* helps to foster a sense of social realism grounded in humanist values.¹⁶⁸

Kashi's images are dynamic in their use of rough composition and a snapshot quality that creates the impression that the photo subjects are going about their everyday lives, as if unaware of the camera. Kashi's style adds to the authenticity of his images, emphasising the truthfulness of his reporting through his seemingly transparent and raw approach.

One striking image of a teenage girl walking through Okrika, a major oil-producing town, optimizes this sense of unaffected picture-making. *Nigeria* (2006) (Figure 18) relies on a sense of visual and cognitive dissonance for its dramatic effect. Dressed in a beautiful full-skirted dress of bright pink, the young woman holds an enormous umbrella above her head as she walks from left to right of the image. But instead of a fashionable parasol to complement her outfit, her umbrella is coloured in the corporate yellow, green, red and blue of the Dutch Shell Corporation. Under her feet, instead of a road or path, are a series of pipes that gleam a rusted red and brown in the rain, leading away from

¹⁶⁶ See: Hawkins, *American Iconographic National Geographic, Global Culture, and the Visual Imagination*, 19 While Hawkins acknowledges National Geographic's cultural iconicity, her study emphasises that “... while the icon might operate as narrative shorthand for a constellation of ideas and symbols, it does not follow that this iconicity cancels out critical or innovative responses and uses.” (14).

¹⁶⁷ Hall, “Culture, Media, Language,” 79.

¹⁶⁸ Lutz and Collins, *Reading National Geographic*, 270.

the foreground of the image and off into the distance. In the background of the photograph are buildings, electrical lines, signs, and palm trees: signs of a normal city, albeit not the usual style of landscaping and architecture that Western viewers are used to. The pipes that transport oil through the town disrupt the expectation of what an urban thoroughfare should be and show how integral, and banal, this industrial transformation has become to the local landscape. Addressing the image from the bottom of the page, the caption reads: "Oil leaves its mark in Okrika, from a company umbrella to a trail of pipelines coiling through the town. Since oil started flowing, most communities have seen living standards fall, betraying the hope that oil once brought to Nigeria." This subtext of melancholy and social injustice shapes the reading of the image, emphasising first and foremost a socio-political interpretation.

Viewed as part of the *National Geographic Magazine's* February issue (Figure 19), the image's meaning is grounded by its function as a documentary photograph, rooted in the magazine's geo-political and humanitarian principles and framed by the captions, titling, and textual support provided by the magazine editor and essay writer. Yet when shown in an art photography context there is a fundamental difference in how the image communicates concern for the global environment.

Presented in the photography book *Earth*, which was published for the Prix Pictet's 2009 competition on photography and sustainability,¹⁶⁹ *Nigeria* takes on a different feel. Publishing is part of the photo prize's mandate; *Earth* features the work of fifty contestants, including the twelve contest finalists, of which Kashi was one. Formatted in the standard manner of an art photography book, the publication includes large-scale and high-quality reproductions on thick glossy paper. *Earth* includes an introductory essay, a general section of images, and, at the back, a more detailed section on the finalists.

In the main section of the book, Kashi's *Nigeria* is featured in full-paged splendour, with no title or caption to distract from the aesthetic beauty of the image (Figure 20).¹⁷⁰ The

¹⁶⁹ The Prix Pictet and its mandate will be further discussed in Chapter Six.

¹⁷⁰ Stephen Barber et al., eds., *Earth*, Prix Pictet 2 (Kempfen, Germany: teNeues

image on the verso page features a panoramic landscape showing a pastoral agricultural scene, including a green field with rows of tree stumps fading into the distance and, farther off, gently rolling hills. Presented with no descriptive information, the landscape seems peacefully pastoral, illuminated by a gentle golden light and a blue sky broken by a mix of clouds. The only uncertainty comes from the truncated tree forms that spot the agricultural field, raising a question about the state of the crop.¹⁷¹

One can read the title of the images in this section only by flipping to the back of the book. First comes page after page of glossy images reproduced without descriptions or authors. These other images vary in their subjects and approaches so significantly that the category 'earth' seems to be the only unifying factor. Placed alongside images of other environments, *Nigeria* is detached from its social, economic, and cultural context. While the essay at the beginning of the book emphasises a serious concern with the sustainability of the earth, the way that the images are presented makes them seem more like precious art objects than ecocritical commentary. If some images present scenes of poverty, protest, or military struggle, others vary from magnificent urban night scenes to large-scale industrial development. After all, we are being shown the earth, in all its variety.

In the back section of book, where the finalists are presented, Kashi is given a two-page spread (Figure 21).¹⁷² On the right side, a selection of Kashi's images from *Curse of the Black Gold* is reproduced as thumbnails. On the left is the contextual information: a biography, an artist statement, and the corresponding titles for the reproduced images. Once again, *Nigeria* is presented as part of a larger photographic context but rather than as a documentary record of a particular socio-political situation, as we saw in the *National Geographic* story, or as part of a selection of beautifully presented photographs, the image is positioned as part of the photographer's body of work, almost incidentally

Publishing Group, 2009), 39.

¹⁷¹ Reading the title of *Nigeria's neighbour—Palestinian Trees Beheaded 'due to Security Reasons'* (2007) from the series "Infected Landscapes" by Shai Kremer—lends a sense of unease to what at first appeared to be a photograph of a fallow field.

¹⁷² Barber et al., *Earth*, 108–09.

from his project *Curse of the Black Gold*. As one of ten images from this oeuvre, all titled *Nigeria* (2006), the image is not even accompanied by its descriptive title. This change of emphasis gives Ed Kashi a central place in the understanding of these images, privileging the creator of images over the geographical and historical conditions in the context of viewing.

This image has also appeared in gallery and museum exhibitions (in real and virtual space) and has been featured in magazines and books addressing a wide variety of topics, from the oil industry, African development, concerned photography, and ecological urbanism.¹⁷³ Each of these presentational formats offers a different amount of contextual information to explain the same images based on the concern of the publication, the author, and the practical issues of space and formatting. This circulatory variety demonstrates how easy it is today, in the digital era, to learn about a photographic project, an image, and to reproduce it in an abundance of formats. This is what Suzanne Paquet has identified as photography's fundamental association with mobility, transformed and deterritorialized through both geographical space and time, but also as it is displaced within media.¹⁷⁴

The impact that this shift in context can have on the understanding of an image, as I have described in this short analysis of *Nigeria* by Ed Kashi, are multiple. This is part of photography's legacy as a form of public art. The flexibility of the photographic image presents a challenge to viewers, who must come to terms with the collaging of intention, production, circulation, and usage in a single photograph. Quite often this results in what

¹⁷³ Ed Kashi, "Niger Delta Oil Fields," in *Ecological Urbanism*, ed. Mohsen Mostafavi and Gareth Doherty (Baden, Switzerland: Lars Müller Publishers, 2010); Ed Kashi, *Curse of The Black Gold: 50 Years of Oil in the Niger Delta*, ed. Michael Watts (Brooklyn, N.Y.: Power House Books, 2008); Ed Kashi and Michael Watts, "The Price of Our Oil Addiction: Scenes from the Niger River Delta," in *What Matters: The World's Preeminent Photojournalists and Thinkers Depict Essential Issues of Our Time*, ed. David Cohen (New York: Sterling, 2008), 222–41; Shiona Tregaskis and Ed Kashi, "Curse of the Black Gold: 50 Years of Oil in the Niger Delta," in *The Guardian*, Online exhibition (Environment - Oil, 2010), <http://www.theguardian.com/environment/gallery/2010/mar/05/curse-black-gold-nigeria>.

¹⁷⁴ Suzanne Paquet, ed., *Errances Photographiques: Mobilité et Intermédialité* (Montréal, Qué.: Presses de l'Université de Montréal, 2014), 7.

Martha Langford has described as a cumulative effect on the meaning of the image.¹⁷⁵ Once seen in *National Geographic*, then seen again in an art exhibition, on a website, in a book, can the viewer ever forget the original and multiple experiences of viewing? Or do these various contexts not come together to inform and “thicken” the viewer’s response?¹⁷⁶ Langford argues:

it is by seeing these multiplied image-functions together, as they were never intended to be seen, and by thickening their descriptions with histories of use, that we are better able to grasp both local conditions of production and global dimensions of the product.¹⁷⁷

This work of deep looking and comparison is integral to the understanding eco-photography’s contribution to multiplying public cultures, particularly when considering how images may inform, critique, and shape the environmental imaginary over time and through space.

Can Eco-Photography be Iconic?

In their book, *No Caption Needed: Iconic Photographs, Public Culture and Liberal Democracy*, Robert Hariman and John Louis Lucaites describe how iconic photographs have contributed to the public culture of American society in three ways: by providing a model of civic life, by influencing viewers through the visual reproduction of ideologies, and by depicting the ongoing negotiation of social knowledge and collective memory.¹⁷⁸ They define iconic photographs as images that appear “in print, electronic, or digital media that are widely recognized and remembered, are understood to be representations of historically significant events, activate strong emotional identification or response and are reproduced across a range of media, genres or topics.”¹⁷⁹ Focusing

¹⁷⁵ Martha Langford, “Richard Harrington’s Guide,” in *Photography, History, Difference*, ed. Tanya Sheenan (Hanover, N.H.: Dartmouth College Press, forthcoming), 35.

¹⁷⁶ *Ibid.*, 35.

¹⁷⁷ *Ibid.*, 51–52.

¹⁷⁸ Robert Hariman and John Louis Lucaites, *No Caption Needed: Iconic Photographs, Public Culture, and Liberal Democracy* (Chicago: University of Chicago Press, 2007), 8–11.

¹⁷⁹ *Ibid.*, 27.

on photojournalism as a form of public art, they argue that, “iconic photographs provide an accessible and centrally positioned set of images for exploring how political action (and inaction) can be constituted and controlled through visual media.”¹⁸⁰ For Hariman and Lucaites, the iconicity of a photograph rests on its ability to move its audience and inspire a more engaged democratic citizenry. Hariman and Lucaites understand photography as highlighting certain ideologies and public concerns while erasing other less iconic (and complex) readings and discourses. This illustrates the double-edged power of photography: it can contribute to a popular discourse and healthy democratic polity, or it can fossilize and ritualize the values of a culture and “limit citizenship to the narrow confines of the medium of cultural memory.”¹⁸¹

In the only mention of eco-photography in their book, Hariman and Lucaites argue that the environmental movement has never fully achieved the iconic visual status of other political concerns, such as the anti-war movement or the struggle against class-based poverty. Yet they acknowledge the importance that photography has played in representing key moments and events in environmental history:

The environmental movement offers an intermediate case, for it has been advanced by effective use of photojournalism to document environmental degradation, and by persistent use of images of natural splendour to represent its political program (e.g., on each cover of the Sierra Club magazine), while it also benefits from the semi-iconic ascendancy of Ansel Adam’s photographs and the images of earth seen from space.¹⁸²

What is striking about eco-photography’s “semi-iconic” status is that, in one way at least, it avoids the trap of perpetuating the narrow and dominant reading that, according to Hariman and Lucaites, is such a perpetual problem with iconic images. But from another perspective, it begs the question: would environmentalism hold a stronger position in the many contemporary public cultural spheres with the help of an iconic image?

Hariman and Lucaites see the iconicity of an image as grounded to its place in public

¹⁸⁰ Ibid., 5.

¹⁸¹ Ibid., 291.

¹⁸² Ibid., 289.

memory. Perhaps one reason that they are unable to identify an eco-photographic image as part of this elite group of photographs is that ecological disasters have not always been thought of in these terms. Let me explain. One key example the two scholars have used to discuss iconic photographs are the famous images of the bombings of Hiroshima and Nagasaki, Japan, referred to as Mushroom Cloud photographs for their fungal-shaped plumes that rose from the point of detonation (Figure 22).¹⁸³ As the first nuclear weapons to ever be deployed in war, which many argue helped to bring an end to WWII, these bombs were ground-breaking developments in the history of technological warfare. The bombings themselves were divisive events hailed in later accounts as both acts of heroic proportions and atrocities without parallel. The Mushroom Cloud series of images are without doubt iconic images,¹⁸⁴ according to the definition of Hariman and Lucaites: they influence viewers ideologically by promoting American exceptionalism, power, and technological supremacy; they became symbolic stand-ins of the events themselves through their constant circulation; and they continue to activate strong emotional responses to what is one of the most significant events of the twentieth century—thereby shaping collective memory.¹⁸⁵ As Hariman and Lucaites put it in a 2012 essay: “A photograph that began as a blurred mark of military victory in a world war was thus transformed into an icon for the normalization of a new technology and a new political order.”¹⁸⁶ The Hiroshima and Nagasaki images also disguise the very destruction the

¹⁸³ See Chapter Four for a more in depth discussion of nuclear photography, including the Mushroom Cloud images, their history, and the critical reception in scholarship.

¹⁸⁴ Vincent Leo’s article established the iconic status of the mushroom cloud image when he wrote, “the mushroom shape came to stand in for the whole explosion.” Vincent Leo, “The Mushroom Cloud Photograph: From Fact to Symbol,” *Afterimage* 13 (Summer 1985): 7.

¹⁸⁵ For an in depth analysis of the symbolic reach and global circulation of atomic photography, in exhibition and postcard forms, see: John O’Brian, “The Nuclear Family of Man,” *The Asia-Pacific Journal: Japan Focus*, July 11, 2008, <http://japanfocus.org/products/topdf/2816>; John O’Brian, “Editing Armageddon,” in *Editing the Image: Strategies in the Production and Reception of the Visual*, ed. Mark Arthur Cheetham, Elizabeth Legge, and Catherine M. Soussloff (Toronto, Ont.: University of Toronto Press, 2008), 158–83; John O’Brian, *Atomic Postcards: Radioactive Messages from the Cold War* (Bristol, UK ; Chicago, IL: Intellect, 2011).

¹⁸⁶ Robert Hariman and John Louis Lucaites, “The Iconic Image of the Mushroom Cloud and the Cold War Nuclear Optic,” in *Picturing Atrocity: Photography in Crisis*, ed. Geoffrey Batchen et al. (London: Reaktion Books, 2012), 144.

bombs enacted by masking the devastation that occurred on the ground. In fact, the damage to these two Japanese cities created an ecological disaster that physically impacted the survivors—who became known as Hibakusha or the explosion-affected people—and the surrounding environment.¹⁸⁷ I argue that the iconic Mushroom Cloud photographs discussed by the two scholars should not only be seen as images of sublime technological power, “that recognizes neither actual harm nor the public sphere, and that [offer] instead an amoral realm of abstraction and state control.”¹⁸⁸ They are also iconic images of the Cold War era’s disregard for environmental and human health and safety. The Mushroom Cloud photographs are images of human and environmental atrocity: they are eco-photography.

Like the iconic images that Hariman and Lucaites discuss, eco-photography participates in a series of complex discourses, raising ecological and political concerns about humanity’s place in nature. The Mushroom Cloud photograph reframed as an eco-photographic image replaces the iconic reading of the image with a more nuanced analysis: one that enlarges the sense of ethical responsibility for human suffering to consider atrocities against the environment as part of that suffering. Understanding eco-photographs in this way complicates the view that strategic and deliberate environmental destruction at humanity’s hand is the price we pay for the progress of modernity. While eco-photography contributes to the formation of social-ecological knowledge and the discursive framing of the environmental imaginary, it also does something more. Eco-photography requires viewers to consider their own ethical and emotional responses to humanity’s actions towards the planet.

Tropes, Types, and Traditions in Eco-Photography

Eco-photography helps viewers to imagine the global environment by representing complex situations that can be difficult to understand and troubling to look at—taking

¹⁸⁷ For an indepth discussion of this toxic condition and its implications as a historic and ongoing global phenomenon. See: Hiromitsu Toyosaki, “Hidden and Forgotten Hibakusha: Nuclear Legacy,” in *Camera Atomica*, ed. John O’Brian (Toronto, Ont. ; London, UK: Art Gallery of Ontario; Black Dog Publishing, forthcoming), 153–63.

¹⁸⁸ Hariman and Lucaites, “The Iconic Image of the Mushroom Cloud and the Cold War Nuclear Optic,” 145.

place in far away and often unreachable locations—through a visually immediate medium. As part of its communicative repertoire, eco-photography often relies on visual tropes, image typologies, and photographic traditions to communicate with its audience. These tropes, types, and traditions span the photographic spectrum: from images, at one end, that are more concrete and descriptive to photographs, at the other, that rely on more abstract and relational connections for visual impact. The more descriptive types of images are often related to specific environmental causes and disasters, grounded by particular events in space and time.¹⁸⁹ Examples of ecological crises found in photography range from more event-driven disasters such as oil spills, toxic nuclear explosions, and clear-cutting, to pictures of the animals, plants, and people threatened by these events, to the most abstracted and temporally detached environmental crises such as the impacts of climate change and slow-leeching pollution. The representation of slow and insidious crises is the most difficult to imagine: photographs of habitat and biodiversity loss, the collapse of ecosystems, and the threat of disappearing wilderness can be virtually impossible to visualize. While there may not be a single iconic image that can stand in for all the environmental calamities and uncertainties in the world today, eco-photographs play an important role in representing this spectrum of issues: from the news events of environmental disaster to the more abstract and uncertain dangers of long-term environmental changes and policies that place animals, humans, and whole regions under ecological threat. Sometimes, depending on when and how they are used, these two conditions can be found in a single image.

One prominent trope of eco-photography features what has come to be called charismatic ‘mega fauna’: endangered and threatened animals from around the globe that appeal to audiences because of their beauty and cuteness.¹⁹⁰ In the case of

¹⁸⁹ Images of activists protesting would fall into the category of “event-driven” eco-photographs but, for the purpose of narrowing my focus, I will not be discussing these. For more on activist images related to the environmental movement see: Kevin Michael DeLuca, *Image Politics: The New Rhetoric of Environmental Activism*, Revisioning Rhetoric (New York: Guilford Press, 1999).

¹⁹⁰ For an overview of the usage of these terms in conservation and scientific literature see: Frédéric Ducarme, Gloria M. Luque, and Frank Courchamp, “What Are ‘Charismatic Species’ for Conservation Biologists,” *Ecole Normale Supérieure de Lyon*

endangered species, environmentalist organizations, scientists, and the print media use these pictures of appealing animals—including bald eagles, panda bears, humpback whales, Bengal tigers, and grey wolves—to illustrate stories, raise consciousness, and encourage sympathy for conservation efforts. Often referred to as ‘focal’ or ‘surrogate’ species, these creatures are used as signifiers for the larger eco-systemic collapse that will occur should they die out, as well as stand-ins in for less attractive species that do not have the appeal of their larger, more photogenic cousins. In their article, “Visualizing Biodiversity: The Role of Photographs in Environmental Discourse,” Janne Seppänen and Esa Välvirronen write that, “[I]ike metaphors, photographs too are selective in constructing an image of reality. In the case of endangered species they operate with metonyms, using parts to represent the broader whole.”¹⁹¹ Hence, the iconic polar bear pictured floating on the ice flow stands in for all arctic species (Figure 23), from the caribou to the arctic hare, and to the active layer of permafrost, whose survival are threatened by the melting of the ice sheet and the Arctic’s warming.¹⁹² These affective photographs are meant to represent the risk to a whole range of species while showing mega fauna as natural wonders with their own inherent value and beauty. Simplifying what is an enormously complex issue—biodiversity and species collapse brought about by human-driven climate change and development— into a single poster-species places the burden of proof not on the science or facts but on the emotional response of the viewer and their context of viewing.

Like all socially relevant images which move their audiences to debate and reflect on

BioSciences Master Reviews, July 2013, 1–8.

¹⁹¹ Janne Seppänen and Esa Välvirronen, “Visualizing Biodiversity: The Role of Photographs in Environmental Discourse,” *Science as Culture* 12, no. 1 (March 2003): 81.

¹⁹² Al Gore’s film *An Inconvenient Truth* brought this image to prominence and highlighted a global controversy about the threat of global warming to the polar bear. Davis Guggenheim, *An Inconvenient Truth: A Global Warning*, videorecording (Paramount, 2006); On one side are environmentalists and scientists who see the population as threatened, on the other, are Inuit people, hunters, and scientists who claim that the population is increasing. For more discussion of this see the documentary film: Zacharias Kunuk and Ian Mauro, *Qapirangajuq: Inuit Knowledge and Climate Change*, videorecording (Igloolik Isuma Productions & Kunuk Cohn Productions, 2010).

issues of import to the political commons, eco-photographs can either stimulate popular discourse or they can contribute to the standardization of visual representation that obscures the bigger political issues. An example of this binary state can be seen in the images of oil spills. Oil spills are a significant source of pollution throughout the world and are classic examples of event-driven environmental crises that produce large amounts of media coverage, including photographs. In 2010, following the British Petroleum Oil Spill in the Gulf of Mexico (often referred to as the BP or Deepwater Horizon Spill), Peter Galison and Caroline A. Jones wrote a short article in *Artforum International* where they describe the three main photographic tropes of oil spills: “the tragic images of oil-coated shorebirds, sublime satellite photographs of iridescent oil slicks on the ocean surface, and stream-of-catastrophe footage that brought the wellhead gusher onto computer screens around the world.”¹⁹³ Breaking these three types of images down by their geographical perspectives, Galison and Jones argue that images of the “seafloor surface, ocean surface, and shorefront,” played a significant role in communicating to the public about the crisis.¹⁹⁴ Yet they also criticise them as types of visual simplification, emphasising that to represent the BP Spill as a single event bound in time that has since been resolved—as shown in images—is to ignore the long-term impact of the underwater spill (Figure 24). While these tropes might be helpful in communicating to audiences about disasters as they take place, they do little to articulate the larger and more insidious impact.

Galison and Jones raise questions about how the representation of environmental disaster frames those events and how the media apparatus presents that information for the public. While the BP Deepwater Horizon spill of 2010 was heavily covered by the public media—from television, the internet, and print publications, i.e. newspapers and magazines (Figure 25)—more in-depth research remains to be done on the social, economic, and environmental impact of the spill.¹⁹⁵ The images produced in the wake of

¹⁹³ Peter Galison and Caroline A. Jones, “Unknown Quantities,” *Artforum International* 49, no. 3 (November 2010): 49.

¹⁹⁴ *Ibid.*

¹⁹⁵ This analysis has already begun, particularly focusing on a comparison between Deepwater Horizon and previous spills. See: Duane A. Gill, J. Steven Picou, and Liesel

the BP Deepwater Horizon spill offer little insight into how photography can represent the long-term and insidious impact of environmental disasters.

On the other hand, the Exxon Valdez Oil spill of 1989 has produced a large body of scientific data and sociological literature looking at the long-term impact and risks of the disasters on the people, animals, and habitats that were affected.¹⁹⁶ Until the 2010 BP Deepwater Horizon spill, the Exxon Valdez disaster was considered the worst in North American history and its political, economic, and environmental legacy has fuelled debates about the safety and efficacy of transporting oil by land and sea and of the environmental implications of both ground-based pipelines and offshore drilling. The images of these iconic disasters show how visual tropes have become central in representing this type of crisis and point to the contribution of photography in articulating—and mystifying—ecological crises.

The Photographic Facts and Fiction of the Exxon Valdez Crisis

On 24 March 1989, an ecological disaster captured the minds of North Americans and people around the world: the oil tanker Exxon Valdez had hit a dangerous underwater reef off the Alaskan coast and was leaking crude oil into the Prince Arthur Sound. Numbers are still being debated but most agree that a minimum of 11 million gallons of oil spilled into the Gulf of Alaska,¹⁹⁷ from the Blich Reef where it ran aground, 460 miles

A. Ritchie, "The Exxon Valdez and BP Oil Spills A Comparison of Initial Social and Psychological Impacts*," *American Behavioral Scientist* 56, no. 1 (January 1, 2012): 3–23; Stephen Haycox, "'Fetched Up': Unlearned Lessons from the Exxon Valdez," *Journal of American History* 99, no. 1 (June 2012): 219–28; Liesel Ashley Richie, Duane A. Gill, and J. Steven Picou, "The BP Disaster as an Exxon Valdez Rerun," *Contexts: Magazine of the American Sociological Association*, Summer 2011, <http://contexts.org/articles/summer-2011/the-bp-disaster-as-an-exxon-valdez-rerun/>; Richard T. Sylves and Louise K. Comfort, "The Exxon Valdez and BP Deepwater Horizon Oil Spills: Reducing Risk in Socio-Technical Systems," *American Behavioral Scientist* 56, no. 1 (January 2012): 76–103.

¹⁹⁶ For an overview of the literature, including several types of bibliographies that help to narrow the thousands of sources, see: Exxon Valdez Oil Spill Trustee Council, "Publications - Exxon Valdez Oil Spill Trustee Council," *Exxon Valdez Oil Spill Trustee Council*, accessed February 20, 2014, <http://www.evostc.state.ak.us/index.cfm?FA=pubs.home>.

¹⁹⁷ For example, in a 2012 article, Stephen Haycox describes the spill as "between 11

towards the Alaskan Peninsula, eventually fouling 1300 miles of coastline. While the Exxon Valdez accident is not counted in the top worst spills globally, it was a significant environmental disaster because of the difficulties of the clean up: the remoteness and ruggedness of the shoreline prevented quick action, while inadequate response systems could not cope with the disaster. The enormous impact to the main shore ecosystem, and many estuaries and river systems that stem from the coast, is what many of us remember of the event. There has been continual news coverage on every major anniversary of the spill and, as I write, the twenty-fifth anniversary of the disaster is being remembered, demonstrating that this disaster has become iconic event.

News coverage of the spill was almost instantaneous. Newspaper journalists and television reporters flooded into the region and struggled to find accommodation and transport as a result of the influx. The story quickly became framed by the main parties involved: the fishermen of the region, who were angry at the threat to their industry, the State of Alaska, the U.S. Coast Guard, and Exxon Mobil all had positions to stake out. According to media scholar Conrad Smith, the evolving story was dominated by dramatic reveals—the drunken state of Captain Hazelwood—and identifying the true culprits of the spill: Exxon became the main bad guy.¹⁹⁸ The oil company's lack of preparedness for the eventuality of a spill led directly to the worsening of the damage. Yet the true story was much more complicated and required a sophisticated knowledge of environmental and economic policy. As Smith reports, “the direct cause of the accident was a sober crew member who did not follow clear instructions, and the indirect but perhaps more important cause was a substantial deterioration of the maritime precautions administered by the Coast Guard.”¹⁹⁹ While Exxon was surely to blame, other parties, from the Federal Government, to the State, to the Coast Guard, played their roles. The difficulty in reporting the disaster in sufficient detail points to how challenging it is to get balanced

and 32 million gallons.” Haycox, “Fetched Up,” 219.

¹⁹⁸ See: Margaret B. Beresford, “Mass Media and Alternative Coverage of the Exxon Valdez Oil Spill” (MA thesis, Concordia University, 1996), <http://spectrum.library.concordia.ca/292/1/MQ40189.pdf>.

¹⁹⁹ Conrad Smith, *Media and Apocalypse: News Coverage of the Yellowstone Forest Fires, Exxon Valdez Oil Spill, and Loma Prieta Earthquake*, Contributions to the Study of Mass Media and Communications, no. 36 (New York: Greenwood Press, 1992), 109.

information during such a chaotic event. It also hints at how easy it can be for the media and viewers to turn towards strong and visually affective images as a way to tell a story when clear information and facts are absent.

In his analysis of the visual reportage of Exxon Valdez, Smith identifies some of the common visual strategies used by news sources. One such strategy was the use of video news releases (VNR) that were provided by biased sources, including government agencies with vested interests in promoting the spill “in the worst possible light” for the purpose of bolstering their legal position.²⁰⁰ He also notes the common usage of recycled images; particularly of the oiled shoreline and animals, which continued to be used even after they no longer reflected the conditions in Prince Arthur Sound. For Smith, this practice supports his argument that ethical standards in journalism were less central to editorial decision-making than “the practical problems of how to get the job done.”²⁰¹ Yet, it also points to the larger role that tropes and types of images play in shaping not only public perception but also in influencing the major actors in the media apparatus. While practical considerations play an important role in the visual coverage, reusing and repeating types of images—the oiled sea otter, for example, who became disproportionately represented as the face of the disaster²⁰²—demonstrates how important strong and affecting images are to framing an event, often to the detriment of in-depth reporting.

As images from the spill began to find their way into the press people were shocked to see the severe impact to wildlife of the region. The timing of the oil spill, which took place in spring at the beginning of the migration period for many species, meant that the impact of the spill was particularly devastating on the many birds, fish, and sea mammals that make the Alaskan coast their home and breeding grounds. Around 5000 sea otters are estimated to have died, one of the largest populations affected. Sea birds are thought to be the most severely impacted life forms with an estimated 375,000 to

²⁰⁰ Ibid., 105.

²⁰¹ Ibid., 106.

²⁰² See: Ibid., 108.

700,000 dead: yet only around 35,000 corpses were ever counted.²⁰³ Loons, cormorants, murrelets, barrow's goldeneyes, oystercatchers, ducks, and bald eagles: hundreds of them were photographed either dead or dying, in the process of clean up, washed up on shore, or collected in piles by clean up crews.

As Galison and Jones have pointed out, the oil-coated animal is a common trope of eco-photography found in published news story about oil spills around the globe (Figure 26). Images of animals that are dead and dying from oil pollution, though hardly created for propaganda purposes by animal rights or environmental activists, have become synonymous with ecological crisis and the impact of human development on the landscape. Photographs of the affected birds and animals become symbolic of all the destruction to the landscape, and to humans and non-humans alike.

Sea birds and otters became the most common symbol of the Exxon Valdez disaster in the photographic coverage.²⁰⁴ They also became part of the larger government strategy to frame the disaster. Animal rescue centers were created to clean and treat effected animals, particularly birds and otters, and many of the images produced of animals were shot in these centers. Yet, as long-term research on animal rescue has shown, the success rates for these techniques have not proved particularly high: the majority of animals returned to their habitat after treatment by Exxon Valdez clean up crews later died.²⁰⁵ What they are successful at doing is reassuring a distressed public that something is being done to help the creatures that were overwhelmingly effected.

Many of the published photographs show birds and mammals clutched in the gloved hands of workers and held out for the camera (Figure 27). Galison and Jones write that “the all-too-familiar spill icons combine the sad fate of individual creatures with a media-ready rescue in a perfect combination: a technological failure, a compassionate human-

²⁰³ John Carey, “Can We Rescue Oiled Wildlife?,” *National Wildlife (World Edition)* 48, no. 5 (September 8, 2010): 30–35.

²⁰⁴ Paul A. Witteman, “The Stain Will Remain On Alaska: Exxon’s \$1 Billion Cleanup Cannot Erase the Oil Spill,” *Time*, September 25, 1989, 58.

²⁰⁵ Carey, “Can We Rescue Oiled Wildlife?,” 33.

scale response, a documented cleanup.”²⁰⁶ Constructed for their reassuring nature, these particular types of images were created to demonstrate that people are doing something to help. The majority of the animal photographs are of single birds, their bodies centered in the shot, sometimes framed by the landscape or the bright coloured hazmat suits and gloves of workers. Their imminent deaths are clearly marked on their bodies as the black toxic liquid coating their feathers alters their natural waterproof insulation and makes them susceptible to cold and disease. Yet, like Barbie Zelizer’s about-to-die images, these photographs represent not so much the “as is” state of death but the “as if” of the dying. As such, they offer the viewer a sense of hope that, with the help of human caregivers, these animals might once again fly and swim.

Magazines, unlike their more ephemeral cousins the newspaper and television news, are places where more in-depth reporting can take place. Yet, these longer stories tended to focus on the *human* tragedy and management of the spill, particularly the impact to the locals who relied on the ocean for their livelihoods and the damage to the pristine wilderness that is their playground. In *National Geographic*’s feature, “Alaska’s Big Spill—Can the Wilderness Heal?” many of the same visual and discursive tropes Smith writes about are present.²⁰⁷ Published in January 1990, the article by author Brian Hodgson and photographer Natalie Fobes uses textual and photographic reporting to show the impact of the spill. Hodgson combines interviews with scientists, locals, and officials to tell the story of the initial disaster and the more complex response that resulted. Fobes’s photographs cover a lot of terrain from aerial images of the oil plumes as they trail away from the tankard, underwater images of the floating oil, and shots of the shoreline stained black. Most of them, however, focus on the workers performing the cleanup and their treatment of individual animals that were washing up on shore, dead and dying (Figure 28). Represented in detail, we see the cleanup played out in the bodies of the workers at work (Figure 29). Bending over animals, with hoses and shovels, the workers—many of them local fishermen making more money in cleanup

²⁰⁶ Galison and Jones, “Unknown Quantities,” 49.

²⁰⁷ Bryan Hodgson and Natalie Fobes, “Alaska’s Big Spill: Can the Wilderness Heal?,” *National Geographic Magazine*, January 1990.

then they would on their boats—are shown struggling to complete what seems like an impossible task. But work they do. Their exhaustion, grief, detachment, and happiness are second to the enemy they fight: oil. Together with other images of human intervention—on the animals and the landscape—*National Geographic's* visual reportage shapes a discourse of disaster being managed.

The article stands out as an event-driven report, even though it was published ten months after the spill had occurred. While the article attempts to discuss some of the scientific issues of the spill, using *National Geographic Magazine's* typical illustrational style, including lovely hand-drawn maps and graphics depicting oil's impact on animal bodies (Figure 30), it does little to push the coverage beyond the regular discussions in the news media. Nor do the images step out of bounds of the visual tropes used for oil spills around the world. Once again, images of the shoreline, the seascape, and the seafloor surface represent the disaster in a way that makes it seem manageable and contained. What the images do not, and cannot, do is represent the long-term environmental, social, and economic implications of the disaster.

Images that are so steeped in event-driven spectacle have little power to speak to the evolving complexities of long-term remediation and recovery of a site. This visual simplification is the secondary tragedy of the environmental disaster, as Hariman and Lucaites have argued in their discussion of iconicity. When an image becomes iconic of an event (or tropic in this case) it can lead to the fossilization of the event in public memory through its circulation and re-circulation in the public sphere. In the case of the Exxon Valdez oil spill, the regular reprinting of images showing animals coated in oil recurs not only on anniversaries of the tragedy but have been repeated by photographers as formulaic tropes at every oil spill since (Figure 32). To refrain from the over-ritualization of certain tropes and types of images, from oil-coated birds to shoreline cleanups, we must develop a deeper understanding of how visual traditions shape the public understanding of photography.²⁰⁸ Equally, we need to understand the apparatus that surrounds the image, its context and framing, which dominates and determines

²⁰⁸ Hariman and Lucaites, *No Caption Needed*, 291.

much of the image's communicative ability.

Public discussions about the Exxon Valdez crisis continue today, popping up every anniversary or whenever there is a new oil spill to report, yet little has changed in the photographic representation of oil spills since the disaster took place twenty-five years ago (Figure 32).²⁰⁹ Images from the BP Deepwater Horizon Spill of 2010 proved that tropes and typologies function to help viewers understand and contain the crisis, just as images of the Exxon Valdez Spill were used to demonstrate how humans were responding to the crisis.²¹⁰ While the Exxon Valdez spill has been dissected by ecologists, biologists, and sociologists—it is by far the most thoroughly studied oil spill in history—most researchers would agree that results are never cut and dry, nor free of conflict or uncertainty.²¹¹ Just as the objectives and assumptions of scientific studies must be scrutinised—who is paying for the research and what are its goals—so too must photographic responses be interrogated for their intentions and meaning. A good place to begin is by considering how the images are being framed and presented discursively to the viewer. Understanding how eco-photographs shape public responses to environmental events relies on being aware of the rhetorical power of the image—its communicative and affective impact—including the tropes, typologies, and traditions of image making that contribute to their message.

While images of dead and dying animals are powerful signifiers of environmental disaster, they are often used by the news media, and reused, to reinforce a simplified ecological message that has more to do with the practical limitations of reporting during a disaster than capturing the event in its full complexity. As I have argued throughout this chapter, eco-photography is shaped by economic, social, political, and environmental values and ideas. Yet as recourse to Barbie Zelizer has shown, the emotional response

²⁰⁹ Mitchell, J. G., "In the Wake of the Spill: Ten Years After Exxon Valdez," *National Geographic*, 1999.

²¹⁰ Bruce Barcott and Joel K. Bourne Jr., "The Spill: A Special Report," *National Geographic Magazine*, October 2010.

²¹¹ John A. Wiens, "Science and Oil Spills: The Broad Picture," in *Oil in the Environment: Legacies and Lessons of the Exxon Valdez Oil Spill*, ed. John A. Wiens (Cambridge: Cambridge University Press, 2013), 438–443.

to an image cannot be so easily put aside or quantified. Tropes and traditions can be powerful visual devices to reach an audience yet our human response to images of suffering is rarely so straightforward. Images of crisis and suffering can play a role in shaping public discussions about issues of great concern, from the genocide of a people to destruction of a rainforest, but whether we can expect more of the image, a cultural artefact produced by human imagination and technical ingenuity, may be an unanswerable question. Yet, acknowledging these multiple and conflicting aspects of eco-photography contributes to our understanding of how this powerful genre communicates its messages of concern.

**Part II Temporal Dissonance in Eco-Photography: Risking the Future,
Representing the Present, and Circulating the Past**

CHAPTER THREE Eco-Photography as Witness: Showing the Future through the Past

Much of the public discourse about the global environment today is driven by a sense of urgency that further anthropogenic degradation to the ecosphere must be stopped *before it is too late*.²¹² Eco-photography plays an important role in presenting this ever deteriorating situation to the public through scientific, activist, journalistic, and artistic accounts but it cannot show what has not yet occurred, or, 'what-has-not-yet-been', to invoke Roland Barthes.²¹³ This limitation of photography is rooted in its evidential or referential quality, in the simple fact that a photograph represents an event at a certain time and place. But as Barbie Zelizer argues, photography can also provoke the imagination and a sense of contingency in the viewer, a response that is antithetical to the objective interpretation of the image. Through the exploration of photographic objectivity, this chapter questions how eco-photography can overcome its temporal limitations to speak about the future of the environment.

In this chapter, I investigate the cultural understanding of photography as observer to ongoing environmental change, by considering the practice of repeat photography. Repeat photography, or rephotography, is an established sub-genre of documentary photography, which has been applied to the landscape and the built environment.²¹⁴

²¹² Just one recent example: Nafeez Ahmed, "NASA-Funded Study: Industrial Civilisation Headed for 'Irreversible Collapse'?", *The Guardian*, March 14, 2014, <http://www.theguardian.com/environment/earth-insight/2014/mar/14/nasa-civilisation-irreversible-collapse-study-scientists>.

²¹³ As established in the previous chapter, Barthes understanding of the photograph's relationship to what-has-been is integral to contemporary photography theory. Yet, as Julie Doyle points out, Barthes description of photography as representing that which has been makes it a challenge to use photography to represent that which will be. See: Doyle, "Ecosee."

²¹⁴ Some examples include: Bill Ganzel, *Dust Bowl Descent* (Lincoln: University of Nebraska Press, 1984); Andrzej Maciejewski, *After Notman: Montreal Views, a Century Apart* (Willowdale, Ont.: Firefly Books, 2003); Cliff White and E.J. (Ted) Hart, *The Lens of Time : A Repeat Photography of Landscape Change in the Canadian Rockies* (Calgary Alta.: University of Calgary Press, 2007); Mark Klett, *After the Ruins, 1906 and 2006: Rephotographing the San Francisco Earthquake and Fire* (Berkeley: University of California Press, 2006); John Woodin, *City of Memory: New Orleans Before and After Katrina*, 1st ed, Center Books on the American South, 13th v (Chicago: Center for

Rephotography is also a photographic art form, with conventions and leading figures who are regularly cited within the field.²¹⁵ Finally, repeat photography is a scientific tool for representing the human impact on the environment and has become a common practice to fight against climate change in scientific and environmentalist circles alike. All three types of repeat photography rely on the idea of photography as objective to varying degrees, emphasising the image's illustrative qualities while disregarding the more subjective possibilities of the medium. Whether positioned as a record or a witness, as a form of art or science, repeat photographs often encourage the search for comparison, entropy, and transformation in their images.

By addressing the historical and current debates around the conception of photography as visual evidence in this chapter, I argue that there are major limitations to the practice of repeat photography that are not often acknowledged by its practitioners. As a form of eco-photography, repeat photography encourages viewers to read the changes in the environment didactically. By locking an event or subject into place through the practice of taking or compiling 'before and after' images, repeat photography can limit the aesthetic and communicative potential of the medium. As a result, the meaning of these images can become prescribed and flattened in a way that decreases their ecocritical value.

This chapter will focus primarily on the documentary use of repeat photography by analysing the work of photographer James Balog and his project *Extreme Ice Survey*. Balog's project promotes the understanding of repeat photography as a *witness* to the global calamity that is climate change, through the photographic documentation of the melting of the world's glaciers. From the acceptance of photography as scientific method, to the authority of the photographer and photograph as witness, to the romantic

American Places at Columbia College Chicago : Distributed by the University of Chicago Press, 2010).

²¹⁵ In the art world, the practice of rephotography has been a reflexive one, focused on the medium and engaged in an auto-critique of the modern and post-modern image world. Examples include Sherri Levine's "After—" series, Cindy Bernard's "Ask the Dusk", and the works of Richard Prince. See also: Michael Newman, *Richard Prince: Untitled (Couple)*, One Work (London : Cambridge, Mass: Afterall Books ; Distributed by The MIT Press, 2006); Bertrand Carrière, *Après Strand: Bertrand Carrière* (Rimouski, Québec: Musée régional de Rimouski, 2011).

appreciation of landscape as a sublime representation of human impotence, Balog's photography relies on a number of—sometimes-contrary—discourses to promote his message. Yet Balog's rhetorical stress on the image's objective nature does not acknowledge the many discursive meanings imbued in his images and their presentation. Nor does this framing acknowledge that, when presented to the public as de facto evidence, repeat eco-photography relies more on rhetorical framing than on the complex scientific knowledge of the audience for its meaning.

Yet, the rhetorical devices and cultural references of repeat photographs can—if acknowledged—complicate the simplified understanding of environmental change. Rather than allowing these discourses to become naturalized as part of the image, and simplified to the extent that they are unquestioned, repeat photography has the potential to provoke viewers into asking profound questions about the nature of environmental change. At its best, repeat photography can encourage the viewer to imagine a better world, by complicating the very ontological stability that the practice encourages.

What is Repeat Photography?

Melting glaciers, disappearing prairie, habitat displacement, forest growth and loss, the development of homes and highways: all of these signs of transformation on the landscape reflect the passage of time. The practice of repeat photography – re-photographing the same place from the exact position (ideally with the same type of equipment) at the same time of year and under the same climatic conditions – has become a central method of visually representing this transformation. In the last thirty years, this practice has become popular amongst scientists as a way to demonstrate the impact of ecological change on the planet for the purpose of documenting and quantifying changes in the landscape, but also as a way to communicate these changes to a general audience.

As a documentary strategy, repeat photography is rooted in the early geographical uses of the medium, map-making and surveying. Photography offered geographers and geologists a useful tool to make certain of their observations and calculations: repeated images of the same place even doubly so. In their survey of the technique, Robert H. Webb, Raymond M. Turner, and Diane E. Boyer describe repeat photography's early development as inevitable, as early photography “had a documentary purpose, whether it was to record news events, capture the brutality of war, or preserve images of famous

people.”²¹⁶ The use of photography as a way to document and support cartographical and geographical representation has been central to the medium since photography's very beginning, contributing to what Joan Schwartz and James Ryan describe as the “geographical imagination.”²¹⁷ This form of recording was pragmatic, a way to bring faraway places near, and infused with a sense of adventure and discovery on the part of the photographer: to be the first to reach a site or pinnacle, and to capture it both for posterity and for the collectors back home. Yet, there was often a darker side to this form of photographic observation, a kind of documentation of possession that enabled officials of the colonial project to certify their authority over the landscape, just as earlier explorers had planted their country's flags to mark ownership.²¹⁸

Today's repeat photography projects rely mainly on late nineteenth and early twentieth-century survey and charting photographs that have ended up hidden away in archives, such as the Canada's Dominion Lands Survey project of Jasper National Park from 1915, which was later discovered and repeated by a researchers then based at the University of Alberta.²¹⁹ As archivist Jill Delaney writes in her essay “An Inconvenient Truth? Scientific Photography and Archival Ambivalence,” until recently, historical scientific photographic collections have not been considered to hold much research value by archivists.²²⁰ Were it not for the efforts of many scientific researchers, these

²¹⁶ Robert H. Webb, R.M. Turner, and Diane E. Boyer, “Introduction: A Brief History of Repeat Photography,” in *Repeat Photography: Methods and Applications in the Natural Sciences*, ed. Robert H. Webb, Diane E. Boyer, and R.M. Turner (Washington, D.C.: Island Press, 2010), 3.

²¹⁷ For a detailed discussion of the history of this term, see Joan M. Schwartz and James R Ryan, eds., *Picturing Place: Photography and the Geographical Imagination*, 5.

²¹⁸ For a discussion of the relationship between landscape and imperialism see the collection *Landscape and Power*, ed. W. J. T. Mitchell, 2nd ed. (Chicago: University of Chicago Press, 2002). Focusing on photography and nationalism see Alan Trachtenberg, *Reading American Photographs: Images as History, Mathew Brady to Walker Evans*.

²¹⁹ For more on this project see: Eric Higgs et al., “Eighty Years of Change: Vegetation in the Montane Ecoregion of Jasper National Park, Alberta, Canada,” *Canadian Journal of Forest Research* 32, no. 11 (November 2002): 2010–21; Eric Higgs, “Welcome to the Rocky Mountain Repeat Photography Project,” *The Rocky Mountain Repeat Photography Project*, April 19, 2010, <http://bridgland.sunsite.ualberta.ca/>.

²²⁰ Jill Delaney, “An Inconvenient Truth? Scientific Photography and Archival

images might never come to light, in part because of the institutional bias that existed in archives where, “scientific content has generally taken a back seat, or is dismissed as having little archival value.”²²¹ What needs to be understood is that the importance of these archival images is not *only* found in their relationship to scientific research but in their cultural and aesthetic information, which contributes to the viewer’s understanding in less direct ways. Unfortunately, many of the scientific practitioners of repeat photography make no reference to the aesthetics of the photographs, instead offering images as pure data accessible only to those qualified to read them. This omission doesn’t acknowledge the complexity of the photographic archive as a structure or the variable responses that can occur to the viewing of a single image.

Canadian Repeat Photography: the Case of M.P. Bridgland

An historic case study of repeat photography can shed important light on the challenges and successes of interpreting photography in such a narrow way. As part of the larger national surveying project of Canada, which began in the nineteenth century and continued well into the twentieth, the photographer and surveyor Morrison Parsons Bridgland began a career with the Dominion Lands Survey (DLS) in 1902, working as a photo-geographer and cartographer until 1931.²²² Bridgland's years working for the DLS in the Canadian Rockies saw him employed as part of a larger survey team documenting and mapping the region for the purpose of settlement, cataloguing the natural resources of the region, and developing national parks and tourism infrastructure. At the time of his hiring, the Dominion Land Survey was headed by Dr. Eduoard D. Deville, Surveyor General of Canada between 1885 -1924. It was Dr. Deville who placed the camera at the centre of surveying techniques employed by the DLS and he designed much of the equipment used by the survey team, developing the techniques necessary for the taking of accurate measurements.²²³ Bridgland's skills were not only in photographing but also

Ambivalence,” *Archivaria* 65 (2008): 93.

²²¹ *Ibid.*, 91.

²²² I.S. MacLaren, *Mapper of Mountains : M.P. Bridgland in the Canadian Rockies 1902-1930*, 1st ed. (Edmonton: University of Alberta Press, 2005), 196.

²²³ Don W. Thomson, “DeVilleville and the Survey Camera in Canada,” *Canadian Geographical Journal* 72, no. 1 (January 1966): 53.

in translating his surveying techniques into photogrammetry, a method in which photographs are used to measure distances between objects, through the analysing of the images, a process he completed in the winter months when climbing was impossible.²²⁴

For both work and pleasure, Bridgland was an avid and skilled mountaineer and was one of the founding members of the Alpine Club of Canada. The treachery and difficulty of the climbs he completed while working for the Dominion Land Survey cannot be overstated yet the images he produced reflect none of the hardships he would have faced. Instead, his images reveal stunning vistas and glorious views taken from the peaks of the Canadian Rockies. Nor do they read as dry 'scientific documents' made solely for the purpose of surveying, although that was their primary concern. Rather, they reflect a strong aesthetic vision, informed by the photographic techniques available during the time in which they were made and the stylistic influences of early twentieth-century landscape photography, which emphasized the romance of wilderness and the sublimity of nature. As photos explicitly created for the extraction of topographical data, the understanding of photography as a scientific data source or record is legitimate. What is left unexplored is the implicit, slippery, and difficult to quantify cultural 'data' embedded in the photographs, from the sensibility of the modern sportsman to the burgeoning nationalism of the Alpine Club of Canada.²²⁵ These images were made and informed by a photographer in possession of his own visual and cultural experiences, as much a part of their context of production as was their scientific purpose.

Bridgland's years of surveying and photographing led to the accumulation of thousands of photographic plates and the first extensive maps of the region for public and official use.²²⁶ Yet, were one to encounter these images in an art gallery or museum, it would not be possible to guess that their original purpose was scientific rather than artistic. This

²²⁴ MacLaren, *Mapper of Mountains*, 141–142.

²²⁵ See Brown's fascinating discussion of photography and mountaineering for more on this topic. Douglas A. Brown, "The Modern Romance of Mountaineering: Photography, Aesthetics and Embodiment," *International Journal of the History of Sport* 24, no. 1 (January 2007): 1–34.

²²⁶ MacLaren, *Mapper of Mountains*, 170.

is not to discount the importance of understanding their original purpose—or to recuperate them as objects of a modernist pictorial tradition—but instead to acknowledge that these images can be appreciated for their aesthetic value and not only for their scientific utility.²²⁷ Ultimately, the viewer of Bridgland’s images—like the photographer himself—is as much influenced by their own visual training, historical context, and experience of the landscape as by the original scientific purpose of the images. To presuppose the viewer’s objective response to these images is to wrongly presume an ‘innocent eye’.

In 1996, the Bridgland photographic archives,²²⁸ particularly his documentation of the region of Jasper Park (1915), later renamed Jasper National Park, attracted the interest of a group of academics from various disciplines that came together to form the *Rocky Mountain Repeat Photography Project (RMRP)*, later renamed the *Mountain Legacy Project*.²²⁹ The Bridgland Jasper photographs, 735 in total taken from ninety-two different peaks in the area of the park in only four months, became the basis of the Bridgland repeat photography project, organized by the University of Alberta. The repeat images,

²²⁷ The discussion about the original intention of survey images and their later interpretation by the art and museum world has been debated by numerous photo historians, most significantly by Rosalind Krauss in her seminal article Rosalind Krauss, “Photography’s Discursive Spaces: Landscape/View,” *Art Journal* 42, no. 4 (Winter 1982): 311–19; Krauss takes a strongly contextual position, arguing that the survey images of Timothy O’Sullivan must be understood as embedded in their geographical purpose as “views”. In response, Joel Snyder has offered a more nuanced interpretation, stating that the pictorial quality of the images must be accounted for in his essay Joel Snyder, “Territorial Photography,” in *Landscape and Power*, ed. W. J. T. Mitchell, 2nd ed (Chicago: University of Chicago Press, 2002), 175–201; Robin Kelsey has lately addressed this debate, arguing that O’Sullivan’s visual strategies were a part of his graphic approach to documenting a difficult subject, placing his approach within the visual culture of his times. See: Robin Kelsey, “Viewing the Archive: Timothy O’Sullivan’s Photographs for the Wheeler Survey, 1871-74,” *The Art Bulletin* 85, no. 4 (December 2003): 702–23; Robin Kelsey, *Archive Style: Photographs & Illustrations for U.S. Surveys, 1850-1890* (Berkeley: University of California Press, 2007).

²²⁸ Complete copies of the Bridgland Jasper Park photographs are held at the Jasper-Yellowhead Museum and Archive and Jasper National Park. Printed in 1915, these fonds consist of 18 bound folios of 5 x 7 inch prints. The glass plate negatives are stored with Library and Archives Canada.

²²⁹ MacLaren, *Mapper of Mountains*, 214.

taken in the summers of 1997-98 by Jeanine Rhemtulla (then a graduate student in the Department of Renewable Resources at the University of Alberta and now Assistant Professor of Environmental Studies at McGill University) and Dr. Eric Higgs (then Associate Professor in the Department of Anthropology at the University of Alberta, currently Director of the School of Environmental Studies at the University of Victoria), have been used in various research projects including: vegetation analysis, understanding the uses of the land by humans, comparing land management for the National Park today and historic management by former aboriginal occupiers of the land, and, not least, for the revision of maps to compare contemporary topography to that of 1915 in an attempt to quantify the changes that have taken place in the mountains.²³⁰ All of these projects, whether engaged in a social analysis of land use or in scientific analysis of data produced, rely on the concept of photography as evidentiary and *repeatable*, as a method of objective observation, to be analysed and quantified without more than cursory acknowledgement of their mediated nature.

The *RMRP* project is typical of the repeat photography process as it privileges photography as a form of temporal freezing and casts the images produced as scientific evidence that communicates directly to the viewer. A pair of images reproduced on their website “The Rocky Mountain Repeat Photography Project,” also published in the book *Mapper of Mountains: M.P. Bridgland in the Canadian Rockies 1902-1930*, offers insight into the *RMRP* project's response to Bridgland's photographs (Figure 33). Choosing a pair of images to be representative of repeat photography as a whole is difficult: on one hand, a pair that shows the greatest transformation between the images would allow the viewer to read the change most clearly; on the other, images representing subtle but ecologically significant changes could be difficult to perceive or explain without sufficient knowledge. The first image shows a series of four photographs shot by Bridgland in 1915, placed together to form a panoramic sequence. In the first and second frame the Eremite glacier is depicted, occupying the whole bottom half of the image. By comparing Bridgland's images to the 1999 photos taken by Rhemtulla and Higgs, it is easy to make

²³⁰ Eric Higgs, “Research,” *The Rocky Mountain Repeat Photography Project*, April 21, 2010, <http://bridgland.sunsite.ualberta.ca/jasper/research.html>.

out a difference in the glacier's size. But what is equally apparent is the vast *qualitative* difference between the two sets of photographs. Between the first set of images by Bridgland and the second by the *RMRP* team, we notice a significant difference in tonality and detail, most likely brought about by the difference in photographic skill but also attributable to the varying quality of light when the photograph was taken and potentially to the difference in materials used. From the amount of detail captured in shooting to the quality and technique of printing, Bridgland's images are far superior technically — they contain much more data. This 'data,' from the texture to the tonality of the glacier and surrounding mountains, gives greater depth to the image and is shaped as much by the photographer's skill as it is by the available data captured.

When describing frame two of this sequence in his book on M.P. Bridgland, I.S. MacLaren notes that, “the retreat of [the eremite] glacier during the intervening eighty-five years seems particularly remarkable. Yet, not all pairs of photographs indicate such stark change.”²³¹ The fourth frame in this sequence, in contrast, shows the valley floor with a lake in the background surrounded by mountains. The darkness that covers the valley and rises up the side of the mountains is the growth of new forests, thicker and fuller than in Bridgland's time, but not significantly different to the untrained eye. MacLaren describes this overgrowth as the direct result of contemporary forestry policies, which have suppressed the normal cycle of forest fires in National Parks. This specialized knowledge may be apparent to the scientist viewing the image, but the average viewer may instead understand the growth of forest as a positive ecological development. While the retreating glacier and the forest growth do clearly indicate changes in the landscape, to the untrained viewer, these changes are not significant — without the knowledge and information provided by scientific experts who observed and documented these changes and their subsequent analysis, this repeat photography reveals little more than the passage of time.

The viewer of repeat photographs brings with them variable skills of analysis, understanding, and interpretation. For some, the aesthetic drama of the photographs,

²³¹ MacLaren, *Mapper of Mountains*, 246.

highlighted by the sweeping movement of the eye across the mountain range and the speckling of the cloud cover on the valley floor, and the sublime experience of looking at an image of a mountain range and glacier from such an extreme vantage point would overwhelm any scientific value. For others, the historical significance of the images as archival objects would be more important, leading the viewer to imagine the struggles of early settlers to the region and the physical hardship of the climb. While in theory repeat photography encompasses the multiplicity of interpretations and responses, allowing for a broad cultural engagement with landscape, in practice repeat photography is aimed at creating scientific evidence, supporting the notion of photographic truth and the “before and after” of the image. This understanding of photography as objective raises an important question regarding the temporality of photography. If photography can freeze time, and thereby produce an object that gives proof and archives a moment, how do we resolve the different interpretations of these images by various viewers or the different intentions of the photographers themselves?

The Discourses of Repeat Photography

In their 1996 article, which surveyed the scientific use of repeat photography in a hundred and seventy-five texts, the rangeland scientists Richard H. Hart and William A. Laycock expressed considerable confidence in repeat photography’s ability to communicate:

One picture is worth a thousand words,’ says an often-quoted proverb. A pair or sequence of photographs, taken over time, can be even more valuable than a single photograph for documenting change in range or forest vegetation. In many cases, old photographs are the only documentation for past range or forest conditions; no numerical data exist. Also, non-specialists who are not accustomed to evaluating numerical data can see and understand changes over time as shown in photographs.²³²

This naive understanding, which places the value of photography in its ability to act as scientific evidence, is problematic. How can a photograph be, as described by Hart and

²³² Richard H. Hart and William A. Laycock, “Repeat Photography on Range and Forest Lands in the Western United States,” *Journal of Range Management* 49, no. 1 (January 1996): 60.

Laycock, both a kind of scientific objective recorder and a broad-based visual tool that easily communicates to “non-specialists” the data that only a trained scientist is capable of analysing? The juxtaposition of the specialist and non-specialist begs the question: who is this so-called non-specialist? Are they a mountain-climber, amateur photographer, climate-change denier? How can they be, as Hart and Laycock suggest, so innocent in the act of looking, free from their own visual training, historical context, and experience of the landscape? Equally, how do we reconcile the scientist’s own cultural experience of looking, suppressed in favour of objective scientific viewing? This conflict, between the presentation of complex data and its readability, between the interpretation of facts and the interpretation of the image, offers insight into the scientific position on repeat photography. While much of the literature on repeat photography discusses the importance of accurately matching images and vantage points to achieve precise comparisons,²³³ very little debate has considered the implications of treating photographs, with their own aesthetic and cultural histories, purely as information. It suggests an ideological purpose driving the process, one that presupposes the results before a single photograph is repeated.

Of course, not all supporters of the practice take for granted the scientific legitimacy of repeat photography or accept photography as transparent evidence. Many scientists have argued in favour of using rigorous methods: to demonstrate the reliability of this practice and to guarantee the erasure of subjectivity as much as humanly possible. In his 2005 article, “Historical Landscape Repeat Photography as a Tool for Land Use Change Research,” the geographer Christian A. Kull analyses the benefits of repeat photography. He does so by describing his own methodology as a repeat photographer as well as comparing the practice to other photographic alternatives, particularly airplane and satellite remote sensing practices. Kull writes,

The [repeat photography] method allows researchers to identify key trends for further investigation, to corroborate results from other techniques, to seek data as far back as the late 1800s, and to illustrate changes in ways

²³³ Robert H. Webb, Diane E. Boyer, and R.M. Turner, eds., *Repeat Photography: Methods and Applications in the Natural Sciences* (Washington, D.C.: Island Press, 2010), 59.

that are easily accessible to all audiences.²³⁴

While Kull raises many difficulties that come with the practice of repeat photography, what is never challenged in the article is the understanding of the original photographs as data which can be analysed and communicated as knowledge. Highlighting the challenges of the research necessary to compile such data, Kull concludes that it is in the *interpretation* of the data where the challenge lies.

In Kull's paper, photographs are accepted as visual data hindered by the quality of the image and other problems such as "spatial biases,"²³⁵ "the lack of uniform photo dates,"²³⁶ and "misregistration and interpretation issues."²³⁷ As such, it is the legibility of the data that impacts how images are interpreted and the information that is produced. It is in the process of analysis where major problems can occur: the production of knowledge, which relies on the researchers' interpretation of the information from the data set, can become skewed based on the scientist's methods. As a solution, Kull argues for the use of a "hybrid approach" to overcome these many challenges, one that includes "corroborat[ing] ones results with other forms of evidence such as case studies, oral history, remote sensing, and other research."²³⁸

From another disciplinary perspective, Trudi Smith, in her 2007 paper "Repeat Photography as a Method in Visual Anthropology," argues that repeat photography is more than just the documentation of geographical and geological change in the landscape. She writes:

Repeat photography can produce ethnographic knowledge; it is an embodied experience that allows the researcher to ask questions that can only be posed by identifying, as closely as possible, the original site, looking through the camera lens, and retaking a photograph. It is a multilayered and complex way to make the past present and to present the

²³⁴ Christian Kull, "Historical Landscape: Repeat Photography as a Tool for Land Use Change Research," *Norsk Geografisk Tidsskrift* 59, no. 4 (December 2005): 265.

²³⁵ *Ibid.*, 256.

²³⁶ *Ibid.*, 258.

²³⁷ *Ibid.*, 265.

²³⁸ *Ibid.*, 259.

past, which, through this intricate relationship, allows us to investigate historical and contemporary social realities.²³⁹

Taken as a form of phenomenological inquiry, Smith's position on repeat photography suggests that it is more experiential than evidential. She embraces the subjective vision of the photographer, situating her repeat photography practice in relation to the archival turn in art making.²⁴⁰ Smith's understanding of the repeat photographic process is underpinned by her acceptance of the authenticity of photography. In this case, rather than based on scientific truth and objectivity, Smith argues for a kind of inherent truthfulness in experience: by placing herself in the same place as another, Smith believes the repeat photographer can, “[... link] to the past through connecting his or her body to an imagined body.”²⁴¹ By standing in the place of the original photographer, Smith suggests that the repeat photographer can gain insight into the making of the original picture. As a form of re-enactment, repeat photography suggests a way to experience the taking of a picture in a new way, one that makes the taking of the picture a performance in space and time that has value in itself.

By emphasizing and illuminating the process, and the cultural and aesthetic framing that goes into the making of the images, repeat photography can function as an illuminating addendum to the cultural understanding of landscape. But this requires the acceptance of photography's subjectivity and an acknowledgment of the photographer's point of view. A successful example of a repeat photography project that acknowledges the pitfalls of relying on photography as evidence and works to reveal photography's complex epistemological status, through the very questioning of its reliability, is the American survey project *Second View: The Rephotographic Survey Project* (Figure 34).

²³⁹ Trudi Smith, “Repeat Photography as a Method in Visual Anthropology,” *Visual Anthropology* 20, no. 2 (2007): 185.

²⁴⁰ Smith situates “the archival impulse,” as defined by Hal Foster, as an anthropological practice that allows the artist to explore both the material object and its cultural meaning. For more on the archive in art see *ibid.*, 186; This impulse can be understood as part of a larger move towards self-reflectivity in art making and the discipline of art history, influenced by an awareness of underlying structures of power. See Julie Bacon, “Archive, Archive, Archive!,” *Circa* 119 (Spring 2007): 50–59, doi:10.2307/25564523.

²⁴¹ Smith, “Repeat Photography as a Method in Visual Anthropology,” 121.

A repeat photography project undertaken between the summers of 1977 and 1979, *Second View* was spearheaded by three photographic professionals, Mark Klett, an art photographer, JoAnn Verberg, a photographer and museum professional, and Ellen Manchester, a photographic historian, who were interested in revisiting iconic vantage points from the photographic history of the American West. In his essay for the publication, Klett describes how revisiting a site once photographed can give a photographer greater insight into the past. He writes, “by finding where these photographs were made we were often surprised by the highly individual decisions made by early photographers.”²⁴² Verberg later explains that while the purpose of the early images of the American West was to document the territory for those who could not visit it themselves, many of the early photographers, “[...] were following their own artistic visions. They photographed views considered beautiful by the aesthetic standards of the day.”²⁴³

Verberg’s essay acknowledges that the repeat photographers working with *Second View* were limited to the same vantage points as the earlier images, and so ended up making photographs less informed by their personal vision than by the vision of the first photographers. Verberg writes, “we, [...], who began with no ambition to make a realistic survey of the West, got one. Unlike our predecessors, we did not take what we thought would be appealing shots. Instead we did a survey of a survey.”²⁴⁴ The repeated photographic images of *Second View* became another layer of mediation placed upon an already highly mediated vision of the landscape. Taking this even further, Verberg describes the experience of being surrounded by campers, with radios and modern camping gear, while trying to imagine William Henry Jackson’s experience of a site. As a result, the resulting image is not reflective of the experience of re-enactment. She writes, “as a document of the place we experienced, the scenic vista was so selective it felt

²⁴² Mark Klett, “Rephotographing Nineteenth-Century Landscapes,” in *Second View: The Rephotographic Survey Project*, ed. Ellen Manchester and JoAnn Verburg, 1st ed. (Albuquerque: University of New Mexico Press, 1984), 17.

²⁴³ JoAnn Verburg, “Between Exposures,” in *Second View: The Rephotographic Survey Project*, ed. Mark Klett and Ellen Manchester, 1st ed. (Albuquerque: University of New Mexico Press, 1984), 9.

²⁴⁴ Ibid.

almost fraudulent.”²⁴⁵ In the case of *Second View*, the subjectivity of the photographic medium, and the double-mediation of the repeat photographic process, is acknowledged and accepted as part of the resulting work and provides the viewer important insight into the complicated question of photographic evidence.²⁴⁶

The self-reflection on the part of the Rephotographic Survey Project members may be a result of what Peter B. Hales calls their rejection of,

...the entire modernist project: the concepts of originality, of individualism, of artistic ‘expression’ of the internal state of feeling or intellection—even the larger goal of making works that might counter the inevitable scientism, rationalism, and technologism of the modern world...²⁴⁷

Take for example Klett’s discussion of trying to recreate two famous images by William Henry Jackson, “Mountain of the Holy Cross, Colorado” and “Old Faithful in Eruption”. Lamenting the limitations of their technical approach, Klett describes visiting both these sites multiple times in an effort to recreate the climatic conditions of the originals, unsuccessfully. Yet what this taught the photographers was that, “when we could rephotograph an image in exacting detail, whether by careful techniques, luck or both, we still questioned whether or not the experience of each image was synonymous with the other.”²⁴⁸ What makes the RSP so successful as a repeat photography project is the group’s ongoing concern with the discourses of landscape, science, and objectivity, which they discuss alongside their photographs.

Photographic Truth? Objective Witness.

Complementary to the idea of photography as repeatable and neutral is the notion of the photographer as an objective recorder. This understanding is one that goes back to the

²⁴⁵ Ibid.

²⁴⁶ Klett, continued his investigation into repeat photography and the American West with a new group of collaborators on the project *Third View* (1997-2000), in which the *Second View* images were rephotographed once more. Mark Klett, “Third View: Rephotographs,” in *Third View*, Online Exhibition, 2004, <http://www.thirdview.org/3v/home/index.html>.

²⁴⁷ Peter B. Hales, “Landscape and Documentary: Questions of Rephotography,” *Afterimage (U.S.A.)* 15, no. 1 (Summer 1987): 12.

²⁴⁸ Klett, “Rephotographing Nineteenth-Century Landscapes,” 28.

origins of the medium, as early experimenters, from William Fox Talbot to Edward Muybridge, attempted to document and define the natural world through the camera.²⁴⁹ Beginning in the seventeenth century, the concept of objectivity came to revolutionize scientific epistemology – offering the newly professionalizing scientific community a useful ideal upon which to base their discipline, rooted in observational ethics as much as scientific methodology.²⁵⁰ The desire to distance the scientist-observer from the object of study was greatly assisted by the development of photography, a process that in effect provides corroborative evidence of the observable event, a mechanical secondary witness. In their history of objectivity, Lorraine Daston and Peter Galison refer to this process as *mechanical objectivity*, which they describe as, “the insistent drive to repress the willful intervention of the artist-author, and to put in its stead a set of procedures that would, as it were, move nature to the page [...]”²⁵¹ As photography came to be accepted as an important tool in scientific observation, the relationship between scientific testimony and photography became naturalized.²⁵² In this scenario, the testimony of scientist-as-observer becomes incontrovertible because it is reinforced and supported by the photographic evidence.²⁵³ As important, the resultant photograph is irrefutable because it represents the observer’s testimony. Together, they appear to support the idea that photographic witnessing is evidential.

The problem of photography's evidentiary nature, or the “myth of photographic truth” as

²⁴⁹ William Henry Fox Talbot’s oft-repeated statement from his book *The Pencil of Nature* supports the notion that the photographer had little to do with the image’s appearance: “The plates of the present work are impressed by the agency of Light alone, without any aid whatever from the artist’s pencil. They are the sun-pictures themselves, and not, as some persons have imagined, engravings in imitation.” William Henry Fox Talbot, *The Pencil of Nature*, reprinted from 1844 and 1846 editions (New York, N.Y.: Da Capo Press, 1969), n.p.

²⁵⁰ Joan Leach, “Scientific Witness, Testimony, and Mediation,” in *Media Witnessing: Testimony in the Age of Mass Communication*, ed. Paul Frost and Amit Pinchevski (Basingstoke: Palgrave Macmillan, 2009), 187.

²⁵¹ Lorraine Daston and Peter Galison, *Objectivity* (New York, NY: Zone Books, 2007), 121.

²⁵² Lorraine Daston and Elizabeth Lunbeck, eds., *Histories of Scientific Observation* (University of Chicago Press, 2011), 138–139.

²⁵³ Leach, “Scientific Witness, Testimony, and Mediation,” 189.

Allan Sekula has called it,²⁵⁴ has been acknowledged by photo historians and cultural theorists too numerous to count. In *Camera Lucida*, Roland Barthes writes that, unlike in painting, photography's referent, "is not the optionally real thing to which an image or sign refers but the necessarily real thing which has been placed before the lens, without which there would be no photograph."²⁵⁵ For Barthes this was the essence of photography, its *noeme*, and what he refers to as the "that-has-been" of the frozen moment in time.²⁵⁶ Barthes distinguishes between the subject of the photograph and the resulting object by emphasizing that it is the experience of looking at the photograph which brings to life a moment from the past; the moment when someone in the past saw what we see pictured today and took a photograph. Yet the repeat photography process complicates this single moment in time, emphasizing the importance of the transformation of the 'what-has-been' over the photographic object or its referent.

Davide Deriu, relying on Barthes to discuss the practice of taking multiple photographs, writes that:

The sequential arrangement of photographs validates the process of ruination by showing evidence of what has vanished from sight. ... If every photograph is the 'certificate of presence' of a reality 'that-has-been', then the evidential force of sequential images intimates a 'certificate of absence' for a reality 'that-had-been.'²⁵⁷

For Deriu, repeat photographs, as records of transformation, create a greater distance from the original moment of time while reinforcing the image's status as unquestionable evidence, in the eyes of the practitioner and viewer. In a sense, repeating a photograph creates a limited and fossilized the interpretation of the following image. By linking a

²⁵⁴ Allan Sekula, "On the Invention of Photographic Meaning," in *Photography in Print: Writings from 1816 to the Present*, ed. Vicki Goldberg (Albuquerque: University of New Mexico Press, 1988), 454.

²⁵⁵ Barthes, *Camera Lucida*, 76.

²⁵⁶ *Ibid.*, 77.

²⁵⁷ Davide Deriu, "Picturing Ruinscapes: The Aerial Photograph as Image of Historical Trauma," in *The Image and the Witness: Trauma, Memory and Visual Culture*, ed. Frances Guerin and Roger Hallas (London, UK; New York, NY: Wallflower Press, 2007), 200.

photograph's meaning so directly to its 'original', the act of comparison becomes the major focus of the viewer.

Julie Doyle, investigating the relationship of climate change campaigning and visual evidence, has criticized the way that repeat photography is used by activists to simplify complex issues in favour of an unmediated reading of an ideological message. While discussing the before-and-after photographs that the environmentalist group Greenpeace has used to promote their position on global warming to the public, she argues that

The repetition of images taken at specific sites in order to document and prove environmental degradation seems to have taken on an unprecedented role in current efforts to communicate the reality and rapidity of climate change, yet they remain bound by their own temporal limitations.²⁵⁸

For Doyle, these "temporal limitations" are directly inscribed in the photographs themselves. The premise of the before-and-after image acts to bookend the environmental degradation occurring rather than articulating an ongoing crisis and therefore fails to do justice to that crisis.²⁵⁹ Much repeat eco-photography suffers from this particular limitation in that the repeated photographs seem to be inscribed with a sense of inevitable doom, acting as didactic illustrations of a scientific phenomenon that has already happened.

In *Mediating Climate Change*, Doyle argues that

[...] one of the difficulties the natural sciences have faced in their historical struggles to identify climate change and legitimate climate science has been the way in which the environment has been conceptualised within the epistemologies and discursive practices of science.²⁶⁰

She sees the scientific objectification of nature, which places the human as outside

²⁵⁸ Doyle, "Ecosee," 293.

²⁵⁹ *Ibid.*, 291.

²⁶⁰ Doyle, *Mediating Climate Change*, 21.

observer, as reinforcing the notion of a nature that, “is captured through observation and representation, where seeing becomes metonymic for understanding and valuing this nature.”²⁶¹ While photography has always played an integral role in both visualising and valuing nature, I argue that it is especially through repeat photography that the photograph has become disengaged from its more subjective and interpretive meaning. It is very challenging to imagine and project a different future scenario onto a photograph—to engage in the contingency of photography—when the image is directly followed with a confirmed ‘what-has-been.’

James Balog and *Extreme Ice Survey* (2007 to Present)

Extreme Ice Survey is a powerful contemporary example of an ongoing project that employs repeat photography to represent the impact of climate change by documenting the melting of the world’s glaciers. With *Extreme Ice Survey* (EIS), American photographer James Balog relies on the understanding of photography as an objective witness. Employing a system of strategically placed digital cameras that automatically photograph in time-lapse sequence, Balog seeks to capture the impact of the passage of time, the cycle of seasons, and the warming of the atmosphere on glaciers around the world. In an attempt to visually represent and communicate the impact of climate change, Balog promotes the idea that photographs function as a quantifiable form of data that can easily be interpreted and communicated to a general audience. In support of this interpretation of photography, Balog uses the practice of repeat photography to establish both the ‘before and after’ of changing environments and to project an ongoing vision of environmental risk.²⁶²

James Balog is a well-known nature photographer who has worked for such publications as *National Geographic*, *The New Yorker*, and *LIFE* magazines. He has also shown his

²⁶¹ Ibid., 22.

²⁶² Risk theory has become a central framework for considering the climate of future threats such as climate change or nuclear war. The work of sociologist Ulrich Beck has been influential in placing the idea of risk at the center of these discussions, starting with his earliest work *Risk Society: Towards a New Modernity*, to his most recent *World at Risk*. Risk theory will be further discussed in the following chapters, especially Chapter Five.

work in various galleries and museums around the world and has been awarded numerous prizes including the Leica Medal of Excellence and North American Nature Photography Association's "Outstanding Photographer of the Year."²⁶³ *Extreme Ice Survey* was the direct result of Balog's commercial photojournalist work. Beginning in 2005, he was hired by *National Geographic* (Figure 35) to photograph glaciers in Iceland.²⁶⁴ In part because of his background as a nature photographer and his scientific experience doing graduate work in geomorphology, Balog was moved to do something about the anthropogenic climate change he personally *witnessed* while on assignment. Recognizing that melting glaciers was a dramatic visual representation of climate change, two years later, he founded *Extreme Ice Survey*.²⁶⁵

Since 2007, *Extreme Ice Survey* (EIS) has become a successful multi-format media project that has produced thousands of images for both public and scientific consumption, reaching a broad audience through the advocacy of its creator. With funding from both non-profit and private sources,²⁶⁶ and run by Earth Vision Trust, a foundation created by Balog, *EIS* has successfully maintained a media presence on the web, providing information to those interested in the project, educating the public about the impact of climate change on the world's glaciers, and teaching individuals about what they can do to prevent further anthropogenic change. A documentary film about the project, *Chasing Ice*, was produced in 2012 as well as a fine art photography book, *ICE: Portraits of Vanishing Glaciers*, which follows the 2009 publication of *Extreme Ice Now*.²⁶⁷ Alongside these formal aspects of the project, James Balog has given numerous

²⁶³ James Balog, "About James Balog," *James Balog Photography*, accessed October 10, 2014, <http://jamesbalog.com/about-james-balog-photography/> Accessed March 18, 2014.

²⁶⁴ Tim Appenzeller and James Balog, "Big Thaw: Ice on the Run, Seas on the Rise," *National Geographic Magazine*, June 2007.

²⁶⁵ James Balog, "Extreme Ice Survey | Art Meets Science," *Extreme Ice Survey*, accessed October 10, 2014, <http://extremeicesurvey.org/>. Accessed March 18, 2014.

²⁶⁶ The foundation is sponsored by Nikon for its technical gear, but should anyone wish to finance them donations can be made on their website, or merchandise with the EIS symbol are readily available, from water bottles to t-shirts.

²⁶⁷ Jeff Orlowski, *Chasing Ice*, videorecording, Documentary, (2012); James Balog, *ICE: Portraits of Vanishing Glaciers* (New York, NY: Rizzoli, 2012); James Balog, *Extreme Ice Now: Vanishing Glaciers and Changing Climate: A Progress Report* (Washington, D.C.:

presentations about his work to government, corporate, and non-profit clients.

Using Nikon D200 digital cameras, powered by a combination of solar panels, batteries, and other electronic components, Balog's time-lapse cameras snap photographs at visually significant glaciers around the world (Figure 36).²⁶⁸ These cameras are programmed to automatically photograph on the hour during daylight, producing up to 8500 images a year. Eighteen sites around the world are currently being recorded. They are located in Bolivia, Canada, Greenland, Iceland, Nepal, and the U.S.A. Two other photographic elements make up the EIS project: a fine art component of single-frame images (Figure 37) that the *EIS* website describes as "celebrating the beauty—the art and architecture—of ice," and a more traditional repeat photography portfolio of images that Balog produces himself when he visits the sites to maintain his time-lapse cameras (Figure 38). The digital photographs produced by *Extreme Ice Survey* are later re-presented in various formats to different audiences: compiled into time-lapse video animations, displayed as still images, used in educational talks and photographic exhibitions, and published in magazine and book formats.

As Balog has written, the purpose of these images is to "[first] document what is happening to the world's glaciers; second, to effectively communicate these findings to policymakers and the public to inspire positive action on climate change."²⁶⁹ This three-fold goal, to document and communicate about climate change and to transform the attitudes of governmental organizations and the general public, reflects the belief that documentary photography can act as a catalyst for social and political change, a humanist perspective on photography that reaches back to the social and documentary traditions of the late-nineteenth and early-twentieth centuries.²⁷⁰ Yet, unlike the social

National Geographic Society, 2009).

²⁶⁸ James Balog, "Extreme Ice Survey Press Kit" (Extreme Ice Survey, n.d.). Provided to the author courtesy of *Extreme Ice Survey*.

²⁶⁹ Ibid.

²⁷⁰ Abigail Solomon-Godeau describes how social documentary photography, during the post-modern nineteen-seventies and eighties, was understood as a, "politically inflected label ... a euphemism for liberal, or even socialist motivation" in contrast to pure documentary, which is "... articulated around the notion of fact, or the real, or truth." Solomon-Godeau, *Photography at the Dock: Essays on Photographic History*,

documentary tradition, which placed the human subject at the center of the image as an iconic signifier of societal wrongdoing, *Extreme Ice Survey* presents a rather chilly subject for our empathy. Balog's repeat photography requires the viewer to extrapolate our personal and collective responsibility for anthropogenic climate change on his non-human subjects, the earth's glaciers, by engaging with the discourse of scientific and photographic objectivity that grounds the project.

Extreme Ice Survey uses scientists as collaborators and includes a team of international glaciologists who play an important yet circumspect role in the project by analysing the thousands of images produced as visual data as part of their own, independent research projects. While the majority of the images collected by *Extreme Ice Survey* are used by partner institutes such as the Byrd Polar Research Center at Ohio State University and the Institute of Alpine and Arctic Research at the University of Colorado Boulder, the project's public presence is dominated by a more populist message, one that relies on the concept of photographic witnessing.

By employing time-lapse and repeat photographic techniques, Balog and his EIS team create an illusion of neutrality and distance from their subject, which is integral to the traditions of both documentary and scientific photography. Within the tradition of scientific photography, the notion of passivity in observation has been central to the working methods of scientific representation, so much so that it remains, as Kelley Wilder has commented, "a powerfully active metaphor even in the face of significant evidence to the contrary."²⁷¹ In this interpretation, a photograph is a time-capsule that freezes a moment, as André Bazin so poetically expressed it, like an insect in amber to be looked at and analyzed as evidence of a specific phenomenon or event at a future date. Bazin took this notion to its fatalistic conclusion when he wrote that family photographs were,

[...] the disturbing presence of lives halted at a set moment in their duration, freed from their destiny; not, however, by the prestige of art but by the power of an impassive mechanical process: for photography does not

Institutions, and Practices, xxix.

²⁷¹ Kelley Wilder, *Photography and Science* (London: Reaktion, 2009), 19.

create eternity, as art does, it embalms time, rescuing it simply from its proper corruption.²⁷²

This understanding suggests that the meaning of photography is fixed, frozen just as its subject is, rather than discursive and reflexive, and mediated by the context of viewing.

Balog promotes the idea that he has been convinced of the climate crisis through the work that he does, by *witnessing* for himself the changes that are occurring, as an objective and neutral observer. This rhetoric of witnessing is given further support by Balog's status as a *photographer* who is unencumbered by the ideological position of the scientist or activist, although in reality he is both. Clearly, a major factor that influences the acceptance of these images as scientific evidence rather than, say, pleasure images by a skilled amateur, is the authority of the photographer and their original intended usage. This purpose imbues the images with objective authority, and increases the photographer's reliability. As the media scholar Joan Leach writes, the credibility of scientific testimony relies on a rhetorical structure that places the scientist and the instrument as "foils," the subjective versus the objective.²⁷³ Leach writes:

Most professional scientists rely on the testimony of their colleagues for their belief about fundamental scientific questions. In short, a very precious few scientists have 'seen for themselves' or 'directly witnessed' the experiments, the proofs, or even the raw data that supports scientific claims. Scientific testimony, then, is usually a double-mediation.²⁷⁴

As such, the testimony of the person observing is given greater validity through their professional status as scientist, imbued with all the authority of that position and the trust accorded them based on their pedagogical training, empirical experience, and preceding credibility and, most importantly, on their claims to have witnessed the phenomenon for themselves. Balog's images are scientific and evidential in part because of the reliability

²⁷² André Bazin, *What Is Cinema?*, ed. Hugh Gray, vol. 2 (Oakland, CA: University of California Press, c2005.), 198, http://redcowentertainment.com/wp-content/uploads/2012/09/Bazin_What_Is_Cinema.pdf.

²⁷³ Leach, "Scientific Witness, Testimony, and Mediation," 194.

²⁷⁴ *Ibid.*, 183–184.

of the photographer himself: the *Extreme Ice Survey* team accepts his authority as mediator and treats the images as reliable data. Equally, the involved glaciologists bring to the process a scientific perspective, an *objectivity* if you will, through their training, which works in favour of the scientific claims of their resulting images. The process of mediation continues as the scientist's authority imbues the images with greater reliability, having not only documented raw data but also witnessed the scientific evidence first hand.

Photographic witnessing is equally associated with the social documentary tradition, engaged or concerned photography, and with the notion that images—and their author—can record and witness the inherent truth of a situation and by doing so help to change the world. Ken Light, in his introduction to the book *Witness in our Time: Working Lives of Documentary Photographers* imagines the thought process of the witnessing photographer:

A transformation occurs when you see something important that is denied by those who have not or will not see it.

'Look. I've got a picture,' you say. 'I was there.'

Excuses are made: pictures can lie.

'But I don't.'²⁷⁵

This committed and moral understanding of documentary photography as witness is unequivocally grounded in the idea of photographic truth. Since the nineteen-sixties, the idea of photographic truth, and the photographer as witness, has come to be seen as naïve, or at the very least manipulative, by certain photographers and viewers. Gretchen Garner, in her book, *Disappearing Witness: Change in Twentieth-Century American Photography*, roots this attitude in the critiques of documentary earnestness that came from both photographers and writers but also from the influence of the art world which, "[...]express[ed] a rejection of previous earnestness, substituting instead a kind of 'cool'

²⁷⁵ Ken Light, *Witness in Our Time: Working Lives of Documentary Photographers*, 2nd ed. (Washington: Smithsonian Books, 2010), 4.

that did not take its subject matter too seriously.”²⁷⁶ Yet the idea of the photographic witness has continued to resonate, particularly in trauma studies and the photography of disaster and war, even in the face of post-structuralist critiques of representation.²⁷⁷ In these emotionally and ethically grounded spheres, the witness has a “privileged subject position,”²⁷⁸ which gives them a moral authority to witness and recount their experiences to the larger public.²⁷⁹ Balog takes on this moral authority as witness to the terrible transformation that climate change is wreaking on the planet.

In part to downplay the scientific role in the project, *Extreme Ice Survey* is described as a discursive site “where art meets science.” Ironically, in our media climate today, where scientists have been repeatedly painted as biased in their endorsing of the anthropogenic causes of climate change, Balog’s stance as an artist-observer may give him more credibility than his own scientific partners. This distancing from the scientific aspect of the project may stem from the desire to stay away from the current negative public perceptions of scientific bias in climate change research or it may be that Balog prefers to promote the idea that photography is in itself neutral, a recording method that can communicate to all, irrespective of one’s scientific or visual training. Regardless, his decision to deemphasise the scientific research component, or at the very least to pair it with a notion of aesthetic and artistic vision, contributes to Balog’s authority as a neutral witness to climate change – someone who is out for the truth with no agenda. This is successful primarily because of the perception that photographs are merely documents reproducing what the camera sees and that Balog’s agenda is only one of truth.

²⁷⁶ Gretchen Garner, *Disappearing Witness: Change in Twentieth-Century American Photography* (Baltimore, MD: Johns Hopkins University Press, 2003), 1000.

²⁷⁷ For a nuanced discussion of how images can “bear witness” see the collection: Frances Guerin and Roger Hallas, eds., *The Image and the Witness: Trauma, Memory and Visual Culture* (London, UK; New York, NY: Wallflower Press, 2007).

²⁷⁸ Jane Blocker, *Seeing Witness: Visuality and the Ethics of Testimony* (Minneapolis, MN: University Of Minnesota Press, 2009), 52.

²⁷⁹ For example, see Maurice Berger’s discussion of the photographs of Emmett Till’s body, which circulated with the permission of his mother, and how they played a role in the American civil rights movement. Maurice Berger, *For All the World to See: Visual Culture and the Struggle for Civil Rights* (New Haven: Yale University Press, 2010), 100–137.

In an image that is often used in his public lectures, Balog combines a series of photographs of Columbia glacier to illustrate the retreating of the ice over a numbers of years (Figure 39). The panoramic spread of the image makes the sense of the glacier's scale almost impossible to grasp. Yet, lined with coloured marks and dates to demonstrate the retreating of ice, this image is meant to show the short timespan during which changes have taken place on the glacier, and illustrate the speed at which the melting has occurred. There is something fatalistic about this image, as it traces the retreat of the glacier, a retreat that the viewer is told is happening much too fast. By using time-lapse images and composites of his photographs, Balog attempts to avoid the limitations of the before-and-after-shot. Nevertheless its temporal limitation is rendered legible here as Balog didactically charts the retreating glacier with colour coded lines and dates to show the growing seriousness of the problem. Can anything be done?

While Balog's repeat images offer the viewer a simplified reading of a complex scientific phenomenon, how can he offer much in the way of hope or contingency in an image so authoritatively framed as evidence? That is where his artistic photographs come in to play. It is through dramatic images such as "Ice Diamond," part of Balog's artistic portfolio, that the project can communicate more effectively and affectively about the importance of preserving the glaciers of the earth (Figure 40). The photograph, taken in Jökulsárlón, Iceland in March 2009, shows a night scene of spectacular natural beauty. Shot from ground level, the image centers on a piece of ice that is artificially illuminated to bring out the glowing blue colour and sparkle of this singular piece of ancient frozen water. Above it, the sky is dark and teeming with stars. High in the upper left corner of the picture, the full moon shines, bleeding rays of light like an exploding sun. The detail of the image is startling in its depth and clarity, evoking a sense of hyper reality and immanence. While quantifiable evidence of climate change may be absent from this image, the fact that he creates these images for sale demonstrates that Balog is well aware that hearts and minds are not won over by facts and evidence alone. Repeat photography may appear to entrench the idea of photography as objective, rooted as it is in the techno-scientific tradition of mechanical observation and the rhetoric of photographic realism. Yet it is the romantic vision of the artist-witness alone on a glacier, fighting against the apathy of the world that may best represent the message of climate change that *Extreme Ice Survey* wishes to convey (Figure 41).

As a form of eco-photography, *Extreme Ice Survey* raises interesting questions about

how images can communicate about complex issues, including the global environmental crisis as a whole, and climate change specifically. The melting glaciers of the world may offer some of the most visually arresting consequences of climate change, but the ways that photographers and photographs address less visually striking issues, such as biodiversity loss, air pollution, and rising cancer rates, are just as important. What a deeper analysis of James Balog's project makes very clear is that, while discourses of photo-scientific objectivity and documentary witnessing do inform the meaning of eco-photography, there are larger narratives at play. Aesthetics, affect, and the visionary artist-as-creator also inform the images of *Extreme Ice Survey*. These aspects of eco-photography must be accounted for as this powerful genre continues to communicate its messages of concern to the public.

A collective sense of urgency about the state of the environment can overwhelm basic analytic skills as the threat of catastrophic accelerating extinction becomes stronger through the representation of the before and after. In a sense, what Balog's repeat photography tries to do, or, more to the point, what repeat photographers try to instill in the viewer, is a paradox: on the one hand they ask the viewer to accept as irrefutable proof what scientific photography shows us, while on the other they rely on the emotional response of the viewer to engage in the message of concern. By playing on the collective fear of change and the unknown risks that come with such mercurial transformation, Balog's repeat eco-photography functions as all eco-photography does: it engages with the current concerns of the environmental imaginary, including the compression of time and space, to shape the viewer's sense of planetary risk and the viewer's response to its representation.

Yet the repeating of the photographic process, from the same location at the same time of year and the same time of day, challenges the viewer of these images to reconcile the passage of time through this record. By representing a specific place or event repeated through time, the viewer is encouraged to unquestioningly accept the image as ontologically stable, supported by the archival series of images, without questioning either the aesthetic framework of the image, the scientific mediation of evidence, or the meaning of photographic arrest.

The many layers of mediation that coat repeat photographs—like layers of clear varnish that blend together invisibly into a hard sheen—require careful removal to reveal the

rhetorical features that are embedded in the images. The most deeply ingrained assumption—that photographs can act as data that requires no explanation to the viewer—disguises how much these images rely on discursive cultural tropes regarding vision, science, and the value of nature, as well as the voices of people to interpret them. An awareness of these multiple and contradictory discourses can help to elucidate the characteristics of repeat photography—not as a simplistic record of empirical data or a moral and objective witness to entropy—but as an indicator of certain changing cultural values: towards the landscape, towards science, and towards photography. What is equally clear from this analysis of the practice of repeat photography is that the images produced must also be understood as mediated: by the photographers, their aesthetic and scientific intentions and backgrounds and, more fundamentally, by the acceptance of photography as an evidentiary witness to a moment in time.

CHAPTER FOUR Eco-Photography as Warning: Photographing Risk in the Atomic Anthropocene

Viewing images of ongoing transformation reminds the viewer in a very didactic way that time—and death—wait for nothing and no one. While scientific photography holds the image to the highest standard of veracity, most photographs—whether they are defined as art or documentary, by their use or intention—cleave to a strong temporal stability for their meaning. Regardless of a photograph's repeatability, time is central to the photographic message.

Photography is often described by metaphors such as “a memory frozen in time,” or “a fly trapped in amber,” or characteristically by Cartier-Bresson's notion of “the decisive moment,” reflecting the ongoing role photographic time plays in the imagination. The sense of time halted that accompanies a photograph is as much a part of the image's persuasive power as is its correlation with truthfulness. The temporal flexibility of photography—the awareness that the photographic event is past, even while engaged in projecting the viewer's concern into the future—is part of an image's rhetorical toolkit.

In the case of eco-photography, the vastness of the time frame—in ecological, climatic, or geological terms—can make temporality a more challenging consideration. Unlike an image of tragic death in battle, which speaks to a scale of human proportions, eco-photographs do not only make reference to human time—although images of war can be as eco-photographic as those of a glacier—but to expanses of time more difficult to comprehend. This is where ecological knowledge can be important to the discourse of eco-photography by helping to stabilize the picture's meaning. Yet it is undeniable that ‘imagining’ the future plays an equally important role in coming to terms with the vastness of ecological time, relying as it does on a sense of contingency, hope, and emotional engagement with the image and the future.

In this chapter, I propose that eco-photographs must be understood as implicated in their three temporal states, past, present, and future, to truly appreciate their meaning. In particular, we need to understand how these images function as artefacts of history, as records of the present, and as representations of ecological crises that are still unfolding—mayhap indeterminably—into the future. Understanding the temporal shifts in photography, how they slip through and communicate out of time, is important to the rhetorical value of the medium. At question is the capacity of photography to engender

hope for the future—and act as a warning—while remaining a distinct representation of a single moment in time.

This theme of temporal slippage is addressed through the representation of nuclear power. The nuclear photographic, a prominent subject within eco-photography, is charged with a sense of risk for the planet and the future of human existence: the threat of nuclear winter suggests an ecological and geological permanence that transcends the limitations of human life and time. Beginning with an overview of photography's role since the atomic age, this chapter will consider how nuclear photography has moved, both conceptually and aesthetically, towards envisioning the ecological, placing nuclear in context with its past, present, and future and embedding a sense of technological risk within the landscape. The work of the Atomic Photographers Guild, spearheaded by photographer Robert Del Tredici, will be considered as an example of how eco-photography can act as a reminder of past anxieties and transgressions even when it is addressing contemporary concerns. David McMillan's series *The Chernobyl Exclusion Zone*, will be analyzed as an example of how nuclear photography can contain both anxiety about the past and hope for the future in a single scene, repeatedly photographed. More recent images of the Great East Japan Earthquake and tsunami of 11 March 2011, which led to the Fukushima Daiichi meltdown, will be considered as examples of how nuclear photography can reflect larger concerns about climate change, energy independence, and global instability. By looking at the history of nuclear photography and the contemporary work of photographers concerned with the sociological, political, and ecological impact of nuclear technology, this chapter concludes that the rhetoric of nuclear concern has shifted from the political implications of the technology—and the humanitarian threat of nuclear disaster—to emphasize the environmental imaginary and the ecological risk of atomic power.

The Cold War Environment and Beyond

Recent scholarship has argued that the Cold War era had a deep and lasting influence on both the global environment and on the environmental movement: the development of chemical warfare and military infrastructure, the increasing demands for food that led to industrial agriculture, and the harnessing of natural resources for energy security, are

just a few examples of how Cold War concerns impacted the global environment.²⁸⁰ At the same time, environmentalism became both an important factor in Cold War diplomacy, as a bargaining chip in the debates about Cold War land use, and a form of social and political critique of dominant policies in both the West and East.²⁸¹ President Dwight Eisenhower's famous speech to the United Nations in 1953, "Atoms for Peace," where he called for a focus on the energy use of nuclear technology rather than its military application, was an example of how the development of nuclear technology was both a powerful tool for diplomacy and a political strategy for controlling its message.²⁸²

Most importantly, an emphasis on scientific progress was fundamental to the Cold War ethos. In the introduction to their recent collection on the environmental history of the Cold War era, J.R. McNeill and Corinna R. Unger state it best when they write:

[T]he Cold War world was, in many respects, a scientific world – one in which political, social, and cultural problems were viewed through the lens of science and in which science was believed to offer solutions to the challenges both of everyday life and of international politics, including the

²⁸⁰ Richard P. Tucker, "The International Environmental Movement and the Cold War," in *The Oxford Handbook of the Cold War*, ed. Richard H. Immerman and Petra Goedde (Oxford: Oxford University Press, 2013); Jacob Darwin Hamblin, *Arming Mother Nature: The Birth of Catastrophic Environmentalism* (Oxford ; New York: Oxford University Press, 2013); J. R. McNeill and Corinna R. Unger, eds., *Environmental Histories of the Cold War*, Publications of the German Historical Institute (Washington, D.C. : New York: German Historical Institute ; Cambridge University Press, 2010).

²⁸¹ For a discussion of International relations around environmentalism, particularly in East and West Germany, see: Kai Hunemörder, "Environmental Crisis and Soft Politics: Detente and the Global Environment, 1968-1975," in *Environmental Histories of the Cold War*, ed. J. R. McNeill and Corinna R. Unger, Publications of the German Historical Institute (Washington, D.C. : New York: German Historical Institute ; Cambridge University Press, 2010), 257–76; For an overview of the international environmental movement as political action, see: Tucker, "The International Environmental Movement and the Cold War."

²⁸² Hewlett and Holl argue that Eisenhower was driven by a moral compulsion to contain the threat of nuclear power but he also wanted to shape public discussions. See Chapter 8 "Atoms for Peace: Building American Policy" and Chapter 9 "Pursuit of the Peaceful Atom" in: Richard G. Hewlett and Jack M. Holl, *Atoms for Peace and War, 1953-1961: Eisenhower and the Atomic Energy Commission* (Berkeley, CA: University of California Press, 1989), 209–271.

Cold War itself.²⁸³

This sense of scientific determinism pervaded the era and influenced much of the environmental and ecological thinking of the time—and still continues to influence the global response to the environmental crisis today, from calls for bio-fuel to carbon capture and storage and beyond. While scientific knowledge and discourse following the Second World War has played a fundamental role in shaping the understanding of the global environment, from the development of global climate models and industrial agriculture, the sciences have also been culpable in creating a distorted sense of mastery and confidence in the human management of nature. As Bruno Latour has argued, “[...] nature has become knowable through the intermediary of the sciences.” Yet the sciences, according to Latour, have also been “speed bumps” in the development of a more robust “political ecology” which could help to reframe public conversations and thinking on many important issues, including globalization, ecology, and nature.²⁸⁴

The global consciousness brought about by Cold War concerns—from heightened fears of nuclear war around the world to the international expansion of the environmental sciences—may have laid the groundwork for our recent fears and sense of impending environmental catastrophe.²⁸⁵ Jacob Darwin Hamblin goes so far as to argue that “the language of the Cold War’s global crisis and that of environmental crisis are strikingly similar.”²⁸⁶ Lawrence Buell, discussing Rachel Carson’s seminal text *Silent Spring*, argues that her “toxification rhetoric” built on anxieties about “Cold War nuclear fear,” as

²⁸³ McNeill and Unger, *Environmental Histories of the Cold War*, 13.

²⁸⁴ Latour is particularly looking to reframe public and political discussions around ecology by forcing us to reconsider the terminology we use. Hence, “political ecology” in Latourian terms, becomes a new beast that truly embraces an ecological politics that “has nothing to do with ‘nature’—that blend of Greek politics, French Cartesianism, and American parks.” Latour, *Politics of Nature*, 4–5.

²⁸⁵ Hamblin sights the scholarship of Joseph Masco and environmental writing of Barry Commoner as two examples that place Cold War concerns at the root of current environmental thinking. See: Hamblin, *Arming Mother Nature*, 8–10.

²⁸⁶ *Ibid.*, 8.

well as the militarization of nature, by associating pesticides with war and weaponry.²⁸⁷ This form of toxification rhetoric, which surrounded Cold War humanitarian responses is reflected in today's ecological concerns, encompasses everything from nuclear pollution of the landscape and human populations, to the toxification of waterways by petrochemical extraction processes like "fracking," to the fears of chemical contamination leaching from plastic baby bottles. Yet it is in public and scientific discussions of climate change—the catch-all term for the multiple and complex processes of ecological change and global warming brought about by rising levels of greenhouse gases in the atmosphere (particularly carbon dioxide)—that the language of Cold War catastrophism and global crisis is most strongly reflected.

For sociologist John Urry, catastrophism remains a dominant discourse in climate change discussions. Catastrophism was a nineteenth-century theory, which proposed that geological changes did not occur slowly and gradually over time but alternated "between steady change and violent upheaval."²⁸⁸ "New catastrophism," as Urry identifies it, is rooted in this epochal thinking, which imagines the past as a distinct period in time and held in relation with the new, changing, and uncertain present-future that would follow modernity's collapse. Climate change and nuclear apocalypse are just two catastrophic possibilities that would radically alter the future under this paradigm. German historian Frank Uekoetter argues that "since the nineteenth century, notions of 'decline' and 'renewal,' of a 'fall from grace' and of a 'turnaround from the brink' have permeated the environmental discourse and continue to resonate in modern environmentalism."²⁸⁹ The development of the age of "anthropocene," proposed by scientists to categorize the new era of geological time brought about by the chemical

²⁸⁷ Lawrence Buell, "Toxic Discourse," *Critical Inquiry* 24, no. 3 (1998): 649 Buell goes on to argue that to "locate the origin of global toxification rhetoric in the Cold War or nuclear era cannot account for the age or complexity of the rhetoric." He goes back further citing Malthusian population anxiety and ecological observations of imperialist explorers who witnessed the destruction of colonial outposts. See: Ibid, footnote 37.

²⁸⁸ Alan Trachtenberg, "Naming the View," in *Reading American Photographs: Images as History, Mathew Brady to Walker Evans* (New York: Hill and Wang, 1990), 161.

²⁸⁹ Frank Uekoetter, ed., *The Turning Points of Environmental History* (Pittsburgh, PA: University of Pittsburgh Press : Published in cooperation with the Rachel Carson Center, 2010), 2.

and atmospheric changes of the industrial age, takes a similar epochal structure.²⁹⁰ The influential notion of periodization in environmental thinking reflects a Christian apocalyptic model of temporality that suggests “new” catastrophism isn’t really such a new idea. Recent environmental histories have evoked environmental catastrophism in the deaths of the Easter Island people and collapse of the Mayan civilizations.²⁹¹ Political scientist Anthony Giddens attempts to echo the new catastrophist mentality when he asks, hypothetically: “Other civilizations have come and gone; why should ours be sacrosanct?”²⁹²

Ulrich Beck, sociologist and public intellectual, may have best contributed to this catastrophic epochal thinking when he proposed that we presently live in a “world risk society.” Beck’s theories on environmentalism and global risk have had a profound influence on scholars since the 1986 publication of his first book *Risk Society* in German (translated into English in 1992).²⁹³ In response to his developing ideas, and to some of the criticisms of his original theory, Beck published *World at Risk* in 2007 (English 2009), with a more developed discussion about environmental risk in light of the global concerns of climate change and terrorism. Beck argues that environmental risk and the anticipation of catastrophes are “always future events that *may* occur, that *threaten* us,”²⁹⁴ and the danger inherent in these risks shapes and guides our actions, becoming “a political force that transforms the world.”²⁹⁵

²⁹⁰ Proposed by scientist Paul Crutzen, the anthropocene argues that modern industrial processes has transformed the environment so completely through carbon dioxide release into the atmosphere as to require a new geological age. See: Paul Crutzen, J. R. McNeill, and Will Steffen, “The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?,” *Ambio* 36, no. 8 (2007): 614–21.

²⁹¹ Jared Diamond is perhaps the most controversial and well known of these environmental determinists. See: Jared M. Diamond, *Collapse: How Societies Choose to Fail or Succeed* (New York: Penguin Books, 2006); Jared M. Diamond, *Guns, Germs, and Steel: The Fates of Human Societies* (New York: Norton, 2005).

²⁹² Anthony Giddens, *The Politics of Climate Change*, 2nd ed., rev. and updated (Cambridge, UK ; Malden, MA: Polity Press, 2011), 8.

²⁹³ Ulrich Beck, *Risk Society: Towards a New Modernity* (London: Sage, 1992).

²⁹⁴ Ulrich Beck, *World at Risk*, English ed (Cambridge, UK: Polity Press, 2009), 9.

²⁹⁵ *Ibid.*, 10.

Beck's theories about risk are deeply rooted in his understanding of globalization and modernity, driven by what political sociologist Luke Martell has called a desire "to outline an alternative to neoliberal and postmodernist responses to globalization, by formulating a politics oriented around social and human goals, including through global political interventions."²⁹⁶ For Beck, modernity's achievements—the "triumphal progression of rationalization"²⁹⁷—and hence its own self-completion as a project, has led to the crises and anxieties of today's world risk society. While discussing the development of nuclear weaponry as an example of modernity's triumph and failure, Beck argues that "the atomic bomb does not merely potentially destroy modernity; the anticipation of self-annihilation also immediately destroys the self-confidence and basic concepts and theories of modernity."²⁹⁸ It is this potential for destruction and sense of risk for the future that propels Beck's theories about modernity's failure.

Beck's biggest concern in recent years has been the threat of environmental catastrophe and climate change. For Beck, "there is no longer any doubt that climate change globalizes and radicalizes social inequalities inside national contexts and on a global scale; so, too, does climate politics."²⁹⁹ These social inequalities are both made worse and better by the risk of environmental crisis, as people on the margins and at the center are threatened; climate change especially can be understood as both "hierarchical and democratic"³⁰⁰ in its scope.

Part of what makes the world-risk society *global*, is its "staging" in the visual and print media. For Beck, staging is a process through which environmental catastrophes are disseminated around the world. The media, in Beck's understanding, plays a central role in developing our anticipation of catastrophe. This anticipation is what drives us to take preventative measures, even when the risk to ourselves may not be particularly high.

²⁹⁶ Luke Martell, "Global Inequality, Human Rights and Power: A Critique of Ulrich Beck's Cosmopolitanism," *Critical Sociology* 35, no. 2 (March 1, 2009): 253.

²⁹⁷ Beck, *World at Risk*, 17.

²⁹⁸ *Ibid.*, 225.

²⁹⁹ Ulrich Beck, "Climate for Change, or How to Create a Green Modernity?," *Theory, Culture & Society* 27, no. 2/3 (May 2010): 257.

³⁰⁰ *Ibid.*, 258.

Beck argues that, “global risk, through its omnipresence in the media, normalizes death and suffering, not just as an individual fate but also as a collective one, even though for most people suffering is synonymous with images of the suffering of others.”³⁰¹ Beck’s understanding of the media’s role in staging risk is a useful framework for considering how photography influences the environmental imaginary by representing both real and *anticipated* risk, thereby influencing the viewer and shaping a larger global consciousness in both negative and positive ways.

Visualising the Cold

In many respects, photography contributed to the Cold War culture of risk and uncertainty. In their book about cold war tourism, Langford and Langford say that Cold War culture “can be narrated as a struggle to the death between light and shadow, between the familiar, visible world and fearsome invisibilities: enemies who lurk in the shadows or pose as friends, only to exploit the target’s hidden weaknesses.”³⁰² Cold War imagery presented both the official positivist image of nuclear power and military supremacy, translating the propagandistic vision promoted by governments into an iconic visual rhetoric that still resonates today, while at the same time contributing to a larger existential and physical fear of unknown risk. Cold War photography—from images of global realpolitik, to mushroom clouds, to “The Family of Man”³⁰³ exhibition—was a powerful visual record of the cultural and political era.

In his history of nuclear imagery, Spencer R. Weart writes that,

Radioactive monsters, utopian atom-powered cities, exploding planets, weird ray devices, and many other images have crept into the way everyone thinks about nuclear energy, whether that energy is used in weapons or in civilian reactors. The images, by connecting up with major social and psychological forces, have exerted a strange and powerful

³⁰¹ Beck, *World at Risk*, 12.

³⁰² Martha Langford and John W. Langford, *A Cold War Tourist and His Camera* (Montréal: McGill-Queen’s University Press, 2011), 4.

³⁰³ For a discussion of the larger photographic context of the Cold War see: *Ibid.*, pp.19–30; For an American focus, see: Peter B. Hales, *Outside the Gates of Eden: The Dream of America from Hiroshima to Now* (Chicago ; London: University of Chicago Press, 2014).

pressure within history.³⁰⁴

The most powerful nuclear image will always be the so-called Mushroom Cloud (see Figure 22), a symbol that has proven its iconic status through its adoption as both a sign of progress and of the folly of man. Much has been written over the years about this iconic shape, but a dominant surge in interest began in the mid- to late-nineteen-eighties.³⁰⁵ Vincent Leo, writing on the symbolism of the Mushroom Cloud in the magazine *Afterimage*, argues that the mushroom shape became a naturalized visual trope, a photographic cliché, that “emphasize[d] a discrete physical event at the expense of the historical contextualization.”³⁰⁶ In her semiotic analysis of the many meanings of the Mushroom Cloud, Peggy Rosenthal writes that following the fortieth anniversary of the Hiroshima bombing, she was shocked to hear the rhetoric of military and scientific congratulatory triumph regurgitated in television and news reports. As a result of her personal reaction, she was drawn to make sense of the multiple responses to the image, which seemed so straightforwardly negative to her eyes. Rosenthal concludes in her article that,

For all its clashing and alarming messages, the mushroom cloud at least projects its meaning loud and clear. Although it’s a complex symbol, it’s not a subtle one. It keeps its powerful meanings dramatically before us and so sustains our collective urgency about them.³⁰⁷

In his catalogue essay to the exhibition “Visibility and Invisibility in the Nuclear Era,” photographer and curator Blake Fitzpatrick declares that the first atomic photographs were taken within three weeks of each other.³⁰⁸ Photographers captured both the

³⁰⁴ Spencer R. Weart, *Nuclear Fear: A History of Images* (Cambridge, MA: Harvard University Press, 1988), i.

³⁰⁵ Leo, “The Mushroom Cloud Photograph: From Fact to Symbol”; Weart, *Nuclear Fear*; Peggy Rosenthal, “The Nuclear Mushroom Cloud as Cultural Image,” *American Literary History* 3, no. 1 (April 1, 1991): 63–92; Hariman and Lucaites, “The Iconic Image of the Mushroom Cloud and the Cold War Nuclear Optic”; Akira Mizuta Lippit, *Atomic Light (Shadow Optics)* (Minneapolis: University of Minnesota Press, 2005).

³⁰⁶ Leo, “The Mushroom Cloud Photograph: From Fact to Symbol,” 7.

³⁰⁷ Rosenthal, “The Nuclear Mushroom Cloud as Cultural Image,” 89.

³⁰⁸ Blake Fitzpatrick and Robert Del Tredici, *Visibility and Invisibility in the Nuclear Era*

explosion of the first test bomb and the aftermath of the first dropped bomb. Using approximately fifty high-speed cameras set up to capture an image of the first atomic blast, Berlyn Brixner's photographs of the Trinity atomic test in the Alamogordo desert of New Mexico were quickly classified top secret (Figure 42).³⁰⁹ A strikingly similar image to the Nagasaki Mushroom Cloud, albeit much more abstracted, Brixner's image was not made for public consumption. Nor were the photographs of Yoshito Matsushige, taken on 6 August 1945, directly following the bombing of Hiroshima. Matsushige was a military photographer who was at home on the day of the bombing, 2.4 km from the epicenter. Heading out into the city with his camera, Matsushige later recounted how the trauma of what he witnessed and his own emotional collapse prevented him from taking more than seven photographs.³¹⁰ Only five of the negatives were reproducible. These five images, which he developed in a stream behind his house, have become symbols both of the inadequacy of photography and the limits of the human imagination in face of atrocity.³¹¹ They show the devastation of the urban landscape and the suffering of the people that he met on the street. Dishevelled, filthy, burned and in shock, the subjects of Matsushige's images clearly translate to the viewer how violent and apocalyptic the bombs, so benignly represented as fluffy mushroom cloud shapes, truly could be.

Mark Klett's photographic project *The Half-Life of History*, on the Wendover Test Site and Military Base in Utah, exemplifies a nuclear photography that keeps the concerns of the past alive by trying to demonstrate their relevance to the present day.³¹² From 2001-2006, Klett, along with writer and curator William Fox, completed a series of residencies at the Wendover Air Base in Utah, sponsored by the Los Angeles Centre for Land Use Interpretation. Visiting the site, Klett and Fox focused on the Enola Gay hanger, which

(Toronto: Gallery TPW, 2001), n.p.

³⁰⁹ Fitzpatrick and Tredici, *Visibility and Invisibility in the Nuclear Era*.

³¹⁰ *Ibid.*, back cover; Robert Del Tredici, *At Work in the Fields of the Bomb* (New York: Perennial Library, 1987), 187–189.

³¹¹ Fitzpatrick, Blake, "Atomic Photographs in a Fallout Shelter," in *The Cultural Work of Photography in Canada*, ed. Andrea Kunard and Carol Payne (Montreal: McGill-Queen's University Press, 2011), 202–204.

³¹² Mark Klett and William L. Fox, *The Half-Life of History: The Atomic Bomb and Wendover Air Base* (Santa Fe, NM: Radius Books, 2011).

housed the plane that dropped the first nuclear weapons on Japan (Figure 43). An infamous place in the history of the atomic age, the Wendover Base is now a national historical site and local airport. It is no longer a military base. Instead, according to Fox, it is a monument to the erosion of history, a history that many would rather forget (Figure 44).

This erasure is made clear in Klett's images of the base and hanger where dust and dirt off the nearby salt flats blow through broken windows and small forgotten artefacts—a book cover, shell casings—are represented like prized discoveries (Figure 45). The images present Wendover Base as an abandoned landscape, strewn with the detritus of industrial buildings and military barracks. In fact, people do live nearby—in the town of Wendover, located on the border of Utah and Nevada—but there is no sign of life in Klett's images, nor images of the airport that is run out of the base. Dry, dusty, denuded: the photographs picture a desolate land and place, chosen deliberately by the military for its isolation and sterility (Figure 46). It is as if the Wendover Air Base's sad state of disrepair, the decay and entropy of such a charged historical site, is all that it deserves.

To explain their engagement with the historic location, Fox writes,

The Half-Life of History is not about whether or not we should have used the atomic bomb in World War II, nor is it an attempt to redress any perceived imbalance of history. The reason we created this project was our dismay and bafflement over the discontinuity between past, present and future.³¹³

Yet it is not hard to imagine why such a place would be deliberately forgotten. Their recovery project, through reminders of historical wrongs, and with a photographic emphasis on decay and entropy, offers little hope to the viewer that history will not repeat itself. While Fox and Klett's intentions are admirable, the images and text that accompanies them are full of recriminations: for what happened in the past, for the state of the site today, and for the continued and future disregard of such an important site for

³¹³ Mark Klett and William L. Fox, "The Half-Life of History: Wendover and the Enola Gay," *Places Journal*, September 2011, <https://placesjournal.org/article/the-half-life-of-history/>.

American and global history. Yet their expectations for the project are enormous.

In *The Half-Life of History*, the role of photography as a witness and reminder of past events is cast in moral terms: to denounce the erasure of history by photographically recording the disrepair of the site. Photographic witnessing freezes a moment in time to allow people in the present and future to view and reflect on the ethics of a situation. Yet, in Klett and Fox's project we find a challenge to the notion of photographic witnessing for they ask their audience, through their images and words, to view and remember not only what happened in America at the height of WWII militarism—or even its greater consequences in the far-off island of Japan—, but instead to mourn the ongoing disappearance of an historical location.³¹⁴ The photograph becomes a double memento in these terms, made to do the work of multiple witnesses. Moreover, in their conception of what this site means they forget that Wendover base and airfield is not just *history*: not actually a moment frozen in time but a place in space, which cannot be frozen and preserved without much artificial intervention on the part of architects, archaeologists, and historians (Wendover Base Historical Park?). They ignore the fact that there are people who work there and creatures that live upon the land. Perhaps preserving the historical site—as it is—is not the answer. Instead, the entropy of the site that launched the age of atomic warfare may be—as it evolves and decays over time—a better monument to a history that remains a fundamental challenge to the imagination.

Camera Atomica meets Enviroca

John O'Brian has been researching the photography of the atomic age for a number of years, analyzing how images circulate in various contexts, from textbooks to exhibitions to postcards, contributing to what he has called the 'Camera Atomica'.³¹⁵ O'Brian has argued that it is the 'atomicity' of nuclear photographs, their techno-scientific structure, which is central to their visual impact and meaning.³¹⁶ He writes, "atomicity places a premium on scientific nuclear discourse as opposed to discussions of the bomb's

³¹⁴ Lippit takes up this notion of invisibility and visibility, the role of light to illuminate and to destroy the archive in his book: Lippit, *Atomic Light (Shadow Optics)*.

³¹⁵ O'Brian, "The Nuclear Family of Man," n.p.

³¹⁶ O'Brian, *Atomic Postcards*, 6.

realpolitik instrumentality as a weapon, its power to obliterate whole populations, to contaminate the natural world and to awe enemies.”³¹⁷ For O’Brian, atomic photographs are reminders that, “we shall not be here one day – except, perhaps, in the form of images that have been left behind.”³¹⁸ The pathos in nuclear photography speaks to the uncertainty inherent in our relationship with nuclear technology and its risk to the future: of the environment, human existence, and the hope we place in technological solutions.

As O’Brian has pointed out in his exhibition catalogue (forthcoming) *Camera Atomica*, nuclear photographs can serve multiple purposes and communicate a variety of meanings: “New uses for nuclear photography are constantly being found, and there is as much slippage between the categories as there is slippage between competing meanings they produce.”³¹⁹ While much of the official photography of the nuclear age functioned to promote a vision of Cold War power and technological positivism, cracks began to form in the discourse as the general population became aware of the devastating impact of the nuclear industry on the environment and the public.³²⁰ In 1980, a year after the partial nuclear meltdown at the Three Mile Island Plant in Dauphin County, Pennsylvania, the photographer Robert Del Tredici produced a photographic response that challenged the official narrative. His book *The People of Three Mile Island* (Figure 47), published by the Sierra Club, attempts to overcome the visual limitations of photography by combining text and image, narrating and cohering the impact of the disaster through interviews with plant officials, workers, experts, and activists. His research highlights the secrecy and conspiracy of the nuclear age as first-person interviews with workers and officials describe the confusion and misinformation in the

³¹⁷ Ibid., 6–7.

³¹⁸ John O’Brian, “On Photographing a Dirty Bomb,” in *The Cultural Work of Photography in Canada*, ed. Andrea Kunard and Carol Payne (Montreal: McGill-Queen’s University Press, 2011), 187.

³¹⁹ John O’Brian, “Introduction: Through a Radioactive Lens,” in *Camera Atomica* (Toronto, Ont. ; London, UK: Art Gallery of Ontario; Black Dog Publishing, forthcoming), 14.

³²⁰ See Weart’s discussion on the rise of nuclear anxiety beginning in 1980 in his Chapter 20: Watersheds. Spencer R. Weart, *The Rise of Nuclear Fear* (Boston, MA: Harvard University Press, 2012), 228–241.

American nuclear industry.³²¹

Del Tredici's second book on nuclear power, *At Work in the Fields of the Bomb*, published in 1987, expands the scope of investigation to a global scale (Figure 48). Del Tredici travelled around the world interviewing and photographing both the experts and everyday people involved with nuclear research and development, while gaining access to some of the most protected and inaccessible sites of nuclear power. Del Tredici is himself an activist whose images and interviews tell the often-tragic stories of those affected by nuclear power, whether it is through nuclear warfare, as in the case of the survivors of Hiroshima and Nagasaki, or those affected by working and living near nuclear industrial sites. In his research, Del Tredici does not distinguish between military and civilian nuclear industries, or for that matter between the radiation load of x-rays on foetuses and high death rates in cattle living near nuclear plants. Instead, Del Tredici presents these aspects of the nuclear industry as single elements in an overarching story of the nuclear environment.

In 1987, in addition to publishing his second monograph, Del Tredici created an association of photographers working on the subject of nuclear power. As Del Tredici explains on their website,

Members of the Atomic Photographers Guild aim to capture the heft, grit and impact of the nuclear age — an age that has altered the course of human history but exists so covertly that most people think of the Bomb as an abstraction. The Guild works to release its images in books, on walls, and over the web so others can piece together the fragments of what could be our darkest, most enduring legacy.³²²

The Atomic Photographer's Guild has organized exhibitions around the world and now counts twenty-seven members.³²³ Many photographers who belong to the APG today

³²¹ Robert Del Tredici, *The People of Three Mile Island* (San Francisco: Sierra Club Books, 1980).

³²² Robert Del Tredici, "About," *Atomic Photographers Guild: A Photographic Exploration of the Nuclear Age*, accessed September 17, 2014, <http://atomicphotographers.com/>.

³²³ As of July 2014, members include: Jesse Boylan, Berlyn Brixner, Dan Budnik, James Crnkovich, Blake Fitzpatrick, Harris Fogel, Nancy Floyd, Carole Gallagher, Peter Goin,

continue to seek out newly-declassified sites, Cold War museums, nuclear plants, and the individuals who worked, fought, and were casualties of the Cold War era to record and remember a history that many would like to forget. Yet others photograph the current state of nuclear proliferation, and its military and non-military presence across the globe. The APG, along with many other unaffiliated photographers interested in nuclear power, continues to work towards a fuller representation of the nuclear age using photography as a tool of remembrance and critique.

APG member Blake Fitzpatrick has written that “being possessed by a crisis with no end in sight requires viewers to imagine the unimaginable.”³²⁴ Yet to a degree, there was an end to the crisis: the dissolution of the Soviet Union and the fall of the Berlin Wall were definitive moments in history that contributed to the end of the Cold War —and from which all that has come after can now be described as “post.” What cannot ever be considered past is the pollution that nuclear power, nuclear testing, nuclear bombing, and nuclear accidents have contributed to the global environment, shaping the human biology as well as the human psyche. In a sense, the 'post-mushroom' cloud photography of the Atomic Photographer's Guild straddles the Cold War and Post-Cold War periods, working as a form of recuperation that asks us to reimagine the history of this era.³²⁵ These photographs fight an ongoing battle with time and against the smoothing over of questionable decisions and painful history. Such nuclear photographs are an attempt to come to terms with the legacy of the many technological and historical artefacts that continue to be present, but not always *visible*, on the landscape while

Kenji Higuchi, John Hooton, Mary Kavanagh, Igor Kostin, Juri Kuidin, James Lerager, Andreas Lobe, Yoshito Matsushige, David McMillan, Patrick Nagatani, Barbara Norfleet, Mark Ruwedel, Paul Shambroom, Elin O'Hara Slavick, Hiromitsu Toyosaki, Robert Del Tredici, Vaclav Vascu, Günter Zint. See: Del Tredici, Robert. “About.” Atomic Photographers Guild: A Photographic Exploration of the Nuclear Age. Accessed July 28, 2014. <http://atomicphotographers.com/>.

³²⁴ Blake Fitzpatrick, “Atomic Afterimages,” *History of Photography* 32, no. 2 (2008): 187.

³²⁵ The debate over the 'post' prefix in academic and public contexts has recently become more marked, in light of Barack Obama's election as the first black President of the United States and the popular and controversial description of a new 'post-racial' America. While I do not wish to echo such a glib position on what is an extremely complicated cultural moment, neither do I wish to speak about history in a simple periodized manner without acknowledging how much slippage exists across time.

considering the political, environmental, economic, and cultural reach of the nuclear age.

Since the 1980s, images of nuclear power, nuclear protest, and nuclear landscapes have changed the face of nuclear photography, offering a more ecologically nuanced vision of the nuclear. From John Pfahl's *Power Places* (1981-84) which sought to picture the nuclear industrial complex in situ with the beauty of its surroundings (Figure 49),³²⁶ to Richard Misrach's *Desert Cantos* (1981-1987), which has looked at various military and nuclear installations throughout the deserts of the western United States (Figure 50),³²⁷ to John Kippin's *Cold War Pastoral* series (1998-2000) about the closing of Greenham Commons military base and the Women's Peace Camp in Berkshire England, which protested the nuclear weapon's site on public green space (Figure 51),³²⁸ to Edward Burtynsky's *Uranium Tailings* images (1995), picturing the waste product of the industry (Figure 52), nuclear photography has taken a closer look at the interaction of the environment and the contemporary nuclear landscape.

The Half-Life of the Environment?

In much the same way that nuclear events (past and present) are a challenge to the imagination, the photographic representation of our current environmental crisis is a difficult subject to picture. The photography of risk, whether it is the risk of nuclear apocalypse or climate change, depends on the viewer's ability to translate images of the present into emblems of future threat, to imagine the future of the world when armed only with knowledge of the past and the present. As nuclear risk continues to be invisible, insidious, and often visually banal, until the very moment of crisis, climate change requires the acceptance of an invisible and projected future risk on behalf of the viewing public.

Kathryn Yusoff and Jennifer Gabrys suggest that artists overcome this crisis of

³²⁶ John Pfahl, *A Distanced Land: The Photographs of John Pfahl* (Albuquerque, NM: University of New Mexico Press; Albright-Knox Art Gallery, 1990).

³²⁷ Richard Misrach, *Crimes and Splendors: The Desert Cantos of Richard Misrach*, ed. Anne Tucker (Boston, MA: Bulfinch Press/Little Brown and Co., 1996).

³²⁸ John Kippin, *Cold War Pastoral: Greenham Common* (London: Black Dog Publishing Limited, 2001).

representation by working with the notion of “the futurity of climate change, including the arts and techniques of imagination that are bound up with making scenarios, narratives, and contingency plans that project towards or back from uncertain futures.”³²⁹ For Yusoff and Gabrys,

[W]hat becomes clear is that the imagination not only shapes the perception of the climate change but co-fabricates it in ways that effect the possibilities to act on it. In this sense, imagination is not external to the object of study (climate change), but actively produces it as an event in differentiated ways: rational, apocalyptic, modernist, scientific, utopic (heralding the end of capitalism), and ontological.³³⁰

Just as Beck has argued that images help to stage a sense of risk, Gabrys and Yousoff see art as offering an opportunity to visualize, conceptualize and “co-create” a sense of climate change and its implications for the future. Through the work of imagining the future, we need to also imagine the future representation of our nuclear landscape, which has become an important point of contention in the ongoing climate change discussions of politicians, environmentalists, artists, and the public.

The nuclear photography of David McMillan may offer the viewer a more open-ended vision of the nuclear past, one that helps to imagine future possibilities. Since 1994, McMillan has been photographing the site of the Chernobyl nuclear accident (1986) and the surrounding Exclusion Zone, a region of thirty kilometers maintained by the Ukrainian authorities. McMillan’s *Chernobyl Exclusion Zone* series (1994-ongoing) presents a longer view of nuclear risk, placing it in balance with the larger threat of human and ecological crisis. His photographs of the plant, the villages, the city of Pripyat, and the people who once lived there—and the people who continue to live in the zone—demonstrate the devastating affect that the nuclear accident had on the local communities that relied on the employment opportunities of this major industry.

The Chernobyl Nuclear meltdown had an enormous impact on the global imagination as

³²⁹ Kathryn Yusoff and Jennifer Gabrys, “Climate Change and the Imagination,” *Wiley Interdisciplinary Reviews: Climate Change* 2, no. 4 (2011): 517.

³³⁰ *Ibid.*, 520.

people all over the world began seriously to consider the possible risks of nuclear fission power generation, its relationship to Cold War arms race technology, and the flaws in human stewardship of the dangerous technology.³³¹ On the evening of April 25 1986, engineers working at the Chernobyl plant took some of the safety systems offline to run tests on the fourth reactor. After several hours, they noticed that the reactor core had overheated, leading to dangerous levels of heat, which then caused an explosion in the core that set off a chain reaction of events: fire, nuclear fuel melting into lava, and an off-gassing of radioactive particles into the air which continued for days. Before long, sensors in Sweden and American satellites had picked up activity in the region and the whole world became aware that something terrible had happened. This legacy of risk and catastrophe plays out in McMillan's photographs as viewers are faced with the past disaster and the future implications of nuclear toxification on the landscape.

There is a deep sense of entropy in the *Chernobyl Exclusion Zone* series as the abandonment of human infrastructure and places once inhabited—offices, schools, and homes—leads to their eventual ruin. McMillan's images of Pripyat show a place left quickly and without consideration or hope of return. In what is perhaps his most famous image (Figure 53), an abandoned kindergarten room in Pripyat, McMillan documents the decay of a classroom that would once have echoed with excited voices. Shot from the center of the room, towards what would have been the front of the class, there is little furniture left in the space but for some small chairs knocked aside. Upon one lies a forgotten toy, a soft cloth doll in slightly faded purple and yellow. Bare floorboards run vertically from the foreground of the image, in perfect one-point perspective, towards the center of the photograph. Yet the main wall, with its open doorway creating a dark shadow off to the right of the image, stops the direction of the eye. Moisture has done its worst to its surface, peeling back the wall to its raw material, and leaving strips of

³³¹ Just a couple examples of how this impact has been described. Weart writes: "The catastrophe resolved controversies over nuclear power in many countries by the simple means of shutting down programs." Weart, *The Rise of Nuclear Fear*, 239; Ursula Heise writes that, as a result of the wind forcing radioactive dust across the planet, "Chernobyl therefore turned into a truly transnational risk scenario." Heise, *Sense of Place and Sense of Planet*, 179.

crackled paint hanging in discoloured clumps. In the very center of the picture, a faded portrait of Lenin leans against the wall and floor, half hidden by the little school chairs and some pink cables that hang down from the ceiling. Lenin has seen better days: his face is torn open at his nose leaving a jagged gaping hole and his colour has yellowed like old paper. Nevertheless he is recognizable, his piercing eyes and bald domed forehead all that is needed to make out the iconic figure.

The sense of decay in this image reminds us that history moves on, even in the face of great tragedy and crisis. Devoid of people, yet riddled with references of human social and political life—schools are the institutional training grounds of good citizens—*Portrait of Lenin, October 1997*, is a record of McMillan's experience in this abandoned place. It is the photographer's presence—not the specter of children studying in this classroom—that haunts the image. Viewing this image of squalid abandonment, it is easy to imagine McMillan setting up his large-format camera, adjusting his tripod, and framing the perfect shot. The nuclear image once again reminds viewers that we will be gone from this world one day, as will McMillan, leaving behind this image as record of what has been, a moment of catastrophe, now past, and what continues to degrade.

McMillan presents us with civilization's ruin, as artists have done since the Enlightenment, a collapse that some people today, such as author and co-creator of the Dark Mountain Project Paul Kingsnorth, feel is inevitable and necessary for the process of rebalancing human and nature relations.³³² The seduction of ruins is “an experience as inescapable as it is old,”³³³ write Julia Hell and Andreas Schönle. In the case of Chernobyl and Pripjat's ruins, it is the wreckage of nuclear positivism, scientific modernism, and techno-scientific control that is pictured. For Andreas Huyssen, ruins offer a “[...] promise of authenticity, immediacy, and authority,”³³⁴ by representing the past as glorious and engaging in nostalgia in the present. The ruins of Chernobyl and

³³² Paul Kingsnorth and Dougald Hine, “The Manifesto,” *The Dark Mountain Project*, accessed September 22, 2014, <http://dark-mountain.net/about/manifesto/>.

³³³ Julia Hell and Andreas Schönle, eds., *Ruins of Modernity* (Durham, NC: Duke University Press, 2010), 2.

³³⁴ Andreas Huyssen, “Authentic Ruins: Products of Modernity,” in *Ruins of Modernity*, ed. Julia Hell and Andreas Schönle (Durham, NC: Duke University Press, 2010), 20.

Pripyat give us a sense of temporal dislocation as they picture a paradox: “the ruin casts us forward in time; it predicts a future in which our present will slump into similar disrepair or fall victim to some unforeseeable calamity. The ruin, despite its state of decay, somehow outlives us.”³³⁵

Yet there is a deeper sense of time and ruination in McMillan’s photographs that speaks to a pre-modern and primeval sense of ruination and nostalgia for a lost Eden. McMillan’s landscapes of Chernobyl and Pripyat offer a vision of wilderness reborn; the re-wilding of the landscape may be understood as a positive aspect of the disaster.³³⁶ As abandoned agricultural and urban land has become overgrown with vegetation, animals—including insects and birds—have come to repopulate the Exclusion zone, albeit with some cost to themselves.³³⁷ Biocentric nostalgia inhabits the images, as the embattled nature of our modern world is pictured overcoming the techno-scientific—a romantic battle between good and evil in the eyes of many environmental activists and thinkers today.³³⁸ These aren’t sublime images of industrial decay, as is often pictured in photographs of deindustrialization—most recently in images of economically abandoned

³³⁵ Brian Dillon, ed., *Ruins*, Documents of Contemporary Art (London : Cambridge, MA: Whitechapel Gallery ; MIT Press, 2011), 11.

³³⁶ Rewilding is a term that has developed out of the conservation movement as a method of restoring ecological regions to help provide habitat but also to “...redress the balance and bring us back full circle to first nature (wilderness) by reducing the human influence within selected landscape, and in some cases removing it altogether...” Steve Carver, “Rewilding and Habitat Restoration,” in *The Routledge Companion to Landscape Studies*, ed. Peter Howard, Ian H. Thompson, and Emma Waterton (New York: Routledge, 2013), 384.

³³⁷ For a long term study of how animals, particularly birds, are adapting to radiation in the exclusion zone see: Ismael Galván et al., “Chronic Exposure to Low-Dose Radiation at Chernobyl Favours Adaptation to Oxidative Stress in Birds,” *Functional Ecology*, May 2014, doi:10.1111/1365-2435.12283.

³³⁸ This nostalgia is echoed in some recent popular environmentalist writings which see rewilding as essential for human health and adaptation to the future environmental crisis, echoing the valuation of wilderness for its own sake that was promoted by the deep ecology (philosopher Arne Naess) and radical environmental movements. See: George Monbiot, *Feral: Searching for Enchantment on the Frontiers of Rewilding* (London: Allen Lane, 2013); Miles Olson, *Unlearn, Rewild: Earth Skills, Ideas and Inspiration for the Future Primitive* (Gabriola, B.C: New Society Publishers, 2012).

Detroit³³⁹—but instead, in the vein of Aldo Leopold's 'Land Ethic', they picture an ethical renewal of the land so poorly treated by its human managers.³⁴⁰ By looking at McMillan's images of catastrophic transformation and renewal, it is possible to see some hope for the future of the environment, even when past failures of human ingenuity are pictured.

In a series of images taken at a playground in Pripyat (1994-2005), McMillan shows a world abandoned by children, overgrown and overtaken by nature. Seedlings, saplings, and larger trees bristle with branches that have never been pruned. Old and rusted playground structures, the kind that no one buys today because they are metal and coated in oil-based paints, remain upright but seem to have become another part of the landscape. Fallen leaves, jutting branches and ever-expanding trunks give the impression that something terrible happened to drive away all the fun. In one image *Playground, October 1997* (Figure 54), the viewer is shown the grey and faded remnants of a former playground, a space designed for children to run and climb, where the growth of grasses and saplings has continued unchecked. From the bottom of the photograph, leading straight up into the wild space, a cement pathway remains the only surface not overgrown. Yet the path ends abruptly in the middle of the image, as if unfinished. Three metal tubular climbing structures stand in the middle ground, filling the image from left to right like soldiers at attention. They are shaped—ironically—into childish symbols of the modern world: a rocket to the moon, a slide across space, and a globe to unite us all. Their colours have faded away, becoming grey and rusted. Amongst the open structures where kids would once have contorted their limbs to climb between the bars like monkeys in the forest, tree branches have grown through the forms, jutting in and out of the openings, reminders of former arms and legs. The bush continues to flourish towards the back of the image where breaks in the canopy open up to show the white back of an

³³⁹ This is sometimes called “ruin porn” for the glossy and sublime quality of the images being produced at a high rate today. M. H. Miller, “Panic in Detroit Lures Shutterbugs But How Much Ruin Porn Can We Take?,” *New York Observer*, accessed September 19, 2014, <http://observer.com/2011/11/panic-in-detroit-lures-shutterbugs-but-how-much-ruin-porn-can-we-take/>; See for example, Robert Polidori, *Robert Polidori's Metropolis* (New York: Metropolis Books, 2004), which includes images of Chernobyl and Pripyat, bombed Beirut, flooded New Orleans, and decaying Havana all in one book.

³⁴⁰ Leopold, *A Sand County Almanac*.

apartment complex and the steel grey clouds of the sky overhead. An underlying unease is present in this faded ruination of childhood. What has caused this wildness to flourish unchecked? Nuclear disaster or toxic pollution? Displacement because of climate change or war? Is this the post-apocalyptic world and what kind of horrors are lurking in the shadows?

As a result of his frequent trips to the exclusion zone, McMillan began to re-photograph particular images, drawn to the changes he saw over repeated visits and to the opposing forces of decay and growth in the landscape. In an abandoned gymnasium in the Pripjat 'Palace of Culture', a Soviet-era named building once meant to glorify the heroic worker and now tainted with failure, McMillan captures a scene of dystopic ruin, unpeopled, and empty. *Gymnasium 'Palace of Culture'* (Figure 55.), taken first in October 1996 then again in 2004, shows the slow creeping of new growth in what once was an institutional gymnasium meant for human recreation. At first glance the two images, taken eight years apart, appear emblematic of modernity's failure, the hubris of man, and the folly of progress: all the tropes that come to mind in the wake of human driven techno-ecological disaster. Yet in the first image, we see the beginnings of renewal, albeit gradual, in the success of a tree shooting up from the rotting floorboards. By the second image, success seems assured as the building further degrades around the new life. While radiation in the region remains too high for humans, the landscape has no choice but to survive. The tension in these images between future and past, between ecological adaption to development and the human's place in nature, speaks to the current considerations of climate catastrophe and our struggle to adapt or perish. These two images offer, in a twisted way, a sense of hope for the future of the planet, even as they represent the terrible results of nuclear and environmental catastrophe.

McMillan's repeat photographs don't promise scientific objectivity or usable data. Instead they reveal the photographer's deep engagement with a place that is ever changing. McMillan's continued fascination with Chernobyl is a quiet commitment to a site of significant iconic status to the world. Yet his images don't demand action or reduce their subject to a polemical critique. Instead they suggest that the recording of this transformation is more than enough. More importantly, they prick the imagination and present contingency as part of the image. What does the rewilding of Chernobyl mean for the future? By practicing a form of repeat photography in Chernobyl, McMillan demonstrates that change and growth are still possible as the plants and animals that

once were controlled are now allowed free rein.

McMillan has written that, “The exclusion zone is a remarkable and surprising place, not dead and static, as one would expect, but full of growth and change.”³⁴¹ The utopic promise of wildness in a place so contaminated is something of a paradox. To some, the thought of human civilization in ruin is a crisis in itself, but to many the idea that nature can recover—can re-wild—an iconic ruin as damaged as Chernobyl lends hope. The reversal of human habitation to natural splendour—the rejection of dominance to embrace wildness—reminds us of the long reach of history and of the different temporal and spatial scales at play.

McMillan’s photographs of Chernobyl act as a warning of what is at stake should environmental catastrophes, such as climate change, fully take full hold; they raise the question of how the human race will adapt and what might be lost. Chernobyl offers insight into our ongoing climate crisis, an event that is happening now but cannot be fully pictured—only worried about and planned for—more than images that show what we’ve already lost. These photographs, on their own, do not tell the whole story but they offer the viewer a chance to imagine and actively co-create the narrative behind the images. This series brings the representation of nuclear crisis into the realm of the environmental imagination and offers an inkling of how nuclear photography can give insight into the visual representation of climate change.

Risks, Nuclear and Climatic, in Photography

Nuclear power remains a contentious issue around the world. Regardless of the major and real risks that nuclear power poses to humanity and the earth, it is a fundamental source of energy for many countries around the globe, and a political hot potato for many governments, with ongoing implications for climate change, military security, and economic growth. With the popular acceptance of anthropogenic climate change—the Intergovernmental Panel on Climate Change stated that the warming of the climate is a

³⁴¹ David McMillan, “Chernobyl Photographs,” *David McMillan | Chernobyl | Photographs*, Exclusion zone, accessed September 30, 2014, <http://www.dsmcmillan.com/chernobyl/photographs/>.

reality as far back as 1990 but were definitive by the 2007 report³⁴²—governments around the world are grappling for a less carbon dependent solution to the growing energy requirements of the planet. Without fossil fuels, one of the major producers of greenhouse gases, most of the world's economy would grind to a halt and, to date, very little has been done to reduce this dependence as we head into an era of so-called peak oil.³⁴³ Echoing an earlier age, a positivist scientific perspective has overtaken the industrial world, as groups like the International Atomic Energy Agency and scientific experts promote nuclear power as the solution to the carbon crisis.³⁴⁴ As recently as 2006 the UK Labour government expressed the view that nuclear power was a safe, secure, and low carbon solution to the crisis of climate change,³⁴⁵ while many prominent environmentalists, including *Whole Earth* author Stewart Brand, have made about faces on the nuclear issue in light of the carbon dilemma.³⁴⁶ This discourse has been circulating through the public sphere, as the media and popular culture pick up on the ensuing cultural unease around climate change and energy supply.³⁴⁷ The threat to

³⁴² For a history of climate change as an issue, and the IPCC's work see Chapter Eight, "The Discovery Confirmed" in: Spencer R. Weart, *The Discovery of Global Warming* (Cambridge, MA: Harvard University Press, 2003), 160–192.

³⁴³ Peak oil is the "term used to describe the point in time at which oil production reaches its maximum and then begins to decline." Pat Murphy, *Plan C: Community Survival Strategies for Peak Oil and Climate Change* (Gabriola Island, B.C: New Society Publishers, 2008), 4. For more on peak oil see; Roland Dannreuther and Wojciech Ostrowski, eds., *Global Resources Conflict and Cooperation* (Basingstoke: Palgrave Macmillan, 2013); Brian Black, *Crude Reality: Petroleum in World History*, Exploring World History (Lanham, MD: Rowman & Littlefield Publishers, 2012).

³⁴⁴ Some examples of this recent renewal of interest in nuclear: International Energy Agency, *Nuclear Power: Sustainability, Climate Change and Competition* (Paris: International Energy Agency, 1998); Charles D. Ferguson, *Nuclear Energy: What Everyone Needs to Know* (Oxford ; New York: Oxford University Press, 2011); James Mahaffey, *Atomic Awakening: A New Look at the History and Future of Nuclear Power*, 1st Pegasus Books ed (New York: Pegasus Books : Distributed by W.W. Norton & Co, 2009); Burton Richter, *Beyond Smoke and Mirrors: Climate Change and Energy in the 21st Century* (Cambridge, UK ; New York: Cambridge University Press, 2010).

³⁴⁵ Julie Doyle, "Acclimatizing Nuclear? Climate Change, Nuclear Power and the Reframing of Risk in the UK News Media," *International Communication Gazette* 73, no. 1–2 (February 1, 2011): 108.

³⁴⁶ Stewart Brand, "Environmental Heresies," *Technologyreview.com*, May 2005, <http://www.technologyreview.com/featured-story/404000/environmental-heresies/>.

³⁴⁷ See Weart, *The Rise of Nuclear Fear*, 242–255 Chapter 21, "The Second Nuclear

human existence from climate change has now become the predominant global concern, superseding that of nuclear risk. As Anthony Giddens so bluntly puts it, “[...] in seeking to stem climate change, no matter what is often said, we are not trying to ‘save the planet’, which will survive whatever we may do. The point is to preserve, and if possible enhance, a decent way of life for human beings on the earth.”³⁴⁸ In this, the “peaceful atom” once again has been painted as the solution to humanity’s need.

Returning again to The Three Mile Island site in the first decade of the new millennium, an image by photojournalist Chris Hamilton represents this rhetorical concern for human existence in visual form (Figure 56). Emphasizing the pastoral relationship between a country boy and the nuclear landscape, the viewer sees a child pushing a lawn mower in his front yard. Running alongside the yard, a paved road leads through a field of corn, grown tall in the summer heat. In the background, the cooling towers of the Three Mile Island nuclear plant loom large, close enough for an energetic kid to reach on his bike on a long summer day. Charged with tension and the reminder of past failures, the photograph illustrates the uncertainty that we still feel towards nuclear energy and its proximity to our everyday lives. The title of the 2006 *National Geographic* article, boldly typed across Hamilton’s photograph, states this concern in no uncertain terms: “It’s Scary. It’s Expensive. It Could Save the Earth. Nuclear Power: Risking a Comeback.”³⁴⁹ The title’s hopeful—albeit ambivalent—tone makes reference to the then current and now ongoing debates in many industrialized nations about the perceived risk of nuclear power and the need for low-carbon, affordable energy to combat rising levels of greenhouse gases. Framed in this way, nuclear power is presented as safer than the alternative, offering a solution to one crisis while only *potentially* risking another.

I am reminded of an iconic image of another famous, albeit fictional, nuclear plant: in a drawn promotional still for the animated sit-com, the Simpsons family picnics beside the river that runs alongside Springfield’s nuclear plant, part of the water system in which

Age” for further discussion.

³⁴⁸ Giddens, *The Politics of Climate Change*, 6.

³⁴⁹ Charles Petit, “It’s Controversial. It’s Expensive. And It Just Might Save the Earth. Nuclear Power: Risking a Comeback,” *National Geographic*, April 2006.

Bart once caught Blinky the Three-Eyed Fish (Figure 57). Openly satirizing the notion of human and environmental harmony with nuclear power, *The Simpsons* television series draws on the continuing unease that is felt around nuclear energy for comedic effect. While bumbling Homer Simpson, safety monitor of the core reactor in Springfield's nuclear plant, spends most of his time sleeping on the job and seems wholly under-qualified for such a position, we, the viewers, can hardly ignore the television series' negative portrayal of nuclear energy. At the same time, the candy-coloured characters and bucolic setting render the threat banal, a cynical reminder of how easy it is to live with danger when nothing has yet gone wrong.

The Not-So-Peaceful-Atoms

Yet as the events of 11 March 2011, in the Fukushima Prefecture of Japan have highlighted, the instability of nuclear power in the anthropocene has raised the specter of climate change to a larger level of risk.³⁵⁰ The Fukushima-Daiichi meltdown, which followed the Great East Japan Earthquake and Tsunami, was the worst global nuclear accident since Chernobyl. When an earthquake measuring 9.0 Richter scale hit 130 kilometres off the east coast of Japan, it precipitated the largest tsunami in recorded history. Hitting the northeast Pacific coast of the island, an area of 561 square kilometers was flooded and power went out in a large part of the east of the country.³⁵¹ This led to the meltdown at Fukushima-Daiichi Nuclear Plant, which has had the most significant impact on Japan's environmental, economic, and energy landscape since World War II.

Japan has relied on nuclear power for energy and economic growth since the late nineteen-fifties when they began to recover from the war and nuclear power helped the nation to become a global economic force by the nineteen-seventies.³⁵² In a heavily

³⁵⁰ John R. Parkins and Randolph Haluza-DeLay, *Social and Ethical Considerations of Nuclear Power Development*, Staff Paper #11-01 (Edmonton, Alta: Department of Rural Economy, University of Alberta, 2011).

³⁵¹ Mari Koseki, "The Unfolding of the Triple Disaster," in *After the Great East Japan Earthquake: Political and Policy Change in Post-Fukushima Japan*, ed. Dominic Al-Badri and Gijs Berends, Asia Insights 5 (Copenhagen: NIAS Press, 2013), 11–12.

³⁵² Gijs Berends and Dominic Al-Badri, "Setting the Scene: Japan as the 21st Century Began," in *After the Great East Japan Earthquake: Political and Policy Change in Post-Fukushima Japan*, ed. Dominic Al-Badri and Gijs Berends, Asia Insights 5 (Copenhagen:

populated and dense urban country with little in the way of fossil fuels or land for hydro development, pre-Fukushima Japan had plans to further increase their nuclear presence—by 2030 twenty-one new plants were scheduled to be completed. This growth was meant to address Japan’s current growing energy needs but also to help them meet their global commitments to reducing greenhouse gas emissions.³⁵³ All that has changed since the Triple Disaster, as it is widely known today, transformed the global discussions about nuclear power. Unlike the response to the Chernobyl crisis, which focused more on human and environmental health, this time the focus is on the risks of global climate change and energy security.³⁵⁴

The Fukushima-Daiichi plant, managed by Tokyo Electric Power Corporation (TEPCO), had six reactors. At the time of the earthquake, three were shut down for maintenance. The three others responded correctly to the quake; back-up power was provided as the grid went down and failsafe mechanisms kicked in. It was the impact of the tsunami that pushed the reactors into criticality; the wave of seawater hit the emergency pumps that maintain temperatures of the decaying matter and destroyed the cooling system. Because of this, cooling had to take place manually using diesel-powered pumps. Eventually, when manual cooling had not prevented the temperatures from reaching critical levels, it was determined that the vents of the containment vessels had to be opened, allowing radioactive particles into the air. Yet TEPCO vented reactor No. 1 only after they were ordered to do so by the national government. By the afternoon of the second day, a hydrogen explosion took place in the No. 1 reactor. On March 14, the

NIAS Press, 2013), 7.

³⁵³ Gijs Berends, “Cold Shutdown and Global Warming: Did Fukushima Change Japan’s Climate Policy?,” in *After the Great East Japan Earthquake: Political and Policy Change in Post-Fukushima Japan*, ed. Dominic Al-Badri and Gijs Berends, Asia Insights 5 (Copenhagen: NIAS Press, 2013), 107.

³⁵⁴ Germany’s response after Fukushima was to withdraw completely from nuclear energy while other countries, including the U.S.A., sought to reassure their citizenry of their contingency plans. Fred Pearce and Sara Reardon, “Fear After Fukushima to Push up Carbon Emissions,” *New Scientist*, March 8, 2012, <http://www.newscientist.com/article/mg21328553.300-fear-after-fukushima-to-push-up-carbon-emissions.html#.U9fJi0jD6ek>; “Nuclear Energy Institute - Fukushima Response,” accessed July 29, 2014, <http://www.nei.org/Issues-Policy/Safety-Security/Fukushima-Response>.

fourth day, a hydrogen explosion occurred in No. 3 and the next day, March 15, another explosion took place in No. 4. Each explosion created the possibility for radiation to leak from the containment units into the atmosphere. It was only at this time that the Japanese government expanded the evacuation zone to a radius of 20 kilometers around the plant.³⁵⁵

In spite of the fact that the impact of the Triple Disaster was made worse by incompetent management of the disaster and the evacuation process, its impact on the global perception of nuclear risk has been profound. Following the nuclear meltdown at Fukushima, the global media began to question the safety of nuclear power, especially when the threat of rising sea levels and climate change were placed alongside the fact that most nuclear plants are not adapted for changing weather patterns.³⁵⁶ Although old equipment and poor maintenance and management were primarily responsible for the nuclear meltdown at Fukushima, its location on a major earthquake fault line has always made Japan a risky place for nuclear installations. In the case of Fukushima-Daiichi, the plant was over forty years old and should have been closed yet it was in operation even though unsafe. Added to the fact that nuclear plants require access to major water sources for the cooling and maintenance of core reactors, and the picture of how the Triple Disaster could have occurred becomes clearer. While nuclear energy is less carbon-emitting than any other major industrial source of energy currently in production, many have started to question whether the increasing risk of weather instability brought about by climate change might not make nuclear power *more* of a threat to the environment than carbon particles.³⁵⁷

³⁵⁵ Koseki, "The Unfolding of the Triple Disaster."

³⁵⁶ Mark Lynas, "New Statesman - Fukushima's Lessons in Climate Change," March 17, 2011, <http://www.newstatesman.com/asia/2011/03/nuclear-power-lynas-japan>; Brahma Chellaney, "Fukushima Blast Shows Nuclear Is Not the Answer," *The Guardian*, March 15, 2011, <http://www.guardian.co.uk/environment/2011/mar/15/nuclear-earthquake-tsunami-energy-industry>; Bill McGuire, "Climate Change Will Shake the Earth | Environment | the Guardian," February 26, 2012, <http://www.guardian.co.uk/environment/2012/feb/26/why-climate-change-shake-earth>.

³⁵⁷ Natalie Kopytko and John Perkins, "Climate Change, Nuclear Power, and the Adaptation–Mitigation Dilemma," *Energy Policy* 39, no. 1 (January 2011): 318–33.

As the first nuclear disaster since the social media age, images, blog entries, online news stories, and opinion editorials about the Triple Disaster quickly spread. Photographs taken in the aftermath focused on the cleanup crews and dead bodies, the displaced people, and destroyed infrastructure. These images presented the situation in typical disaster reporting fashion, focusing on the “horror and grief of the events and communicating basic information about the scale of the destruction wreaked by the earthquake and the tsunami.”³⁵⁸ They also showed the terrible ravaging of the landscape, where natural disaster combined with human-made to devastating effect, alongside aerial shots and maps to help the viewer gain a sense of perspective on the disaster.

In the photo-essays and television coverage that followed, viewers around the world gained insight into how serious the disaster had been and its implications for the future. On 28 March 2011, *The New Yorker* magazine was able to offer its readers a thoughtful analysis of the disaster, alongside a series of heart-wrenching images. In his article Evan Osnos, *The New Yorker’s* Asia correspondent, describes how “a nation bears the unbearable” — a direct reference to Emperor Hirohito’s speech to the people of Japan on 15 August 1945, following the government’s surrender.³⁵⁹ The four images that accompany Osnos’s article show emergency response in full swing. In a photograph by David Guttenfelder (Figure 58), the viewer is presented with a bird’s eye view of Minamisanriku city’s complete destruction from the bottom of the frame all the way back to the ocean’s edge. Lumber, rebar, crushed cars, and chunks of concrete litter the flattened landscape from side to side, a great expanse of human waste. Juxtaposed with the utter annihilation of human civilisation, a single path that may have once been a road horizontally bisects the devastation, upon which a lone cyclist peddles. The complete and utter destruction of the city shown brings into sharp detail how natural disasters can ruin what once seemed so permanent. In the background, the ocean is calm and, across

³⁵⁸ Mervi Pantti, Karin Wahl-Jorgensen, and Simon Cottle, *Disasters and the Media*, Global Crises and the Media, v. 7 (New York: Peter Lang, 2012), 51.

³⁵⁹ Evan Osnos, “Aftershocks: A Nation Bears the Unbearable,” *The New Yorker*, March 28, 2011, 72.

the bay, the Kitakami Mountains stand as stolidly as ever.

While pictures of the earthquake and tsunami were instantly available online and on television—staging the event for its global audience—the nuclear threat was much less visible, even as visual and written reminders of Japan’s nuclear legacy were emphasised. Yet the danger of nuclear fallout was *anticipated* in every image as viewers watching the unfolding of the Triple Disaster came to fully understand the implications of the events. Masks and hazmat suits were prominent in many of the images as rescue workers and the victims protected themselves from contamination. These signs of potential contamination and risk were the only indicators that this disaster was more than just a physical phenomenon: toxification was made visible through their dress just as viewers might see in images of oil spills and clean-ups. Yet there is an eerie juxtaposition between tightly wrapped bodies in clean white suits and masks with a landscape that is visibly uncontaminated except for debris. This lack of visible contaminant makes the images all the more shocking as the absence of toxicant raises the specter of the unknown.

In the cover image from the same *New Yorker* story, Adam Dean captures a night-time scene of a contamination zone near Fukushima Daiichi (Figure 59). In the middle of the image stands a firefighter, dressed not in his usual gear of rescue but instead encased in a white hazard suit, plastic gloves, and gas mask. Facing towards the camera, his body is backlit by emergency lights and his shadow drapes along the concrete ground, growing larger and more menacing as it spreads towards the bottom of the image. He stands on the dangerous side of emergency tape, which separates him from the response vehicles and other rescue workers working in the background to set up their triage tents. Beside him, a single chair and solitary wheel chair crouch, seeming much too ineffectual for whatever he waits upon. There is a sense of anticipation in this image but also of inadequacy, as if a single hero could do anything to reverse the damage that has already been done.

As of the first year anniversary of the Triple Disaster, discussions amongst policy makers, journalists, environmental activists, and scientists continued to question what

the energy future will look like in a 'post-Fukushima' world.³⁶⁰ Meanwhile, Japan began restarting their nuclear reactors in July 2012, after more than a year of review and shutdowns that caused Japan to reconsider many of their greenhouse gas reduction targets.³⁶¹ The proposed reductions of 25% in carbon emissions from back in 2009 have been pushed aside in favour of energy policy concerns, while “emissions are likely to rise in the near term and at the very least it will be harder to reduce them.”³⁶² Post-Fukushima, the role of nuclear power in the global energy landscape seems uncertain but the risk of climate change does not. The complex and changing cultural response to nuclear power has been further provoked by the triple disaster of Fukushima. The legacy of this event, for human safety and for the changing climate, has still to be fully accessed. The photographic legacy of Fukushima will continue to grow, fuelled by human curiosity about the drama and a deep sense of commitment to document the future in a post-Fukushima nuclear landscape.

Photography will continue to play an important role in these debates, projecting back at us our fears and hopes for the future while helping us anticipate and imagine the larger implications of our world risk society. While the atomic age has provided us with a wealth of images, of both catastrophe and renewal, these images do not remain as inert moments in history. They continue to speak across time and around the world, echoing

³⁶⁰ Bill Chameides, “The Fukushima Accident’s Legacy One Year Later – The Great Energy Challenge,” *National Geographic*, March 6, 2012, <http://www.greatenergychallengeblog.com/2012/03/06/the-fukushima-accidents-legacy-one-year-later/>; Dr. Ilya Sandra Perlingieri, “‘Planetary Genocide’: Fukushima One Year Later : The Poisoning of Planet Earth | Global Research,” *Global Research*, March 8, 2011, <http://www.globalresearch.ca/planetary-genocide-fukushima-one-year-later-the-poisoning-of-planet-earth/29658>; David Elliott, *Fukushima: Impacts and Implications* (Basingstoke: Palgrave Macmillan, 2012); Jeff Kingston, ed., *Natural Disaster and Nuclear Crisis in Japan: Response and Recovery After Japan’s 3/11*, The Nissan Institute/Routledge Japanese Studies Series (Milton Park, Abingdon, Oxon ; New York, NY: Routledge, 2012).

³⁶¹ Richard Oppenheim, “Japan’s Energy Crossroads: Nuclear, Renewables and the Quest for a New Energy Mix,” in *After the Great East Japan Earthquake: Political and Policy Change in Post-Fukushima Japan*, ed. Dominic Al-Badri and Gijs Berends, Asia Insights 5 (Copenhagen: NIAS Press, 2013), 83.

³⁶² Berends, “Cold Shutdown and Global Warming: Did Fukushima Change Japan’s Climate Policy?,” 127.

the complex symbolism of Cold War cultural values, while adapting to reflect more recent socio-political and cultural meanings. Placed in context, today's nuclear photography offers viewers insight into the interrelated concerns of the environmental imaginary; simultaneously reminding us of the legacy of the atomic age and Cold War culture, and the pressing concerns for the future climate and human existence. While the power of nuclear photography lies in its evocation of our past and our potential future, it is ultimately through our viewing and imagining the unimaginable that these images gain their significance.

**PART III Spatial Displacement in Eco-Photography:
Environmental Deterritorialization of the Global Commons**

CHAPTER FIVE Eco-Photography as Justice: Photographing Environmental Slow Violence

Just as temporality, manifest in repetition or revisitation, informs the understanding of eco-photography, the spatial and geographical imaginary plays a central role in articulating the past, present, and future of the image. Isolating one from the other is impossibility—how can one take a picture without capturing a moment in time and in space? This chapter will investigate the representation of spatial scale, from the global to the local, and its role in shaping our contemporary understanding of global environmental issues—spatial-environmental concerns—through Rob Nixon’s model of “slow violence” and the larger framework of environmental justice.

In *Slow Violence and the Environmentalism of the Poor*, Nixon argues that our human-derived environmental calamities impact the world’s most vulnerable, the poor, creating temporal and spatial ripples outwards in our globalized world.³⁶³ Nixon writes that the unseen and ignored suffering of the global poor is made worse by their vulnerability to environmental slow violence, whether it be the poisoning of a community by toxic waste, desertification caused by clear-cutting, or the degradation of a shore line brought about by rising sea levels. These socio-environmental destabilizations have long-term consequences that will effect generations of people and multiple ecosystems: they cannot be contained by the quick fix, either temporal or spatial. For Nixon, the lack of attention to these attritional catastrophes—environmental disasters that happen incrementally and out of sight, leading to the deterioration of the health and well being of people and environments—relates to questions of power: “who gets to see and from where? When and how does such empowered seeing become normative? And what perspectives – not least those of the poor or women or the colonized – do hegemonic sight conventions of visibility obscure?”³⁶⁴

Slow violence, with its insidious and cumulative impact, offers a major representational challenge to writers, artists, and, especially I argue, photographers who rely primarily on the image’s instantaneous reproducibility and visual objectivity for its authority and

³⁶³ Nixon, *Slow Violence and the Environmentalism of the Poor*, 2.

³⁶⁴ *Ibid.*, 15.

impact. Nixon points to the emphasis on speed and dramatic spectacle in our technologically driven world as one of the major difficulties to representing and making visible slow violence. Photography enacts this very space-time compression as it becomes more and more ubiquitous: transportable, produced, and reproduced. More than that, the photographic image is in itself a form of space-time compression capturing the noeme—the what-has-been in Barthes terms³⁶⁵—and circulating it through geographical and historical space. The contemporary technological and digital environment, whether understood as a part of globalization, modernity, or neoliberal capitalism, has allowed photography to flourish and become the medium it is today. Photography 2.0, as Fred Ritchin has named the medium in the wake of the Internet age,³⁶⁶ reaches more people than ever before. The space-time compression of photography enables viewers to consider the state of our current environmental condition from a global perspective.

Nixon asks an important question when he writes: “how can we turn the long emergencies of slow violence into stories dramatic enough to rouse public sympathy and warrant political intervention?”³⁶⁷ Nixon himself addresses this question by considering the various aesthetic and activist strategies of writers who successfully draw attention to the impact of slow violence and global environmental injustice, relying on characterization, narrative, pastiche, and activist voices. I want to rephrase Nixon’s question by asking how we can turn slow violence into photographs that inspire change?

In this chapter, I argue that photographing slow violence requires its own particular aesthetic and activist strategies, to move beyond what Barbie Zelizer has referred to as the “reasoned information” of the image and to extrapolate the future of the subject. In the following pages, I discuss how scale, perspective, context, and narrative are employed as the primary strategies used to represent, imagine, and communicate about the slow violence of today’s global environmental justice landscape. Looking at the photographs of Subhankar Banerjee’s *Arctic* series, Munem Wasif’s *Salt Water Tears*:

³⁶⁵ Barthes, *Camera Lucida*, 115.

³⁶⁶ Fred Ritchin, *After Photography*, 1st ed (New York: W.W. Norton, 2009), 12.

³⁶⁷ Nixon, *Slow Violence and the Environmentalism of the Poor*, 3.

Lives Left Behind in the Satkhira, and Mitch Epstein's *American Power*, I argue that representing slow violence requires the photographer to engage with various strategies of looking—to challenge the individual perspective and imagine the global scale of the problem. Relying on an understanding of the geographical and global imaginaries to explicate how space and time are flexible, relational, and dialectical, with recourse to David Harvey, Arjun Appadurai, and others, this chapter asks the reader to critically engage with eco-photography through its historical and geographical context. While photography is at the forefront of communicating about the injustices of environmental disaster, it also highlights, through the medium's own deterritorialization and displacement, how important it is to read the image 'against the grain' of its own realism and how inadequate it can be to accept the image as 'simply the thing itself.'

In the epilogue to his book, Nixon hints at the limited role that photography has played in drawing attention to ongoing environmental disasters and political interventions into the status quo. He points to the use of photography to capture the spectacle of disaster—such as the spill-cam images that documented the BP Deepwater Horizon well blowout in the Gulf of Mexico, which were made available online and across media—to fix and shorten the temporal impact of slow violence. Compared to the incremental and ongoing oil spills in the Niger Delta over the past five decades, Nixon laments the media's fascination with speed when he asks: "how in an age characterized by chronic digital drift do we stay attentive to toxic drift that unfolds across a radically different time span?"³⁶⁸ Photographs of the publicity stunt of President Mohamed Nasheed of the Maldives in 2009, when he held an underwater cabinet meeting in a wetsuit and planted the nation's flag on the ocean floor right before the Copenhagen Climate Summit, were interventions in the temporal status quo of photography. Nixon writes that,

[T]his ghostly sea-bottom scene makes a statement—at once micronational and planetary—about environmental time. What we enter through photographs and video is a premonitory landscape prefiguring the consequences, on a global scale, of wasted foreknowledge. The scene

³⁶⁸ Ibid., 217.

serves as a preview of the aftermath.³⁶⁹

Yet these examples are simply photographic vignettes that hint at the difficulties and potential of using photography to represent slow violence.

Nixon's proposes that:

writer-activists can help us apprehend threats imaginatively that remain imperceptible to the senses, either because they are geographically remote, too vast or too minute in scale, or are played out across a time span that exceeds the instance of observation or even the physiological life of the human observer.³⁷⁰

I argue here that activist, engaged, or concerned photographers³⁷¹ can equally help viewers to imaginatively engage with events across time and space by employing formal and conceptual visual strategies of image making and display that push the image beyond their easy interpretation. Photography, through its unique relationship to space-time compression, offers a valuable tool to envision the imperceptible and imagine the possibilities by critically engaging with photography's relationship to the real.

Critical Realism and the Anxiety of Uncertainty

Today we face an uncertain future, as scientists remind us with ever increasing urgency, a future that millions of dollars' worth of computer modelling could never perfectly

³⁶⁹ Ibid., 264–265.

³⁷⁰ Ibid., 15.

³⁷¹ These terms come with them their own historical, sociological, and artistic connotations, which have been explicated elsewhere. I include them all here because I believe that, rather than seeing them as alternative approaches, they can be understood as sharing a similar ethos. For more on the debates and terminology see: Brett Abbott, *Engaged Observers: Documentary Photography Since the Sixties*. (Los Angeles: J. Paul Getty Museum, 2010); Michelle Bogre, *Photography as Activism: Images for Social Change*. (Burlington, Mass.; Abingdon, Oxfordshire: Focal Press, 2011); Meg McLagan and Yates McKee, eds., *Sensible Politics: The Visual Culture of Nongovernmental Activism*. (New York : Cambridge, Massachusetts: Zone Books ; Distributed by the MIT Press, 2012).

predict. Ulrich Beck points to this as a major obstacle to creating change in the global arena when he asks, “How does modern society deal with self-produced uncertainties?”³⁷² Yes, human driven climate change is taking place now, but can it still be stopped? Yes, the glaciers of the far north are melting, causing sea levels to rise, but how quickly? Yes, biodiversity is decreasing at an alarming rate, but when will it become too late to stop it? This anxiety of scale, and the accompanying sense of uncertainty, marks our cultural moment as what Beck has named the ‘world risk society’.

Slow violence is an apt metaphor for the challenge of our current anthropogenic age. Yet it is not only a sense of temporal uncertainty that characterizes Nixon’s slow violence, or Beck’s world risk theory, but also a spatial one. In a world where our food supply is global, and increasing awareness of the environmental practices of nations halfway around the world impact the decisions one makes at the grocery store, our planetary consciousness has become a central impetus in everyday life. As the burden of global debt places the poorest nations at the mercy of the World Trade Organization, and the International Monetary Fund’s pro-development projects that privilege agri-business and sweat-shop production, how can we *not* acknowledge the global import of our environmental crisis? Photography contributes to this sense of temporal and spatial deterritorialization, as it pictures and circulates images of our global consumption patterns across platforms, from travel magazines to the food section of the local newspaper. These images contribute to our expectations for unlimited access to the goods and services of the global market, just as they inspire people to react against this excess through the embrace of local food movements such as the 100-mile diet.

One of the ways that artists and cultural producers deal with the uncertainty of the world, no matter what the catalyst, is by creating their own response. As cultural theorist Bernd Stiegler has written, “photography represents a will to see reality; it is a materialization of certain conceptions of reality in images.”³⁷³ Stiegler is articulating a position on

³⁷² Beck, *World at Risk*, 90.

³⁷³ Bernd Stiegler, “Photography and the Medium of Reflection,” in Robin Kelsey and Blake Stimson, eds., *The Meaning of Photography* (New Haven: Clark Art Institute, Yale University Press, 2008), 194.

photography that complicates both the truth-value of the photograph and the simplistic interpretation of photographer as creator of meaning. Instead Stiegler clarifies the relationship between viewer and image as dynamic and relational when he writes that, “through photography we secure those truths we inhabit and regard as our reality.”³⁷⁴ This supports Elizabeth Edwards’s call for an understanding of photography as socially, temporally, and relationally informed, which I raised in Chapter Two in my discussion of eco-photography’s rhetorical flexibility and movability. Stiegler reminds us to look beyond the framing of an image and right through its window frame to understand how we as viewers contribute to the image’s meaning. These provocative words suggest that photography can help to reveal that which seems natural in our local and global environments—and offers a unique perspective on the growing ecological crisis—by bringing our own sense of risk to the fore.

Yet photography also has its limitations, grounded in what Allan Sekula has called “the myth of photographic truth.”³⁷⁵ By looking beyond the ‘reasoned information’, and reading the image ‘against the grain’ as Sekula so poetically asked us to do, the possibility for a deeper engagement with social, environmental, and political issues is present.³⁷⁶ Starting in the 1980s, Sekula and others—including Martha Rosler—promoted the idea of “critical realism” in photography through their writing and artistic practice, in part as recuperation of ‘the real’, which had been reduced, argues Bill Roberts, to an apolitical and irredeemable framework by many postmodernist thinkers.³⁷⁷ Influenced by post-structuralism in his early writings, where he interrogated the naturalization of photographic objectivity, Sekula nevertheless continued in his artistic work to engage with realism to critique social, institutional, and historical power

³⁷⁴ Bernd Stiegler, “Photography and the Medium of Reflection,” in *ibid.*, 195.

³⁷⁵ Sekula, “Photography in Print,” 454.

³⁷⁶ Allan Sekula, *Photography Against the Grain: Essays and Photo-Works 1973-1983*, The Nova Scotia Series 16 (Halifax, N.S: Press of the Nova Scotia College of Art and Design, 1984).

³⁷⁷ Bill Roberts, “Production in View: Allan Sekula’s Fish Story and the Thawing of Postmodernism,” *Tate Papers*, no. 18 (Autumn 2012), <http://www.tate.org.uk/research/publications/tate-papers/production-view-allan-sekulas-fish-story-and-thawing-postmodernism>.

dynamics. His series *Geography Lessons* (1989-1995), particularly the third component of the trilogy, *Fish Story* (1987-1997),³⁷⁸ is acknowledged to be powerful commentary on post-industrial capitalism's geographical and cultural reach in the form of a visual and material history of globalization.³⁷⁹ Critical realism in these terms is an active process that employs realism to strip bare the dominant mechanisms of contemporary social order to produce a "coherent political opposition."³⁸⁰ Sekula writes that only through the fundamental understanding of realism's ideological limitations could "[...] a critical representational art, an art that points openly to the social world and to possibilities of concrete social transformation, [...] develop."³⁸¹

For Sekula, critical realism manifests in the dialectical and contradictory possibility of photography, caught between the objective and subjective reading of the image. One of Sekula's many strategies to represent this dialectical understanding of the medium involves a form of photographic sequencing, using multiple images to represent his subject, in an attempt to avoid any overarching story or grand narrative (Figure 60). Sometimes in the form of slide shows, films, or sequential presentations of images, Sekula combines text with his images to reinforce the "dialogical pedagogy" that he makes central to the function of his work.³⁸² This reengagement with realism, according to Hilde Van Gelder and Jan Baetens, encourages an active audience and artistic experimentation that,

[...] enables it to link its realist content with all the questions that proved so crucial for 20th century avant-garde: the dialogue with an active audience, the limits of a medium, the social impact of art, the very distinction—and

³⁷⁸ Allan Sekula, *Fish Story*, 2nd ed. (Dusseldorf, Germany: Richter Verlag, 2002), http://fadingtheaesthetic.files.wordpress.com/2013/08/fish_story.pdf.

³⁷⁹ Imre Szeman and Maria Whiteman, "Oil Imag(e)inaries: Critical Realism and the Oil Sands," *Imaginations* 3, no. 2 (2012): 48.

³⁸⁰ Allan Sekula, "Dismantling Modernism, Reinventing Documentary (Notes on the Politics of Representation)," in *Photography Against the Grain: Essays and Photo-Works 1973-1983*, The Nova Scotia Series 16 (Halifax, N.S: Press of the Nova Scotia College of Art and Design, 1984), 56.

³⁸¹ Ibid.

³⁸² Ibid.

even more the very refusal of the distinction—between art and life.³⁸³

The Geographical Imaginary and ‘Spacetime’

In their seminal collection *Picturing Place: Photography and the Geographical Imagination*, Joan Schwartz and James Ryan write that photography offers unique insight into spatial and temporal concerns, as a method of collecting knowledge about the world and by making “[...] the past a palpable part of the present.”³⁸⁴ By extension, photography is the perfect mediator of the geographical imaginary, circulating as it does through time and space, and helping to foster forms of imagined ‘global’ communities, to adapt Benedict Anderson’s terminology,³⁸⁵ that go beyond national limits towards the planetary. Photography has been especially valuable as a complement to the deterritorialization of people through travel and tourism: images of travel have now become travelling images.³⁸⁶ The digital age has once again transformed the contribution of photography to the geographical imaginary. Not only are people and images increasingly mobile but, as Suzanne Paquet has argued, today anyone can view anywhere from a single location: the Internet.³⁸⁷

While Marshal McLuhan once coined the term “the global village” to describe the planetary connectivity of the electronic media age, recent scholarship has taken this idea into the realm of the imaginary and pushed against the notion of a discrete and singular global community.³⁸⁸ Arjun Appadurai, taking umbrage with the uniformity of the ‘global village’ model, instead develops his theory about the disjunctive impact of modernity on

³⁸³ Jan Baetens and Hilde van Gelder, eds., *Critical Realism in Contemporary Art: Around Allan Sekula’s Photography* (Leuven, Belgium: Leuven University, 2006), 10.

³⁸⁴ Schwartz and Ryan, “Picturing Place,” 2003, 5.

³⁸⁵ Benedict R. O’G Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism*, Rev. and extended ed., 2nd ed. (London ; New York: Verso, 1991).

³⁸⁶ Suzanne Paquet, “Voyage des images — photographies, imaginaires géographiques et production paysagère,” in *Le paysage entre art et politique*, ed. Suzanne Paquet and Guy Mercier (Québec, Qué.: Presses de l’Université Laval, 2013), 114.

³⁸⁷ *Ibid.*, 123–124.

³⁸⁸ Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization*, Public Worlds (Minneapolis, MN: University of Minnesota Press, 1996), 29–31.

'global cultural flows'. He uses a spatial metaphor to break down the frames through which contemporary culture circulates, describing five spheres of movement: ethnoscaples, mediascaples, technoscaples, financescaples, and ideoscaples. These landscape-like spaces are, in Appadurai's terms, 'imagined worlds': "[...] the multiple worlds that are constituted by the historically situated imaginations of persons and groups spread around the world."³⁸⁹ For Appadurai, these terms are founded on the deterritorialized condition of the current global system, in which people, commodities, and media are fragmented around the globe.

Drawing on Appadurai's discussion of modernity and globalization in her book *Media Representations and the Global Imagination*, Shani Orgad examines the role of the media, including photography, in representing and shaping the global imaginary. For Orgad, the global imaginary is messy, contradictory, dialectical, emotional, and factual, and "the foundational force and resource for overcoming the distance created by globalization, symbolically connecting distant localities and facilitating 'the intensification of worldwide social relations'."³⁹⁰ Defined as a form of representation whose "[...] main function is to produce meaning, to capture in some way 'reality' in signs,"³⁹¹ the media offers viewers "[...] symbolic resources that feed individual and collective imaginations."³⁹² While Orgad acknowledges that the global imagination can be problematic as a framework, particularly when the 'global' is often used as a coded term for a dominant Western viewpoint, she nevertheless argues persuasively that the "co-constitutive relation between media representation and the global imagination," is central to understanding how "social relations can be 'stretched' and can exist across space and time [...]."³⁹³

Over a number of decades, David Harvey has explored the social construction of space and time through his contributions to the environmental humanities and social sciences.

³⁸⁹ Ibid., 33.

³⁹⁰ Shani Orgad, *Media Representation and the Global Imagination*, Global Media and Communication (Cambridge, UK ; Malden, MA: Polity, 2012), 50.

³⁹¹ Ibid., 17.

³⁹² Ibid., 41.

³⁹³ Ibid., 50.

His books on geography, justice, and human development have critiqued the very foundations of our global development policies and institutional systems and call for a radical reconsideration of these approaches.³⁹⁴ In recent years, Harvey has developed a complex argument about the relationship of time, environment, space, and justice. Harvey's framework of space-time compression and his dialectic model of 'spacetime' are useful for considering how place, environment, and space contribute to the awareness of global issues, and environmental consciousness and justice, in particular.

Simply put, space-time compression, according to Harvey, is a result of the rapid speeding up of the advanced capitalist world, "forced into a major revolution in production techniques, consumption habits and political-economic practices."³⁹⁵ The temporal reordering of the capitalist age, from turnover times of industrial and consumer production, has impacted "all aspects of cultural and political life."³⁹⁶ For Harvey, this is reflected in literary and philosophic discourses, which demonstrate an increase in "[t]hemes of creative destruction, of increased fragmentation, of ephemerality (in community life, of skills, of lifestyles)."³⁹⁷ Harvey emphasises that the dematerialization of distance, through cyberspace and the digital circulation and consumption of images, is reflected in our current global anxieties about identity, community, and place and the resulting geopolitical fragmentation.³⁹⁸ For this reason, "it is imperative to come to terms with the historical geography of space and time under capitalism."³⁹⁹

Harvey's solution is dialectical, placing historical events and people in relations to materialist and institutional forces. He develops a model of 'spacetime' in which events

³⁹⁴ David Harvey, *Social Justice and the City* (Baltimore, MD: Johns Hopkins University Press, 1973); David Harvey, *Spaces of Hope* (Berkeley: University of California Press, 2000); David Harvey, *Justice, Nature, and the Geography of Difference* (Cambridge, MA: Blackwell Publishers, 1996); David Harvey, *Spaces of Global Capitalism* (London; New York, NY: Verso, 2006); David Harvey, *The Enigma of Capital and the Crises of Capitalism* (Oxford : New York: Oxford University Press, 2010).

³⁹⁵ Harvey, *Justice, Nature, and the Geography of Difference*, 245.

³⁹⁶ *Ibid.*

³⁹⁷ *Ibid.*

³⁹⁸ *Ibid.*, 246–247.

³⁹⁹ *Ibid.*, 247.

are understood within their spatio-temporal context in historical time and geographical space. Harvey proposes that 'spacetime' is a balance of three states – absolute, relative, and relational – held in tension with the understanding of space (drawing on Henri Lefebvre) as materially sensed, conceptualized, and lived.⁴⁰⁰ He demonstrates how absolute space (the site itself) interacts with relative space (its location in context with the economic and social spaces around it) and its relational space (how the site relates to the rest of the world). Issues of individual and collective memory (relational) and its meaning to the community and nation in time (past, present, and future) are raised by the site. This formulation structures the “conditions of possibility” that Harvey advocates for creating a workable model of a just global world.⁴⁰¹

Harvey's model, in another sense, is inherently *ecological* in the way that it integrates social, economic, and environmental considerations with discussions of current and historical power dynamics. Picturing this ecological dynamic is what eco-photography attempts to do. From images viewed on my computer in Montreal of the Amazonian rainforest to the current pro-democracy protests taking place in Hong Kong, photography is inseparable from not only the current state of our planet, but also actively contributes to and challenges our sense of global injustice and instability. The deterritorialization of photography—which has been so successfully achieved through the development of digital technologies and through the economic, consumerist, and cultural behaviours that global capitalism has encouraged—has contributed to the 'ecologicalization' of the medium. The global geographical imaginary is now inseparable from the ecological, and the economic, and the social, as the world has become more visually and spatially interconnected.

Banerjee: Local to Global and Human to Non-Human

Subhankar Banerjee's ongoing photographic project on the Arctic began in 2000 when he decided to travel north and photograph polar bears in their habitat. His self-

⁴⁰⁰ David Harvey, *Cosmopolitanism and the Geographies of Freedom*, Wellek Library Lectures (New York: Columbia University Press, 2009), 133–134.

⁴⁰¹ *Ibid.*, 250 More discussion on cosmopolitanism will be raised in the next chapter with a particular focus on ecological issues and global cultural identity.

acknowledged naivety about one of the fiercest predators on the planet was quickly shattered by his experience of watching one polar bear eat the carcass of another (Figure 61).⁴⁰² Since then, he has become an outspoken activist for the preservation of the Arctic and the traditional way of life of both animals and people living in the north and against the proposed drilling in the Arctic National Wildlife Refuge. His activism takes the form of writing as well as photographing: he has written for the Huffington post, published journal articles on his experiences, and edited the 2012 collection *Arctic Voices: Resistance at the Tipping Point*.⁴⁰³ His images have been exhibited around the world in art galleries and science museums, in magazines, newspapers, and both academic and activist books. Banerjee is unafraid to openly acknowledge his activist intentions or to have his images used by activist causes.

His *Arctic* project (which nests within his titled *Land-at-home: Arctic and Desert Series*) is made up of several ongoing smaller series.⁴⁰⁴ In *Arctic*, Banerjee continually connects the landscape, the animals, and the people to the larger issues of anthropogenic climate change and resource extraction. In attempting to describe this complex issue of human and environmental justice and land rights, Banerjee uses his images to reorient the viewer's gaze towards a landscape that may seem unfamiliar to the largely urban peoples of planet earth, one in which animals and humans co-exist in, if not exactly harmony, then close proximity. His focus has been on the Gwich'in and Inupiat peoples

⁴⁰² Subhankar Banerjee, "Photography's Silence of Non-Human Communities," in *18th Biennale of Sydney 2012: All Our Relations*, ed. M. Catherine de Zegher and Gerald McMaster, 1st ed ([Woolloomooloo, N.S.W. ; Ghent: Biennale of Sydney ; Distributed internationally by MER. Paper Kunsthalle, 2012), 361.

⁴⁰³ Subhankar Banerjee, "ClimateStoryTellers.org," *Climate Story Tellers*, August 26, 2010, <http://climatestorytellers.org/>; Subhankar Banerjee, ed., *Arctic Voices: Resistance at the Tipping Point*, 1st ed (New York: Seven Stories Press, 2012); Subhankar Banerjee, "Ought We Not to Establish 'Access to Food,'" *Third Text* 27, no. 1 (2013): 33–43.

⁴⁰⁴ The multi-project series includes *Oil and the Caribou* (2001-), *Gwich'in and the Caribou* (2001-), *Oil and the Geese* (2006-), *Yukaghir and the Climate* (2007-), *Coal and the Caribou* (2006-), *Even and the Climate* (2007-), *Oil and the Whales* (2001-), *Inupiat and the Whales* (2001-). See Subhankar Banerjee, "Subhankar Banerjee: Arctic Series Photographs," *Subhankar Banerjee*, accessed September 29, 2014, <http://www.subhankarbanerjee.org/selectphotographs.html>.

of Alaska and “on a tradition of sustainable land use practices that are disappearing rapidly from industrialized societies.”⁴⁰⁵ *Arctic* reflects a concern with wilderness, wildlife, and people, picturing multiple spatial and temporal scales of environmental injustice.

In *Caribou Migration I* (Figure 62), Banerjee photographs the migrating Porcupine Caribou herd from an aerial perspective, picturing the annual migration across the frozen Coleen River as a chaotic and beautiful ritual of movement and pattern. Shot from an enormous height, the caribou appear as small dots upon a great frozen expanse, where snow and ice create a coloured pattern in shades of pale blue and white. By looking carefully, it is possible to see the paths of the caribou as thin lines drawn across the land. The photograph's frame does not surround the running herd as a whole. Instead, the group of animals are cut off at the edges, leaving the viewer to imagine the vastness of the herd. As the caribou of North America yearly travel thousands of kilometers across land, it is understandable how fossil fuel exploration and extraction in the Arctic National Wildlife Refuge, the porcupine Caribou herd's calving grounds, could have a serious impact on their migration and existence. *Caribou Migration I* represents this vastness of scale, and gives a sense of how crucial the expanse of territory is to a species such as the caribou.

The image entitled *Caribou Tracks on Coal Seams II* (Figure 63) shows the tracks of the Western Arctic Caribou herd who annually migrate to their calving ground across the surface seams found in the Utukok Uplands of Alaska. Shot from ground height this time, Banerjee captures a textured surface in shades of charcoal and rust. Fog obscures the background, making the vast mound of coal appear both isolated and ceaseless, contained by the picture's frame and the atmospheric moisture yet potentially unending. The tracks barely register as such, scratched as they are on a surface that seems unworldly, unchangeable. According to the photographer, “the photograph shows tracks on coal seams made by the Western Arctic caribou herd over a very long period —

⁴⁰⁵ Subhankar Banerjee, “Subhankar Banerjee Projects. Land-as-Home: Arctic Series,” *Subhankar Banerjee*, accessed September 29, 2014, <http://www.subhankarbanerjee.org/projects.html>.

perhaps many centuries or even millennia."⁴⁰⁶ As a result of their ongoing passage, the caribou have helped clear the land of vegetation and exposed the underlying coal to human interest. By doing so, they make available the very thing that could bring about their destruction. While this territory has yet to be mined, this image of caribou traces across a coal-covered landscape imaginatively evokes the passing of species from a place that would be utterly transformed by human mining.

Of course, the caribou have no respect for national boundaries and cross into Canada and through the Ivavik and Vuntut National Parks, which were both established in the Yukon as part of land claim agreements between the Canadian government and the Inuvialuit and Gwich'in people respectively. In 2001 and 2002, Banerjee spent fourteen months in the Gwich'in town of Arctic Village, Alaska learning about their traditional ways of living from hunters, elders, and activists, who rely on the Porcupine caribou herd as a source of food and as a cultural and spiritual signifier. The Gwich'in have been at the forefront of the fight against drilling in the Arctic National Wildlife Refuge, arguing that to allow it would be a violation of their human rights.⁴⁰⁷ In *Danny Gimmel and Rocky John, Gwich'in and The Caribou* (Figure 64), we see two men in parkas stripping the carcass of a caribou that has been freshly killed. One man holds back a foreleg while the other, kneeling, has his hands inside the recently made space between the pelt and the corpse. Both look down at the body that is partially skinned, intent on their task and prize. Some blood has spilled from the skinning process, splashed along the back of the animal and running down the pelt but mostly the animal's form is clean, the muscles and sinew easy to make out. The red blood from the body of the animal stands out starkly against the black winter clothes of the two men and the freshly fallen snow that lies all around them. One can almost imagine the crisp moist air that follows a fresh and heavy snowfall, and the warmth of the flesh on the men's bare hands.

⁴⁰⁶ Subhankar Banerjee, "Caribou Tracks on Coal Seams II," *Subhankar Banerjee Photographs*, accessed October 15, 2014, <http://www.subhankarbanerjee.org/photohtml/coalincaribou5.html>.

⁴⁰⁷ Gwich'in Steering Committee, The Episcopal Church, and Richard J. Wilson, *A Moral Choice for the United States: The Human Rights Implications for the Gwich'in of Drilling in the Arctic National Wildlife Refuge*, 2005.

In this image, we see yet another level of scale: this time, the human perspective is privileged over that of animal or landscape. While the human figure may be central to the image, this is a destabilizing view of another's existence, a far cry from the average Westerners experience of food production or wilderness appreciation. Yet, the rights of the animal or, in this particular image, the human-animal, to habitation and food are preeminent in all these images.⁴⁰⁸ From the issue of oil and gas drilling in a fragile ecosystem, it is not a difficult leap to consider how climate change, a consequence of fossil fuel consumption, might be altering both the caribou's and the Gwich'in people's ways of life. By trying to bring the issue of human-animal coexistence to his audience, as well as questioning the underlying assumptions of what the proper use of nature looks like, Banerjee evokes a global environmental justice understanding of photography and the issues facing the Arctic.

Banerjee's *Arctic* series also emphasizes the possibility of risk to an environment, and the animals and people who live there, but they show a place that still seems to be pre-catastrophe, something Banerjee is fighting for with his photography and activism. Climate change has impacted much of the marine wildlife in the region, as well as the traditional hunting practices and homeland of the indigenous people and settler communities in the Arctic, as documented by the melting of the Arctic ice shelves and the permafrost.⁴⁰⁹ Another major threat comes from the United States government who wishes to open up the Arctic National Wildlife Refuge to offshore oil and gas exploration.⁴¹⁰ These levels of risk, coming from a local, regional, national and even transnational interest in the Arctic, become part of the environmental rhetoric of these images. Banerjee effectively stages the multiple levels of risk, combining ethics and

⁴⁰⁸ For a deeper discussion of human and non-human rights see: Banerjee, "Ought We Not to Establish 'Access to Food.'"

⁴⁰⁹ Environmental Protection Agency, "Climate Change: Climate Impacts in Alaska," *United States Environmental Protection Agency*, September 9, 2013, <http://www.epa.gov/climatechange/impacts-adaptation/alaska.html#Other>.

⁴¹⁰ For more on this issue, see Finis Dunaway's discussion of how Banerjee's exhibition at the Smithsonian Institution's Museum of National History was impacted by the political debates in the United States concerning the proposed drilling in the Arctic National Wildlife Refuge. Dunaway, "Reframing the Last Frontier: Subhankar Banerjee and the Visual Politics of the Arctic National Wildlife Refuge."

aesthetics to make the point that the Arctic landscape is not a faraway barren wasteland but integral to the health and well-being of the planet.

Taken together, these three images, only a small part of the larger *Arctic* series, tell a compelling story about the current risks to the environment and the greater future threat of displacement and deterritorialization to humans and animals alike. Banerjee's images show slow violence as not only a local justice issue but also one that is shaped by economic and political decisions made thousands of kilometers away. By weaving together the different genres and visual scales of landscape, wildlife, and portrait photography, Banerjee offers us a way into the complexity of slow violence effecting this small part of the Arctic with its hundreds of species. Banerjee's *Arctic* project demonstrates how, through multiple scales of perspective, photography can offer an infinite and variable sense of the global, showing how spacetime and slow violence are co-constitutive conditions.

The Politics of Environmental Justice

David Harvey's formulation of 'spacetime' speaks to his concerns about justice and injustice in a globalized world, where issues of local place and identity rub up against uneven global development and insidious environmental issues, from climate change to nuclear risk. To balance a sense of space and time, or local versus global environmental concerns, requires an understanding of how social, economic, institutional, and cultural forces have material and structural power over human and non-human lives. Yet, there is, as Rob Nixon has clearly articulated, a pattern of temporal-spatial inequality that cannot be accounted for without considering the intersectional dynamics of spacetime, particularly the impact of poverty and unequal power dynamics across the global arena.

It is a fundamental of the environmental justice movement that the marginalized, whether disenfranchised by class, nationality, race, sexuality, or gender, suffer the most from environmental inequality and discrimination. The beginnings of the environmental justice movement are often traced to a single demonstration in the United States. In 1982, local protestors in Warren County, North Carolina, a predominantly African-American community, drew attention to the illegal dumping of PCP-laced soil in their local

landfill.⁴¹¹ J. Timmons Roberts credits the positive impact of this protest to the reverberations that the American civil rights movement of the 1950s and 1960s had on ideas about social justice.⁴¹² This led to the coining of the term “environmental racism” by Benjamin Chavis, and the establishment of the idea that situating toxic waste could be a form of discrimination.⁴¹³ A ground breaking study by the United Church of Christ Commission for Racial Justice (1987), demonstrated that people of colour were unfairly shouldering the toxic burden of the larger more affluent society.⁴¹⁴ Two other key events during the early nineteen-nineties contributed to the growth of the environmental justice movement. In 1990, a series of letters was sent to the “Group of Ten” environmentalist organizations accused the organizers of not representing people of colour and the working poor through their environmental advocacy. One year later, the First National People of Color Environmental Leadership Summit took place in Washington D.C. and delegates developed the seventeen “Principles of Environmental Justice” that have been foundational to the movement.⁴¹⁵

Yet some scholars have critiqued the dominant framework of environmental justice for its

⁴¹¹ It was only twenty years later that the contaminated site was actually cleaned up; once again demonstrating that environmental injustice is not only difficult to see but easier to ignore.

⁴¹² Roberts writes: “The idea of unequal exposures by class was not new, since they were documented in the 1970s; however, because the United States is a nation that lives in denial of class-based inequality, the movement did not take off until it was strengthened by the strong sense of the term ‘justice’, built by the civil rights movement’s attack on racism.” J. Timmons Roberts, “Globalizing Environmental Justice,” in *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald D. Sandler and Phaedra C. Pezzullo, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2007), 285.

⁴¹³ JoAnn Carmin and Julian Agyeman, eds., *Environmental Inequalities Beyond Borders: Local Perspectives on Global Injustices*, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2011), 4.

⁴¹⁴ Dale Jamieson, “Justice: The Heart of Environmentalism,” in *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald D. Sandler and Phaedra C. Pezzullo, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2007), 88.

⁴¹⁵ Ronald D. Sandler and Phaedra C. Pezzullo, eds., *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2007), 3–7 See also Appendix A for the “Principles of Environmental Justice,” pp. 321-323.

focus on *human* justice. Kevin Deluca argues that the shift in environmentalism towards environmental justice has reframed the discussion to privilege a form of anthropocentrism that ignores the importance of wilderness for its own sake and instead treats the environment as a resource for human consumption. Deluca sees this as a tragic trend in environmentalism: “from a position heavily indebted to postmodernism, wilderness has been savaged as a racist and classist human construct invented by elite whites and corporations.”⁴¹⁶ His critique of the environmental justice movement points to the difficult decisions that are sometimes made at the cost of social and cultural traditions:

The environmental crisis is the result of a multitude of human practices. If we are going to make any progress in stopping environmental destruction, we are going to have to give up many cultural practices, no matter how much we like them. For example, in the South, from where I am writing, cars and the right to drive them whenever and wherever one wants are considered part of one’s cultural heritage [...] When it comes to saving ecosystems and the planet’s health, culture is often the problem and should not be a trump card used to stop protecting species and ecosystems.⁴¹⁷

Deluca argues that acknowledging both the value of human life, and the injustice of environmental disasters, should not come at the expense of biodiversity and the existence of wilderness for its own sake.

Picking up this thread of critique in his essay, “Does Environmentalism Promote Injustice for the Poor?” Peter Wenz responds to several of the criticisms levelled from the environmental justice movement towards environmentalism or, as he prefers to call them, the ‘anthropocentric’ and the ‘nonanthropocentric’ environmentalists. For Wenz, the argument for environmental justice is rooted in the notion that environmental justice is a human right and that, “justice increases when the benefits and burdens of social

⁴¹⁶ Kevin Michael Deluca, “A Wilderness Environmentalism Manifesto: Contesting the Infinite Self-Absorption of Humans,” in *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald D. Sandler and Phaedra C. Pezzullo, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2007), 27.

⁴¹⁷ *Ibid.*, 31.

cooperation are born more equally, except when moral considerations or other values justify greater inequality.”⁴¹⁸ Continuing in this social justice framework, Dale Jamieson writes that environmental justice,

concerns the distribution of the benefits and burdens of our interactions with the environment, the need for participation in decisions that concern the environment, and the importance of expanding our conception of who is within the domain of justice.⁴¹⁹

For Jamieson, this requires an appreciation that humans and nature are both part of each other and separate—knowable and unknowable—and that we must not ignore the rights of the non-human to justice or privilege the human above all else.

Munem Wasif: Locating the Human in Slow Violence

Munem Wasif is a Bangladeshi photographer and curator whose work focuses on contemporary social issues in his home country. He self-identifies as a “storyteller of the humanistic tradition”⁴²⁰ and his images reflect an aesthetic indebted to photographers from Sebastiao Salgado to W. Eugene Smith.⁴²¹ More than just an aesthetic relationship—clearly established through his use of black and white, chiaroscuro, and portraits of the suffering—there is a strong sense of emotional depth in his images that connects his representations to the previous generation’s work. Smith’s photo series *Minimata* (1977-1979), on the mercury contamination of local waters in the Kyushu district of Japan, focused on the people who fought for recognition of their condition and its impact on their community and on the Chisso Corporation, who denied any wrongdoing or compensation to the people effected until years after Minimata disease was named. (Figure 10) Smith’s project was a more direct example of slow violence and

⁴¹⁸ Peter Wenz, “Does Environmentalism Promote Injustice for the Poor?,” in *Environmental Justice and Environmentalism: The Social Justice Challenge to the Environmental Movement*, ed. Ronald D. Sandler and Phaedra C. Pezzullo, Urban and Industrial Environments (Cambridge, MA: MIT Press, 2007), 58.

⁴¹⁹ Jamieson, “Justice: The Heart of Environmentalism,” 98.

⁴²⁰ Munem Wasif, “Bio | Munem Wasif,” *Munem Wasif*, accessed August 22, 2014, <http://www.munemwasif.com/bio/>.

⁴²¹ Smith and Smith, *Minamata*; Sebastião Salgado, *Sahel: The End of the Road* (Berkeley, CA: University of California, 2004).

injustice as it took as its subject a clear example of toxic contamination and cover-up by corporate and governmental powers. Salgado's images of the people of the Sahel desert (Figure 65), photographed in the nineteen-eighties, picture a more complex situation: the drought and famines that take place in the Sahel region of Africa—a horizontal belt of fertile grassland and shrub that crosses the continent from the Atlantic to the Red Sea—are periodic and complex phenomena that have both socio-political and environmental contributing factors, ranging from climate change, to changing sea temperatures, to desertification, to erosion from overgrazing, to human displacement from war and agricultural instability.⁴²² Perhaps unsurprisingly, both of these humanitarian crises would today be understood as environmental justice crises, in which local human needs and desires conflicted with corporate and governmental concerns.

Wasif's project *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, created with the support of the Prix Pictet for the UK charity WaterAid,⁴²³ employs a strong stylistic framing to shape the viewer's response to his subject. Shot in black and white, the lush tonality and dramatic chiaroscuro of his images aestheticize his subject in a way that colour cannot: the photographs possess a depth and texture that gives a strong gravitas to each image. Wasif wants us to take his images seriously and, I would argue, he also wishes to imbue the people and the places he pictures with the same solemn dignity. In this series, we are shown how humans, and their right to safe water and living conditions, cannot be separated from their environment.

While *Salt Water Tears* is very much a human justice project, at its root is an issue of environmental inequality and imbalance. The landscape that Wasif pictures is one upon which human livelihood depends: a livelihood threatened by climate change, national economic policy, and environmental short-sightedness. Shot in the Satkhira, the south-western region of Bangladesh, these images could easily be taken in any of the mangrove wetlands of the Sundarbans, the Southern region of the country where the

⁴²² Claude Raynaut et al., *Societies and Nature in the Sahel*, Routledge/SEI Global Environment and Development Series 1 (London ; New York: Routledge, 1997).

⁴²³ Munem Wasif, *Salt Water Tears: Lives Left Behind in Satkhira Bangladesh* (London: Prix Pictet, 2009).

waters of the Himalayas drain towards the Bay of Bengal, including the waters of the three great rivers, the Ganges, the Brahmaputra, and the Meghna. On the Indian side, the Sundarban National Park forms a sanctuary for wildlife and habitat, while in Bangladesh there is an established Sundarban Forest Reserve: all are part of the UNESCO Sundarbans World Heritage site.⁴²⁴ A remaining three-hundred and fifty members of the world's most endangered species, the Bengal Tiger, live in the coastal region, as well as endangered Ganges and Irawadi dolphins, estuarine crocodiles, and the critically endangered endemic river terrapin (freshwater turtle).

The Satkhira is a densely populated region, despite the constant exposure to flooding and cyclones that affect the low-lying marsh region. In 1994, the government opened up the coast to commercial shrimp farming,⁴²⁵ a policy that transformed traditional fishing practises and led to the displacement of farmers in favour of the mono-culture crop. As a result, there has been increased salinity, reduced agricultural land, and destruction to the great mangrove forests that protect the coast from storms and offer habitat for a diverse amount of life.⁴²⁶

In Wasif's images, there is little evidence of biodiversity. The ground is muddy, flat and covered in footprints. These are not the brightly coloured tourist-focused pictures one can see by typing "the Sundarban region" into an Internet search engine or viewed in glossy travel books, showing lush mangroves and ferocious man-eating tigers poised majestically by the water's edge.⁴²⁷ One image shows the stump of an old tree (Figure

⁴²⁴ United Nations Educational, Scientific and Cultural Organization, "The Sundarbans - UNESCO World Heritage Centre," *UNESCO*, accessed September 27, 2014, <http://whc.unesco.org/en/list/798>.

⁴²⁵ Wasif, *Salt Water Tears: Lives Left Behind in Satkhira Bangladesh*, 7.

⁴²⁶ Mokhlesur Rahman, M. Monirul Qader Mirza, and Anisul Islam, "Human Intervention on Water Ecosystem and Implications for Fisheries Resources in Bangladesh," in *Ecosystems and Integrated Water Resources Management in South Asia*, ed. E. R. N. Gunawardena, Brij Gopal, and Hemesiri Kotagama (London: Routledge, 2012), 96.

⁴²⁷ Most of these images lead to tour company websites for European travellers: Google Images, "Sundarbans - Google Images Search," accessed September 27, 2014, <https://www.google.ca/search?q=sundarbans&client=firefox-a&hs=ZkH&rls=org.mozilla:en-US:official&channel=sb&source=Inms&tbm=isch&sa=X&ei=rOsmVKuNKoiNyATPwoH4>

66): the caption reads “increased salinity in water turned fertile lands into barren grounds.”⁴²⁸ In another, a man is shown dragging Golpata palm leaves through an open area of forest in the Sundarbans (Figure 67). The forest floor is wet and muddy, covered in stumps where branches have already been harvested. Wasif shoots the image asymmetrically, with little concern for conventional composition or the pretty scenes that attract travellers to the region. The depth of focus leaves the edges of the image blurry. The forest seems chaotic, unstable, as if the ground cannot support the photographer in movement, nor the trees rooted in the earth. His deliberate style signals a point-of-view that is meant to seem immediate, dramatic, and unnerving: would you wish to walk through a forest where tigers are known to attack?

Bangladesh is a country of water: floods, monsoons, and cyclones bring freshwater, rainwater, and brackish seawater in and out of the country, cycling through the seasons and bringing both fertility and destruction to the land. Besides the issue of water salinity, Bangladesh has serious water contamination issues from natural arsenic and other pollutions.⁴²⁹ In Satkhira, people must travel hours a day to fetch water from reliable sources. Water borne diseases are a major risk so this task, which falls mainly to women, is essential to daily routine.⁴³⁰ Climate change promises to increase the salinity of the water, increase rainfall, and increase sea levels in Bangladesh: in the next twenty years it is predicted that the sea level will rise by thirty centimeters.⁴³¹ Changes in

DA&ved=0CAgQ_AUoAQ&biw=1704&bih=677; Yet examples of more professional images of the famous “man-eating” tigers of Bengal exist. See Sy Montgomery, *The Man-Eating Tigers of Sundarbans* (Boston: Houghton Mifflin, 2001).

⁴²⁸ Wasif, *Salt Water Tears: Lives Left Behind in Satkhira Bangladesh*, 15.

⁴²⁹ Fuad H. Mallik and M. Aminur Rahman, “Indigenous Knowledge of Flood Risk Management in Bangladesh,” in *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy*, ed. Rajib Shaw, Anshu Sharma, and Yukiko Takeuchi, Natural Disaster Research, Prediction and Mitigation Series (New York: Nova Science Publishers, 2009), 274.

⁴³⁰ Farhana Sultana, “Spaces of Power, Places of Hardship: Rethinking Spaces and Places Through a Gendered Geography of Water,” in *Gendered Geographies: Space and Place in South Asia*, ed. Saraswati Raju, 1st ed (New Delhi: Oxford University Press, 2011), 298.

⁴³¹ Shymal Chandra Bhadra, A. Atiq Rahman, and Md. Golam Rabbani, “Impact of Climate Change on Water Resources in South Asia with Special Reference to Bangladesh,” in *Ecosystems and Integrated Water Resources Management in South*

regional water flow patterns will see both more and less fresh water coming through the rivers systems because of faster melting glaciers and increasing droughts.⁴³²

In this series, water is represented in Wasif's images in two distinct ways: as something precious to collect and to drink, and as a flat impenetrable surface, dark and almost absent of life. In one photograph, a woman dips her water pitcher—a metal pot with a round belly and narrow neck—deep into a pond (Figure 68). The image is shot from above, showing only the woman's torso and arms as she reaches forward from the edge of the land down into the small and shallow body of water. The camera is centered on the pond: around its edge grows water plants and narrow mangrove branches. Shot in black and white, the water appears solid grey and choked with floating debris yet it is clearly precious to the woman. The caption reads: "A woman collects drinking water for her family from a sweet-water pond. Her two-hour journey needs to be performed twice a day." In another image, captioned "Young children look for small fish in the mud," boys and girls wade up to their thighs in a muddy brackish field (Figure 69). This is not drinking water but the salty mix of sea and fresh water that rushes in and out of the region, flooding fields and killing crops. Bent over, hands outstretched and holding bags to capture what they collect, they appear to be moving urgently, even in the still image. The foreground shows the muddy water and soil to be dark and still: no fish are evident. In the background, the flat dark fields, marked by small huts, continue out towards the un-cleared mangrove forests in the distance.

Wasif's pictures of the people of the Satkhira emphasise the cost of uncertain water sources on the life and health of communities and families, first and foremost. Portraits of women who must spend hours a day searching for and collecting water show this toll, as do images of those too sick and infirm to contribute to their family's subsistence living. Yet pictures of the men who live in Satkhira focus on their livelihood or lack of: many have had to abandon their farms to go and fish within the Sundarbans, putting their lives and their family's futures at risk. Living on their boats, they spend days away from their

Asia, ed. E. R. N. Gunawardena, Brij Gopal, and Hemesiri Kotagama (London: Routledge, 2012), 145.

⁴³² *Ibid.*, 141–149.

families. Some of the images seem to emphasise this family breakdown. In an image of mother and child, Wasif captures a portrait of despair (Figure 70). Shot through a sheer piece of fabric that hangs above the pair, Sorifa Khatun sits on a woven mat with one of her seven children in her arms. The child and mother are wrapped in Khatun's sari, patterned with dark squares. The netting that shrouds them blurs many of the details of the image but the worry on Khatun's face is clear. Her eyes are wide, the whites shining, yet her whole face is creased in a frown as she looks into the distance. The caption reads: "Her husband, Kased Mali, was killed by a tiger six months ago." We are reminded that it is not only the human animal that has had their livelihood and environment transformed by governmental decisions made far away, but also the hungry and threatened tiger who must adapt or perish in this new situation.

Considered in relation to Nixon's idea of slow violence, it is clear that Wasif uses human suffering as an iconic signifier through which to reconsider the ecological damage to the Satkhira and to push the viewer to imagine the larger spatial and temporal issues threatening the region. Yet on its surface, *Salt Water Tears* does not look beyond the local to the larger spacetime relationships represented. It is up to the viewer to make the connections between the everyday struggles of the people pictured and the larger climatic, political, economic, and ecological imbalances that are transforming the Satkhira, the larger region of the Sundarbans, and outwards into the mountains of the Himalayas, and across the globe. This perspectival focus on the local, the everyday and intimate, offers the viewer an opportunity to think beyond the indexical towards photography's contingent meaning. As Barbie Zelizer has put it, "contingency softens the fact-driven force of the photograph by introducing change, relativity, implication, and hypothesis into the act of viewing, forcing people to imagine and interpret a sequence of action beyond the picture's taking."⁴³³ The reasoned information of the image is only the starting point for understanding what is happening in Satkhira, a place that, in global terms, struggles to be seen.

⁴³³ Zelizer, *About to Die*, 6.

Dialectical Power: Global versus Local Landscapes

Concerns about the role of local place continue to be as important to environmental justice thinking, and as controversial, as that of the non-human. In part, this reflects a deep ambivalence to globalization and to its implied homogenization of cultures and places.⁴³⁴ Indigenous peoples around the world have been at the forefront of the fight for recognition of their human rights to use their land and maintain their identity in face of what are sometimes conflicting environmental goals.⁴³⁵ The impact of the colonial period still looms large in the unequal, and often illegal, distribution of land and resources, which pit governmental and corporate interests against indigenous groups. In turn, the development of indigeneity as a significant social and political force in global justice issues has raised the question of how one defines and, more importantly, who defines the 'indigenous' status of people.⁴³⁶ Meanwhile, indigenous and traditional knowledge has become a central focus for many scientists and activists who argue for the acknowledgement of specialised cultural experience and knowledge of the land.⁴³⁷ Others, such as philosopher and writer Jeanette Armstrong, have argued for the re-indigenizing of place, in an attempt to recuperate an understanding of place and natural resources that is grounded in her culture's traditional Syilx Okanagan practices of respecting the land and animals and maintaining the balance between human and non-human needs and existence.⁴³⁸ As a result, environmental justice, like the larger environmental movement, continues to struggle to balance the local versus the global.

⁴³⁴ Paul Hopper, *Understanding Cultural Globalization* (Cambridge, UK; Malden, MA: Polity Press, 2007), 87–96.

⁴³⁵ Beth A. Conklin, "Environmentalism, Global Community, and the New Indigenism," in *Inclusion and Exclusion in the Global Arena*, ed. Max H. Kirsch (New York: Routledge, 2006), 163–164.

⁴³⁶ For an excellent discussion of the contemporary debates and issues around this social structure see: Richard B. Lee, "Indigenism and Its Discontents," in *Inclusion and Exclusion in the Global Arena*, ed. Max H. Kirsch (New York: Routledge, 2006), 129–60.

⁴³⁷ Ladislaus Semali and Joe L. Kincheloe, eds., *What Is Indigenous Knowledge?: Voices from the Academy*, Garland Reference Library of Social Science ; Indigenous Knowledge and Schooling (New York: Falmer Press, 1999).

⁴³⁸ Jeanette Armstrong, Keynote (presented at the The Association for Literature, Environment, and Culture in Canada Conference 2014, Lakehead University, Thunder Bay, August 7, 2014).

In her book *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*, Ursula Heise criticizes the tradition of place-based discourse in environmental writing for normalizing local identity as authentic while ignoring the cultural construction of place.⁴³⁹ Heise writes:

The environmentalist emphasis on restoring individual's sense of place, while it might function as one useful tool among others for environmentally oriented arguments, becomes a *visionary dead end* if it is understood as a founding ideological principle or a principle didactic means of guiding individuals and communities back to nature.⁴⁴⁰ [My italics]

Heise understands locality as a multifaceted concept that is relational and dependent on many social, cultural, and political factors. She therefore sees locality as one aspect of cultural identity but not the central aspect. Heise argues that the stress on a "sense of place" hinders the development of a more environmentally engaged global citizenry and alienates pre-existing cultures that have been shaped by migration, hybridization, and globalization.⁴⁴¹

For Heise, the 'local' is a problematic construct. In her thinking, environmentalists and ecocritical writers alike have failed to question the fundamental premise that identity is shaped by locality, while ignoring the last twenty years of cultural theory that has emphasised the largely deterritorialized, unstable, and mobile cultural identities brought about by globalization.⁴⁴² Heise argues that the environmentalist emphasis on locality should be put "in communication with recent theories of globalization and cosmopolitanism, in an attempt to explore what new possibilities for ecological awareness inherent in cultural forms that are increasingly detached from their anchorings in particular geographies."⁴⁴³ For Heise, the deterritorializing impact of globalization and modern life can offer new insight into ecological consciousness. She writes that "what is crucial for ecological awareness and environmental ethics is arguably

⁴³⁹ Heise, *Sense of Place and Sense of Planet*, 46.

⁴⁴⁰ *Ibid.*, 21.

⁴⁴¹ See the ideas of Appadurai, *Modernity at Large*, 1–5.

⁴⁴² Heise, *Sense of Place and Sense of Planet*, 42.

⁴⁴³ *Ibid.*, 13.

not so much a sense of place as a sense of planet – a sense of how political, economic, technological, social, cultural, and ecological networks shape daily routines.”⁴⁴⁴ Yet the practical issues of encouraging a global environmental imaginary often come up against the reality of slow violence’s local impact. While accepting deterritorialization as a repercussion of globalization may offer a positive framework for challenging parochial attitudes, how can the literal deterritorialization and exile of people because of environmental disaster be productively positioned? How can the global displacement of climate refugees, as forecasted by Intergovernmental Panel on Climate Change,⁴⁴⁵ and the loss of local identities and the sense of place that comes with such displacement, be anything but a tragedy?

Heise’s reappraisal of the local-global paradigm reflects the conflicted state of current environmental theories, which often jump between scales and states of spacetime in an attempt to achieve the most impact. Yet the awareness of the interconnected and hybrid state of culture and ecology that exists today does not have to disregard the local issues of individuals. Globalization, as Saskia Sassen has argued, takes place at local levels, in microenvironments, as much as at national or transnational levels.⁴⁴⁶ Nor does a binary, or oppositional structure, need to be so fully established. Sociologist Roland Robertson, writing in the nineteen-nineties, anticipated this conflict when he wrote about the dangers of characterizing and mythologizing globalization as universalizing, homogenous, and polarized with the local.⁴⁴⁷ He proposed the term, “glocalization” to articulate that globalization “increasingly involves the creation and incorporation of locality, processes

⁴⁴⁴ Ibid., 55.

⁴⁴⁵ Contribution of Working Group II, “IPCC 2014 Summary for Policy Makers,” in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*. (Cambridge UK ; New York, NY: Cambridge University Press, 2014), 20–25, http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-SPM_FINAL.pdf.

⁴⁴⁶ Saskia Sassen, “Theoretical and Empirical Elements in the Study of Globalization,” in *Inclusion and Exclusion in the Global Arena*, ed. Max H. Kirsch (New York: Routledge, 2006), 43–44.

⁴⁴⁷ Roland Robertson, “Glocalization: Time-Space and Homogeneity-Heterogeneity,” in *Global Modernities*, ed. Mike Featherstone, Scott Lash, and Roland Robertson, Theory, Culture & Society (London ; Thousand Oaks, CA: Sage Publications, 1995), 25–26.

which themselves, largely shape, in turn, the compression of the world as a whole.”⁴⁴⁸

Robertson’s neologism proposes a way to think through the rigid hierarchy of globalization, allowing for an understanding of the spatial and temporal complexity that is part of the current global condition. Eco-photography can offer a way to imagine the ‘glocal’ by picturing spatial scale and environmental justice as issues that are shaped by complex social, political, and economic forces.

Nixon addresses the conflict of the local and the global spheres by situating the struggles of the global poor in context with their economic, ecological, and social “temporality of place.” He writes that “place is a temporal attainment that must be constantly renegotiated in the face of changes that arrive from without and within, some benign, others ruinous.”⁴⁴⁹ Nixon situates the temporal disjunction between ‘vernacular landscapes’, which are central to the socio-spatial workings of communities, and ‘official landscapes’ that are imposed, often through force, by institutional organizations, be they governmental, corporate, NGOs or a mix of all.⁴⁵⁰ He argues that,

the exponential upsurge in indigenous resource rebellions across the globe during the high age of neoliberalism has resulted largely from a clash of temporal perspectives between the short-termers who arrive (with their official landscape maps) to extract, despoil, and depart and the long-termers who must live inside the ecological aftermath and must therefore weigh wealth differently in time’s scales.⁴⁵¹

Nixon rightly points to the spatial implications of slow violence as another major factor in the consideration of global environmental justice. He proposes a

more radical notion of displacement, one that, instead of referring solely to the movement of people from their places of belonging, refers rather to the loss of the land and resources beneath them, a loss that leaves communities stranded in a place stripped of the very characteristics that

⁴⁴⁸ Ibid., 40.

⁴⁴⁹ Nixon, *Slow Violence and the Environmentalism of the Poor*, 18.

⁴⁵⁰ Ibid., 17.

⁴⁵¹ Ibid.

made it inhabitable.⁴⁵²

Nixon productively sidesteps the binary of the local versus the global by demonstrating that, in Harvey's term, 'space-time compression' is central to the contemporary global environmental justice movement.

Nixon convincingly argues that the space-time compression of the global economic system has led to the particular state of environmental crisis we occupy today, in which the consumer desires of the burgeoning global middle class place pressure on the resource-dependant global poor.⁴⁵³ In refusing to ignore the political aspects of the environmentalism of the poor, or disregard the spatial and temporal difficulties of such long-acting and intergenerational environmental struggles, Nixon challenges us to consider how to communicate and imagine slow violence through a dialectical framework that acknowledges the historical and geographical context of the contemporary condition.

Mitch Epstein: The 'Official' Landscape of Power

Mitch Epstein has been a photographer for over thirty years, working in the American documentary tradition, informed by the restless observational approach of photographers such as Garry Winogrand, who was his teacher at the Rhode Island School of Design, and the rise of colour in the 1970s.⁴⁵⁴ His images are charged with startling detail, with elements of surprise, and with disturbing—and sometimes delighting—juxtapositions that reflect intimately on the people and places he has photographed. For many years his most famous work was a long-term project photographing India, once his home, yet his body of work includes a wide variety of subjects: from the series *Recreation: American Landscapes* (1973-1988) of people at leisure across the United States, to *The City* (1995-1999) a series that looks at the place of surveillance in the public and private lives of people in New York City, to an intimate

⁴⁵² Ibid., 19.

⁴⁵³ Ibid., 22.

⁴⁵⁴ Sally Eaucloire, ed., *New Color/New Work: Eighteen Photographic Essays*, 1st ed. (New York: Abbeville Press, 1984), 9.

look at his aging father's failing real estate empire in the series *Family Business* (2000-2003). His photographs reflect the perspective of a person, a photographer, who doesn't shy away from careful looking at the world around him. His oeuvre embodies a photographic and intellectual restlessness, and a focus on current global issues, from an interest in cultural anthropology in the 1970s, to the increasing surveillance state of the 1990s, to the ecological concerns of today within his recent series *American Power*. His work has been shown and collected by many of the major art museums and galleries in the world including: New York's Museum of Modern Art and the Tate Modern in London. He has published eleven books over the years, a format which he has said is important to his practice as a way to emphasize and develop narrative through his images and as a more democratic format that can reach people from outside the gallery space.⁴⁵⁵

Epstein began the project that came to be called *American Power* in 2003 when he was commissioned by the *New York Times* to photograph the former coal town of Cheshire, Ohio.⁴⁵⁶ In Cheshire (Figure 71), he discovered an abandoned landscape of small town America, where the withdrawal of its main industry had devastated the economic and social foundations. In face of corporate pressure and a growing health crisis, the citizens of Cheshire had accepted an offer to sell their houses, and their town, to the American Electric Power Company for the total price of \$20 million dollars. This buyout allowed the company to avoid any expensive and awkward lawsuits in face of developing environmental health issues amongst the residents and allowed the people to escape the health hazards and pollution of the coal plant by moving elsewhere. When Epstein arrived, two years after the financial settlement, less than two-dozen people remained living in the town, holdouts and those with nowhere else to go (Figure 72).⁴⁵⁷ Epstein left Cheshire at the end of his assignment, only to return again six months later, fuelled by the idea of documenting American power, in all its forms.

American Power pushed Epstein to consider the relationship between corporate

⁴⁵⁵ Richard B. Woodward, "Mitch Epstein," *BOMB Magazine*, October 19, 2009, <http://bombmagazine.org/article/3355/>.

⁴⁵⁶ Adam Goodheart, "Something in the Air," *The New York Times*, February 8, 2004.

⁴⁵⁷ Ibid.

presence, energy, and the landscape.⁴⁵⁸ Epstein has stated that when he began the project he had “no political agenda,” but one rule: every image had to represent a direct relationship to energy.⁴⁵⁹ In his own words he describes his experience of shooting in Cheshire, where he was surprised by,

[t]he paranoia and corporatism that was fuelling a new American censorship: while shooting there, I'd been told by law enforcement that I was not allowed to point my camera at infrastructure any longer, even from a distance.⁴⁶⁰

This revelation and moment of conflict led to the five-year project for which Epstein travelled to twenty-eight states and wrote innumerable letters and requests to power companies, municipalities, and officials to gain access to sites — often just to have evidence to show the authorities that he was doing something permissible. In the afterward to his book *American Power*, Epstein describes how he was constantly stopped, told not to shoot, questioned, and threatened by various levels of security and police enforcement. His lawyer advised him, just don't get arrested.⁴⁶¹ By the end of the project, Epstein's attitude had been shaped by his experience of photographing and also by the aggressive response his acts of photographing garnered in the post-9/11 world. In many ways, the images he created are just as much about what he was *not* allowed to photograph as what was.

The images in this series are more varied than might be expected from what is essentially a project based on the American landscape. Portraits of individuals, group shots, and still-lives (Figure 73) are presented alongside large-scale photographs of power plants, dams, and wind farms that make up the contemporary landscape of the typical developed nation today. Nevertheless, photograph after photograph shows the energy landscape, in the form of coal plants, oil pumps, pipelines, dams, and wind turbines (Figure 74) but also the social and lived experience of people struggling for

⁴⁵⁸ Mitch Epstein, *American Power* (Göttingen, De.: Steidl, 2009).

⁴⁵⁹ Mitch Epstein, “Mitch Epstein on American Power (2005-Present),” *Tate Etc.* 22 (Summer 2011): 79.

⁴⁶⁰ *Ibid.*, 79.

⁴⁶¹ Mitch Epstein, “Afterward,” in *American Power* (Göttingen: Steidl, 2009), n.p.

stability in an unstable and violent economy. Images of the aftermath of Hurricane Katrina (Figure 75) are placed in context with abandoned gas stations and receding glaciers. An image of boys fishing across the water from a coal plant in Florida is followed by portraits of the people working at the Grand Gulf Nuclear Plant in Mississippi (Figure 76), which is followed by a close-up of the solar panels used at the Pentagon, creating a complex and reflexive vision of the impact of power today. This portrait of energy might easily reflect a Canadian, or any other developed country's energy landscape, as much as an American one. Yet this is clearly the United States of America, full of signs of the American way of life: football, giant flags, guns, and cars (Figure 77). These icons of typical American life vie with the signifiers of fast and slow violence, from a portrait of "old sparky" in the West Virginia State Penitentiary to the denuded landscape of Oildale, California (Figure 78).

The tradition of American photography as critique of the post-WWII way of life has a long history, as does the critical appraisal of the American landscape, an ideologically charged subject of historical and contemporary concern.⁴⁶² Epstein's series offers more than another reappraisal of America; it shows us a personal vision of power de-natured by the photographer's intense gaze, a vision of how the world's most powerful nation is 'energized' by "systems of energy production, distribution and consumption," which reflect the unequal economic, social, and political systems of the global world.⁴⁶³ *American Power* offers a vision of a country caught up in a battle of attrition against a changing global energy landscape, one where the decreasing access to fossil fuels and "easy oil" threatens to create more displacement, political instability, and struggles for resources.⁴⁶⁴

The tension in *American Power* between environmental justice and human development is palpable yet ideologically different than the work of Munem Wasif and Subhankar

⁴⁶² Consider Robert Frank's "The Americans" for example. See: Jonathan Day, *Robert Frank's The Americans: The Art of Documentary Photography* (Bristol ; Chicago: Intellect, 2011).

⁴⁶³ John Urry, *Societies beyond Oil: Oil Dregs and Social Futures* (London: Zed Books Ltd, 2013), 1.

⁴⁶⁴ *Ibid.*, 107–108.

Banerjee. For a viewer from the developed world, it is much easier to imagine the struggles of subsistence farmers or the displacement of caribou herds in far off places as crises than it is to accept the picture of a successful capitalist nation—the most powerful in the world—struggling against economic, environmental, and social collapse. The veneer of success in these images is located in the techno-scientific domination of the landscape: here we see the desires of the burgeoning global middle-class represented by the oil refineries, military installations, and planned communities that maintain the United States of America's place as a global superpower. Yet is it also a country in which the people have given up much control of their landscape in exchange for economic security based on energy and power. The 'vernacular landscapes', in Nixon's terms, that are controlled by local interests and social-spatial usage, are given over in favour of 'official landscapes' dominated by corporate, governmental, and neoliberal agendas based on short-term economic growth and land-management. The tragedy of *American Power* is found in the loss of citizen control over land, resources, and economic power. This is highlighted by the restrictions that the photographer faced in photographing 'official' sites across the country, even from public spaces, and in the fear he experienced, in his own words, "[...] because my intentions ran counter to corporate interests, which had Homeland Security to back them up."⁴⁶⁵

Having published his book in 2009, Epstein has received critical accolades and commercial honours for *American Power*; including exhibitions across Europe and the United States and glowing reviews from major art journals and critics. His achievements are both personal and reflective of the engagement in art circles with the environmental imaginary. Yet for Epstein, the institutional support for his work would not prove enough. In 2009-2010 Epstein and his wife, writer Susan Bell, took the step of presenting parts of the series as a public art project around the United States. Billboards were rented and images from the series were matched with text (Figure 79), highlighted in red, which read: "whatisamericanpower.com." Leading viewers to their interactive website of the same name, the billboards were put up in Cincinnati and Columbus, Ohio in 2010, to coincide with Epstein's exhibition at the Cincinnati Museum of Art and in honour of the

⁴⁶⁵ Epstein, "Afterward," n.p.

first leg of the project. The website provides visitors with an interactive map of the United States, annotated by pictures from *American Power* and various written responses to the titular question.⁴⁶⁶ In an interview with the *Columbus Dispatch's* Michael Grossberg, Epstein described the activist project as "a question and an invitation to discussion. It's the first time I've taken my work outside of the traditional art context, of showing pictures in museums and galleries, to bring it into more of a public space."⁴⁶⁷ The choice to reproduce images from *American Power* outside of the traditional structures of photographic exhibition and publishing demonstrates that, for Epstein, accolades were not enough. With this comes the acknowledgement of the artist as embedded in, not separate from, the social and political context of his work. Epstein expresses this clearly when he states:

I began making these pictures with the idea that an artist lives outside the nesting doll, and simply opens and examines it. But now — while America teeters between collapse and transformation — I see it differently: as an artist, I sit outside, but also within, exerting my own power.⁴⁶⁸

Epstein's conscious placement of the artist both inside and outside the global structures of economic, political, and social systems echoes the dialectical positioning of Allan Sekula, who understands photography's strength as grounded in a reflexive, relational, and critical realism.

Photography offers a powerful tool for exposing what is an underrepresented and invisible subject: the slow violence of environmental injustice. Slow violence is a complex phenomenon, one that involves a deep understanding of how space and time compress and shape our contemporary global moment. To look at slow violence we need to be able to imagine, to empathize, and, most importantly, to think through the temporal and

⁴⁶⁶ Mitch Epstein and Susan Bell, "W H A T I S A M E R I C A N P O W E R?," *What Is American Power?*, 2010, <http://whatisamericanpower.com/#>.

⁴⁶⁷ Michael Grossberg, "A Powerful Statement Made," *The Columbus Dispatch*, April 18, 2010, sec. Life & Entertainment, http://www.dispatch.com/content/stories/life_and_entertainment/2010/04/18/powerful_statement.html.

⁴⁶⁸ Epstein, "Afterward," n.p.

spatial contingency of the image. Eco-photography, caught between the objective and the subjective meaning of the image, requires a dialectical and critical approach to disrupt the dominant authority of the image, its reasoned information. Challenging the spatial and temporal fixity of the image, through strategies that destabilize and displace the subjectivity of the viewer and photographer, is one method to critically engage with the photograph. Equally, photographers can engage with activist strategies and thinking to promote a complex reading of environmentalism today, which is caught up in issues about human and non-human relationships, individual responsibility, and local and global power dynamics. Photographing slow violence helps to make visible underrepresented people, places, and crises and raises important questions about the photographic encounter, pushing us to consider who has the power to see and what perspectives are being ignored.

CHAPTER SIX Eco-Photography as Citizenry: 'Sustainable' Photography in an Eco-Cosmopolitan Age

As I argued in the previous chapter, eco-photography contributes to the development of an environmental worldview through its engagement with local, regional, national, and global events, places, and people. Photography's mobility, its flexible meaning, and its deterritorializing effect can help viewers to conceive of the global environment as central to their own concerns. By bringing the world closer and challenging our acceptance of geographical scale and temporal distance, eco-photography can help to imagine a more just world. Yet there is often an unequal visibility, as Rob Nixon rightly points out, in the representation of environmental issues. Even as we live in a more globalized mediascape—and some might argue a more democratic one—institutional structures continue to shape much of the discourse of images from what subjects gain visibility to what aesthetic and ethical concerns are privileged. This raises two important and interrelated questions: who is looking at and who is *presenting* eco-photography in the global commons?

In this chapter, I suggest that eco-photography can play an important role in representing and staging the “new” cosmopolitan ethos of concern for the global environment, or eco-cosmopolitanism as Ursula Heise has named it, through ethical and aesthetic engagements with world-making. Through an exploration of current positions and debates on today's cosmopolitanism(s), I will situate the category of eco-photography in relation to photography's ability to engender a global citizenry of photography. Drawing on Ariella Azoulay's conception of photography as a civic encounter, this chapter seeks to understand how the global and environmental imaginaries might lead to a better vision for the future.

As the main case study of this chapter, I will consider the development of a global eco-photography prize that offers insight into the impact of the new cosmopolitan mediation of the image. The Prix Pictet, begun in 2008 by the private Swiss banking firm Pictet & Cie, presents a corporate and aesthetic take on representing global sustainability. The Prix Pictet seeks, through its founders' particular vision of cosmopolitanism, to reach and enact a global citizenry. Yet this process is continually complicated by the institutional and contextual structures that present the image to its audience. By situating the Prix in context with the global explosion of art “mega-events,” I describe the “new media

ecology" of photography.⁴⁶⁹

The Citizenry of Photography

In her influential book *The Civil Contract of Photography*, photographic theorist and curator Ariella Azoulay argues that the process of deterritorialization inherent to the medium creates a 'citizenry of photography' based on a shared ethical responsibility that transcends the boundaries of territory and culture. For Azoulay, the citizenry of photography is a kind of utopic democratic body, which offers the viewer the opportunity to see the world free from the domination of national, religious, racial, and class differences or ideologies.⁴⁷⁰ According to Azoulay,

Photography is one of the instruments which has enabled the modern citizen to establish her liberal rights, including freedom of movement and information, as well as her right to take photographs and to be photographed, to see what others see and would like to show through photographs.⁴⁷¹

Rather than echoing the cultural deterministic arguments of earlier photography theorists, who consider the image as part of an institutional apparatus that enacted violence on the subject,⁴⁷² Azoulay suggests that the citizen of photography has agency and power in the making and viewing of the image. For Azoulay, the image is

⁴⁶⁹ These terms will be further discussed alongside their sources: Monica Sassatelli, "Festivals, Museums, Exhibitions: Aesthetic Cosmopolitanism in the Cultural Public Sphere," in *Routledge Handbook of Cosmopolitanism Studies*, ed. Gerard Delanty, Routledge International Handbooks (Abingdon, Oxon ; New York: Routledge, 2012), 233–44; Roger Hallas, "Photojournalism, NGOs, and the New Media Ecology," in *Sensible Politics: The Visual Culture of Nongovernmental Activism*, ed. Meg McLagan and Yates McKee (New York : Cambridge, MA: Zone Books ; Distributed by the MIT Press, 2012), 95–114.

⁴⁷⁰ Ariella Azoulay, *The Civil Contract of Photography* (New York: Zone Books, 2008), 129.

⁴⁷¹ *Ibid.*, 125.

⁴⁷² See Tagg, *The Burden of Representation*; In his later writing, Tagg takes exception to the way his earlier theories have been interpreted, particularly the charge that he sees photography as "exercis[ing] no power of its own but is, in the lurid terms of one polemic against me, merely an 'instrument,' ..." See John Tagg, *The Disciplinary Frame: Photographic Truths and the Capture of Meaning* (Minneapolis: University Of Minnesota Press, 2009), xxvii.

independent of national or territorial borders as well as the photographer's intentions: its meaning is never fixed but is shaped by the process of viewing.

For Azoulay, photography actively develops a civil imagination. Azoulay defines the civil "as the interest that citizens display in themselves, in others, in their shared forms of coexistence, as well as in the world they create and nurture."⁴⁷³ In defining the civil in such a broad way, Azoulay is deliberately disassociating it from the political, which she argues has overtaken the "expressions of concern for the rights of others [...]"⁴⁷⁴ Azoulay sees the political (building on Hannah Arendt) as an aspect of shared experience: an individual or an image cannot be political, except as he, she, or it exist in public.⁴⁷⁵ In part, this differentiation is designed to free civic feeling from the sphere of the state and to clarify that all images are political in such that "every image results from the actions of multiple participants who play various roles in its production and dissemination."⁴⁷⁶ This is what she calls the "political ontology" of photography.

The context of Azoulay's work is crucial to her theorization of citizenship. She analyses photographs taken during the Second Intifada or the Palestinian Uprising (2000-2005), and more recent images related to the ongoing conflict in the state of Israel. Her philosophical inquiry is driven by a desire to understand how spectators can interpret images free of ideological or nationalistic dominant narratives. Her formation of a "cizenry" is in response to the lack of official national citizenship of many people worldwide, including the Palestinian people. She sees photography as contributing to a universal citizenry (cosmopolitan in nature, although she never uses this term) and places the spectator at the heart of her analysis.

Azoulay reframes the position of the spectator as one in which the viewing of a photograph can be empowering to both the spectator and the subject. Azoulay argues it is the spectator's eye that "deterritorializes photography, transforming it from a simple,

⁴⁷³ Ariella Azoulay, *Civil Imagination: A Political Ontology of Photography*, English-language ed (London ; New York: Verso, 2012), 5.

⁴⁷⁴ Ibid.

⁴⁷⁵ Ibid., 54.

⁴⁷⁶ Ibid., 55.

convenient, efficient, (relatively) inexpensive and easily operable tool for the production of pictures into a social, cultural and political instrument of immense power.”⁴⁷⁷ She further suggests that the viewer’s interpretation of an image is flexible and relational, yet grounded in a global imaginary of citizenship. As such, the civil contract of photography,

[S]hifts the focus away from the ethics of seeing or viewing to an ethics of the spectator, an ethics that begins to sketch the contours of the spectator’s responsibility towards the visible. The individual is not confined to being posited as the photograph’s passive addressee, but has the possibility of positing herself as the photograph’s addressee and by means of this address is capable of becoming a citizen in the citizenry of photography [...]⁴⁷⁸

This capability is not just an option, but also a responsibility to self and others, for as she has written more recently,

Any reading of the photograph from the point of view of the ruling power, reducing its richness as a document to the humanitarian gesture that was framed in its foreground and remaining blind to the traces of constituent violence is in fact an act of ratifying the law-preserving violence of the regime and contributes to its preservation.⁴⁷⁹

Azoulay has hit upon something profound when she argues that photography is based social relationships that can, through its circulation, help to envision a common interest—as long as spectator can consider themselves an empowered actor in the citizenry of photography. Yet her utopian formulation of the civil contract of photography can seem as rigidly deterministic as previous arguments that photography instrumentalizes and shapes the viewers response through the dominant structures of the 'State apparatus', or that photographs are just another commodity of the culture industry.⁴⁸⁰ There is

⁴⁷⁷ Azoulay, *The Civil Contract of Photography*, 129.

⁴⁷⁸ *Ibid.*, 130.

⁴⁷⁹ Ariella Azoulay, “Regime-Made Disaster: On the Possibility of Nongovernmental Viewing,” in *Sensible Politics: The Visual Culture of Nongovernmental Activism*, ed. Meg McLagan and Yates McKee (New York : Cambridge, MA: Zone Books ; Distributed by the MIT Press, 2012), 40.

⁴⁸⁰ One of the largest criticisms of Azoulay’s theory of the “citizenry of photography” has been its disregard of the writings of photographic theorists who have come before.

something authoritarian about her call for an ethics of the spectator who *must* take up the mantle of responsibility and become a citizen of photography. The dominant "point of view of a ruling power" can certainly impact the reading of a photograph, as I argue in my discussion of how eco-photographic tropes can limit the imaginary power of an image, but to suggest that the viewer has no agency against such institutional readings is to take this position that she seems to be constantly arguing against. Ultimately, the empowerment of the spectator can only be contingent, something she expresses more carefully in her following book.

In her second iteration of this theory, *Civil Imagination: a Political Ontology of Photography* (2012), Azoulay formulates two distinct temporal spaces of photographic encounter—the "photographic event" and the "event of photography"—a configuration that allows her to distinguish between the making of the image and the interaction with the image. She writes, "The event of photography is subject to a unique form of temporality—it is made up of an infinite series of encounters."⁴⁸¹ According to Azoulay, these encounters, between photographer and subject, but especially between viewer and image, can change an image's interpretation day-by-day—quickly, slowly, or not at all. Through her formulation of the spectator's photographic agency, Azoulay proposes that photography is an ongoing process of interactions and relations that must be understood as contributing to and informed by a global civil consciousness.

The event of photography is essential to the consideration of how photography can communicate, inspire, and engage viewers in the question of environmental responsibility and civic action. The ability to deterritorialize its subject, separating it from local or national concerns, and reach a global audience which is engaged in and is a part of a common citizenry is what makes eco-photography a powerful tool in articulating the global environmental imaginary. Photography offers the chance to empathize and

These include many people I have mentioned throughout this thesis including Allan Sekula, Abigail Solomon-Godeau, Martha Rosler, and John Tagg. See Gil Pasternak, "Civil Imagination: A Political Ontology of Photography," *CAA Reviews (College Art Association)*, April 11, 2013, 1–3.

⁴⁸¹ Azoulay, *Civil Imagination*, 26.

imagine, to debate, to reject, and to reconsider the image through the viewer's shared citizenship. Yet the civil imagination hints at the tension between the agency of the spectator, in which Azoulay is heavily invested, and the institutional and iconic control of dominant narratives that can sometimes overrun photography's more flexible meaning. In the remainder of this chapter, I will explore this tension and question whether the civil contract of photography is sufficiently robust as a concept to activate an ecological citizenry.

Cosmopolitanism(s)

Azoulay's position on the global citizenry of photography echoes the recent revival of cosmopolitanism(s) as a framework to address the increasing ecological crises threatening the planet. In the last twenty years there has been a new critical engagement with the notion of a global citizenry within social, political, and cultural circles. I have discussed some of these thinkers in previous chapters, including geographer David Harvey and literary theorist Ursula Heise. Here they will be discussed under the heading of 'cosmopolitanism(s)', to enlarge the definition of civil responsibility in a global context. The reconsideration of cosmopolitanism by the "new cosmopolitans," as Harvey has described them,⁴⁸² is so widespread today in the social sciences and humanities that no one definition of the concept can be singled out without having to take a stand.⁴⁸³ As political theorists Lee Trepanier and Khalil M. Habib have written, "Cosmopolitanism is [...] bound to frustrate any attempt to establish a grand and universal theoretical system or political manifesto, even as it invites theoretical reflection upon the most fundamental questions about human life and politics."⁴⁸⁴ Cosmopolitanism lends itself to many frameworks of analysis, be they philosophic, political, legal, sociological, or cultural. Deeply engaging the imagination, these various

⁴⁸² Harvey, *Cosmopolitanism and the Geographies of Freedom*.

⁴⁸³ Zlotko Skrbis and Ian Woodward refuse to accept this difficulty of definition and have described cosmopolitanism as having four basic dimensions that can be accepted by all, including: the cultural, political, ethical, and methodological. See: Zlatko Skrbiš and Ian Woodward, *Cosmopolitanism: Uses of the Idea*, Theory, Culture & Society (London: SAGE, 2013).

⁴⁸⁴ Khalil M. Habib and Lee Trepanier, eds., *Cosmopolitanism in the Age of Globalization Citizens Without States* (Lexington, KY: University Press of Kentucky, 2011), 5.

cosmopolitanism(s) can be described as metaphors for living that embody an ideal, a way of life, and an outlook.⁴⁸⁵ While not all features of cosmopolitanism are positive, especially in its enacted form where cosmopolitanism's egalitarian purpose is not always as advertised,⁴⁸⁶ the many cultural and artistic engagements with its tenets have an enormous potential to influence social, economic, and political ideas. At their most basic, these many cosmopolitan frameworks are attempts to come to terms with the ethical and political implications of a globalized world.

It is in the context of the postcolonial and post-Cold War world that we should understand the resurgence of "new" cosmopolitan ideologies, what cultural theorist Paul Gilroy calls a "planetary consciousness," as not based on privileged travel or unrestricted development but driven "by the feeling that the sustainability of our species is itself now in question."⁴⁸⁷ It is particularly under the influence of globalization and, for some, the failure of pluralist and multiculturalist models that we can locate this desire to reconnect with a more nuanced global philosophy.⁴⁸⁸ Citing globalization theorist Walter D. Mignolo's differential of globalization and cosmopolitanism, sociologist Rami Nashashibi defines "globalization as a set of designs to manage the world and cosmopolitanism as a set of projects towards conviviality and alternative global citizenship."⁴⁸⁹ In this conception, globalization is understood as a process more rooted in economic top-down control of global systems and people. It is easy to see how cosmopolitanism(s) offer a more positive and productive way of thinking about the social and ethical implications of globalization on the individual and community group (whether local, regional, national, or

⁴⁸⁵ Torill Strand, "The Making of a New Cosmopolitanism," *Studies in Philosophy and Education* 29, no. 2 (December 9, 2009): 229–42.

⁴⁸⁶ Bronislaw Szerszynski and John Urry, "Visuality, Mobility and the Cosmopolitan: Inhabiting the World from Afar," *The British Journal of Sociology* 57, no. 1 (March 2006): 127–128.

⁴⁸⁷ Paul Gilroy, "A New Cosmopolitanism," *Interventions: The International Journal of Postcolonial Studies* 7, no. 3 (November 2005): 290.

⁴⁸⁸ Lee Trepanier, "The Postmodern Condition of Cosmopolitanism," in *Cosmopolitanism in the Age of Globalization: Citizens Without States*, ed. Lee Trepanier and Khalil M. Habib (Lexington, KY: University Press of Kentucky, 2011), 211.

⁴⁸⁹ Rami Nashashibi, "Ghetto Cosmopolitanism: Making Theory at the Margins," in *Deciphering the Global: Its Scales, Spaces and Subjects*, ed. Saskia Sassen (New York: Routledge, 2007), 245.

transnational).

In many historically grounded considerations of cosmopolitanism, classical antiquity is acknowledged as the fountainhead of this philosophy, from the writings of Socrates to the ideas of the Stoics.⁴⁹⁰ Immanuel Kant is the acknowledged “father” of the modern cosmopolitanism that we have come to popularly know, imbued, on the positive side, with a strong emphasis on the enlightenment values of rationality and humanism, while negatively seen as a form of amoral dilettantism based on travel and cultural appropriation. For Kant, cosmopolitanism was the obvious direction for the progress of humanity, based on an historical and teleological understanding of human development.⁴⁹¹ David Harvey, in his book *Cosmopolitanism and the Geographies of Freedom*, discusses how Kant's specific understanding of geographical and anthropological structures at work in the world (he taught both subjects) inspired Kant's expression of a cosmopolitan ethic and hospitality, which have become the foundations of current ideas about cosmopolitanism(s).⁴⁹² While this seems laudable on the surface, Harvey goes on to point out that Kant's understanding of geographical and anthropological knowledge was ethically questionable, based not on rational thinking but on stereotypes and racial biases. As Harvey succinctly puts it, “how do we apply a universal ethic to a world in which some people are considered immature or inferior and others are thought indolent, smelly, or just plain untrustworthy?”⁴⁹³ Harvey sees this conflict as critically important since it calls into question the very foundation of Kant's cosmopolitanism and the philosophy and practice of liberalism that followed, with its

⁴⁹⁰ See: Anthony Appiah, *Cosmopolitanism: Ethics in a World of Strangers*, 1st ed, Issues of Our Time (New York: W.W. Norton & Co, 2006); Martha Craven Nussbaum, *For Love of Country: Debating the Limits of Patriotism* (Boston: Beacon Press, 1996); See: Habib and Trepanier, *Cosmopolitanism in the Age of Globalization*; See also, the critique of the Western privileging in cosmopolitan genealogy in: Carol Appadurai Breckenridge et al., eds., *Cosmopolitanism*, Millennial Quartet Book (Durham, NC: Duke University Press, 2002).

⁴⁹¹ Mary P. Nichols, “Kant's Teaching of Historical Progress & Its Cosmopolitan Goal,” in *Cosmopolitanism in the Age of Globalization* (Lexington, KY: The University Press of Kentucky, 2011), 119–38.

⁴⁹² Harvey, *Cosmopolitanism and the Geographies of Freedom*, 19.

⁴⁹³ *Ibid.*, 33.

embrasure of individualism, universalism, and the rhetoric of freedom.

As such, Harvey's own ideas about cosmopolitanism are developed in critical contrast to the Kantian understanding that underlies much of the current ideas of the 'new' cosmopolitans, who include philosopher Martha Nussbaum, sociologist Ulrich Beck, and political theorist David Held (who he sees as shoring up the hegemonic neoliberal regime).⁴⁹⁴ As we saw in Chapter 5, Harvey calls for a dialectical awareness of spacetime to enact the conditions of possibility for a cosmopolitan worldview, arguing in favour of a cosmopolitanism that is grounded in historical materialist and postcolonial thinking and that embraces anthropology and geography (as well as time and space) as fundamental knowledge sources for formulating a new sense of global justice.⁴⁹⁵

Harvey is not the only scholar who has criticized the leading thinkers of cosmopolitanism for reinforcing rather than challenging neo-liberalism's tenets.⁴⁹⁶ One criticism of new cosmopolitanism comes from Historian David Hollinger who argues that Nussbaum's cosmopolitanism is far too "universalist" as she embraces a problematic world citizenship that erases differences, "insisting that moral obligations know no borders."⁴⁹⁷ This position, while in keeping with the Kantian cosmopolitan formulation, offers little in the way of productive or practical solutions to help develop a global citizenry that recognizes cultural heterogeneity. Rational arguments are not likely to persuade people to give up their allegiances to ethnicity, nationality, or religious and moral beliefs. Hollinger argues that many of the proponents of cosmopolitanism(s) have tried to break away from the enlightenment understanding of the philosophy, which was, "it is often alleged, insufficiently responsive to diversity, particularity, history, the masses of humankind, the

⁴⁹⁴ Nussbaum, *For Love of Country*; Ulrich Beck, "The Cosmopolitan Society and Its Enemies," *Theory, Culture & Society* 19, no. 1–2 (April 1, 2002): 17–44; David Held, *Cosmopolitanism: Ideals and Realities* (Cambridge, UK; Malden, MA: Polity, 2010).

⁴⁹⁵ Harvey, *Cosmopolitanism and the Geographies of Freedom*, 283.

⁴⁹⁶ A similar critique is made against Ulrich Beck in: Bruno Latour, "Whose Cosmos, Which Cosmopolitics? Comments on the Peace Terms of Ulrich Beck," *Common Knowledge* 10, no. 3 (2004): 450–62.

⁴⁹⁷ David A. Hollinger, "Not Universalists, Not Pluralists: The New Cosmopolitans Find Their Own Way," *Constellations* 8, no. 2 (2001): 237.

realities of power, and the need for political viable solidarities.”⁴⁹⁸ As such, many of the new cosmopolitans have developed nuanced positions such as “rooted” (Bruce Ackerman), “situated” (Paul Healy), “vernacular” (Homi Bhabha), and “impure” (Ulrich Beck) cosmopolitanisms, to name only a few. These models point to “new” cosmopolitanism’s multiple concerns and to the serious efforts that are being made to consider how we can imagine and enact a citizenry of the world in the wake of globalization that considers the value of multivalent identities, cultures, and geographical spaces.

In their introduction to the 2002 collection *Cosmopolitanism*, Sheldon Pollock, Homi K. Bhabha, Carol A. Breckenridge, and Dipesh Chakrabarty express a deeply ambivalent and critical position on cosmopolitanism at the beginning of the twenty-first century. This ambivalence stems from their articulated struggles, as postcolonial scholars and critics of the perceived hegemony of Western universalist cultural values, to come to terms with the rising re-investment in cosmopolitanism, which they argue is a project, “whose conceptual content and pragmatic character are not only as yet unspecified but also must always escape positive and definite specification [...]”⁴⁹⁹ Yet despite the ambiguity of the concept, and their feelings, they go on to acknowledge that, “cosmopolitanism, in its wide and wavering nets, catches something of our need to ground our sense of mutuality in conditions of mutability, and to learn to live tenaciously in terrains of historic and cultural transition.”⁵⁰⁰ The editors see much of current cosmopolitan debates as invested in the struggles over globalization, nationalism, and multiculturalism. Yet much of cosmopolitan modernity—with its investment in capitalism, late liberalism, and enlightenment values—fails to account for the “terrible asymmetry of the idea of modernity itself.”⁵⁰¹ Instead they propose a form of cosmopolitanism that comes from outside the dominant narrative structure of Western philosophy and political theory. As they write:

⁴⁹⁸ Ibid.

⁴⁹⁹ Breckenridge et al., *Cosmopolitanism*, 1.

⁵⁰⁰ Ibid., 4.

⁵⁰¹ Ibid., 6.

The cosmopolitanism of our times does not spring from the capitalized 'virtues' of Rationality, Universality, and Progress: nor is it embodied in the myth of the nation writ large in the figure of the citizen of the world. Cosmopolitans today are often the victims of modernity, failed by capitalism's upward mobility, and bereft of those comforts and customs of national belonging. Refugees, peoples of the diaspora, and migrants and exiles represent the spirit of the cosmopolitical community.⁵⁰²

The editors go on to argue for an open-ended and non-Western conception of cosmopolitanism, a pluralistic and plural '*cosmopolitanisms*'. By doing so, they bring forth a strong critique of the neoliberal and individualistic cosmopolitanism that has taken hold in the contemporary imagination. Without discounting the uneven power dynamics of this formulation, the formulation and acknowledgement of multiple '*cosmopolitanisms*', in Pollock, Bhabha, Breckenridge, and Chakrabarty's co-conception, can draw attention to the plurality of existence across the globe as well as highlight how cosmopolitanism reflects the interconnected and embodied co-creation of identity, culture, and place. Cosmopolitanism is, at its root, a utopic engine, a conceptual fantasy, but it also is "infinite ways of being", suggesting that, ultimately we are all, already, cosmopolitans.⁵⁰³

Culture and Cosmopolitanisms

From a media studies perspective, cultural cosmopolitanisms have been discussed in the context of news reporting, television, film, travel, and world culture.⁵⁰⁴ In writing on the visual arts and culture, cosmopolitanisms have been used to discuss the production

⁵⁰² Ibid.

⁵⁰³ Ibid., 12.

⁵⁰⁴ Ulf Hannerz, *Foreign News: Exploring the World of Foreign Correspondents*, The Lewis Henry Morgan Lectures 2000 (Chicago: University of Chicago Press, 2004); Toby Miller, *Cultural Citizenship: Cosmopolitanism, Consumerism, and Television in a Neoliberal Age* (Philadelphia, PA: Temple University Press, 2007); Alexa Robertson, *Mediated Cosmopolitanism: The World of Television News* (Cambridge, UK; Malden, MA: Polity, 2010); Szerszynski and Urry, "Visuality, Mobility and the Cosmopolitan"; Kim Knott and Seán McLoughlin, eds., *Diasporas: Concepts, Intersections, Identities* (London; New York: Zed Books, 2010); Ulf Hannerz, "Cosmopolitans and Locals in World Culture," *Theory, Culture & Society* 7, no. 2 (June 1, 1990): 237–51.

and consumption of art works in a global context,⁵⁰⁵ their dissemination in an international market,⁵⁰⁶ and the status of the artist as a product of the cosmopolitan ethos.⁵⁰⁷ In his book, *Cosmopolitanism and Culture*, Nikos Papastergiadis has rightly pointed out that aesthetics have often been left out in discussions of cosmopolitan frameworks, as the social and political aspects of the concept—hospitality and global citizenship, moral obligation and virtue—have been reified.⁵⁰⁸ Yet for Papastergiadis, aesthetic cosmopolitanism is not just a reflection on the globalization of art or a subject to be represented, but aims for:

[... a] cosmopolitan worldview that is produced through aesthetics. Therefore the attention to contemporary artistic practices is not confined to either the visualization of cross-cultural interactions, or even the appearance of global processes in artistic practices, but is more concerned with the proposition that the process of world making is a radical act of the cosmopolitan imagination.⁵⁰⁹

Papastergiadis grounds the aesthetics of cosmopolitanism in the imagination as a world-making process that allows the artist to engage with “an aesthetic interest in others and difference.”⁵¹⁰ In a similar vein, Marsha Meskimmon’s exploration of cosmopolitanism in contemporary art is rooted in a feminist engagement with questions of sexual difference and domesticity, which brings her to consider the paradox of dwelling and ethics of care

⁵⁰⁵ David Chaney, “Cosmopolitan Art and Cultural Citizenship,” *Theory, Culture & Society* 19, no. 1–2 (April 1, 2002): 157–74.

⁵⁰⁶ John Connell and Chris Gibson, “World Music: Deterritorializing Place and Identity,” *Progress in Human Geography* 28, no. 3 (June 2004): 342–61; Charles Dorn, “The Deterritorialization of Art,” *Journal of Arts Management, Law & Society* 34, no. 2 (Summer 2004): 141–49.

⁵⁰⁷ Michelle Antoinette, “Deterritorializing Aesthetics: International Art and Its New Cosmopolitanisms, from an Indonesian Perspective,” *Thamyris/Intersecting: Place, Sex & Race* 16, no. 1 (November 2007): 205–34; Alexandra Elizabeth Hoerl, “The Culture Industry and the New Cosmopolitanism,” in *Conference Papers -- American Political Science Association*, 2006, 1–16.

⁵⁰⁸ Nikos Papastergiadis, *Cosmopolitanism and Culture* (Cambridge, England: Polity, 2012), 84.

⁵⁰⁹ Nikos Papastergiadis, “Aesthetic Cosmopolitanism,” in *Routledge Handbook of Cosmopolitanism Studies*, ed. Gerard Delanty, Routledge International Handbooks (Abingdon, Oxon ; New York: Routledge, 2012), 221.

⁵¹⁰ Papastergiadis, *Cosmopolitanism and Culture*, 90.

in a global context. She argues “the aesthetic interventions in the imbrication of place and subject provide a unique and powerful means by which to reconfigure, and thus reconceive, questions of knowledge, agency and political commitments in a globalised world.”⁵¹¹ Meskimmon’s engagement with the aesthetics of cosmopolitanism encourages us to conceive of cosmopolitanism as a force for inter-subjective reimagining of identity and belonging.

Mark Cheetham has offered a cautionary note with his vision of cosmopolitanism in his book, *Artwriting, Nation, and Cosmopolitanism in Britain: The 'Englishness' of English Art Theory Since the Eighteenth Century*. Cheetham suggests that cosmopolitanism is most productively considered from within the framework of nationalism, a structure that—in spite of the criticisms levelled—still significantly shapes and informs the art world, from exhibitions to art biennials.⁵¹² He cites a globally oriented ecological art, and Rasheed Aeraan’s 2009 “Eco-Aesthetics: a Manifesto for the Twenty-first Century,”⁵¹³ as an example that, “builds on the strengths of national discourses, a diversified modernism and a socially committed postmodernism” and offers a way towards a more global perspective for the art world.⁵¹⁴ Aeraan’s call for an eco-aesthetics is informed by his rejection of the consumerism of the art world and the historic avant-garde’s capitulation to capitalism. As an alternative, he calls for abandonment of the studio, and of the art object, in favour of an understanding of art as a process of everyday life. This understanding of art making reflects the ideas of scholars and artist who have promoted a notion of art as relational, socially engaged, and based in practice.⁵¹⁵ While it may

⁵¹¹ Marsha Meskimmon, *Contemporary Art and the Cosmopolitan Imagination*, 1st ed (London ; New York: Routledge, 2011), 6.

⁵¹² Mark A. Cheetham, *Artwriting, Nation, and Cosmopolitanism in Britain: The “Englishness” of English Art Theory Since the Eighteenth Century*, *British Art : Global Contexts* (Farnham, Surrey, England ; Burlington, VT: Ashgate, 2012), 139–143.

⁵¹³ Rasheed Araeen, “Ecoaesthetics: A Manifesto for the Twenty ~~First~~ ^{First} Century,” *Text* 23, no. 5 (September 2009): 679–84, doi:10.1080/09528820903189327.

⁵¹⁴ Cheetham, *Artwriting, Nation, and Cosmopolitanism in Britain*, 139.

⁵¹⁵ Miwon Kwon, *One Place After Another: Site-Specific Art and Locational Identity* (Cambridge, MA: MIT Press, 2002); Nicolas Bourriaud, *Relational Aesthetics*, *Collection Documents Sur L’art* (Dijon: Les presses du reel, 2002); Claire Bishop, ed., *Participation*, *Documents of Contemporary Art* (London : Cambridge, MA: Whitechapel ; MIT Press, 2006).

encourage a broad understanding of the 'ecological', it lacks a rigorous engagement with the larger issues of historical and social aspects of cosmopolitanism.⁵¹⁶ Chatham may be giving too much credit to Aeraan's highly teleological description of art and contemporary life as marked by crisis and transformation.⁵¹⁷ Yet the underlying utopianism that is inherent in Aeraan's conception of eco art is as much part of cosmopolitanism as it is part of the nationalist ethos.⁵¹⁸ And what could be more utopian than an ecologically oriented cosmopolitanism?

What Place for Environmentalism in Cosmopolitanism?: Eco-Cosmopolitanism

Ulrich Beck's ideas about cosmopolitanism are arguably the most influential today, spread through his role as a public intellectual and provocateur.⁵¹⁹ In just one example, an article from 2010, Beck begins his argument by asking, "Why is there no storming of the Bastille because of the environmental destruction threatening mankind, why no Red October of ecology?"⁵²⁰ Beck's analysis is deeply rooted in his understanding of current debates about globalization and modernity, particularly focused on the environmental injustices of neoliberalism and methodological nationalism. Beck's radical argument is that cosmopolitan thinking offers the only alternative to the state of modernity today, what he calls 'reflexive modernity', in which national industrial modernism has been transformed and dissolved by its own disenchantment with progress.⁵²¹ In light of modernity's failure to prop itself up and maintain economic, environmental, and social order through the nation-state, a sociological cosmopolitanism offers itself as the only solution.⁵²² Beck's theory of the world risk society understands cosmopolitanism as part

⁵¹⁶ For a more measured and in-depth discussion of eco art see: Weintraub, *To Life!*.

⁵¹⁷ This attitude certainly echoes what John Urry has identified as a catastrophism present in much contemporary thinking on the environment. See: John Urry, *Climate Change and Society* (Cambridge: Polity, 2011).

⁵¹⁸ Partha Chatterjee, "Anderson's Utopia," *Diacritics* 29, no. 4 (1999): 128–34; Anderson, *Imagined Communities*.

⁵¹⁹ Robert Fine refers to Beck's criticism of sociology's "methodological nationalism" and his overarching narrative of transformation as the "cult of the new" in Robert Fine, *Cosmopolitanism, Key Ideas* (London ; New York: Routledge, 2007), 6–9.

⁵²⁰ Beck, "Climate for Change, or How to Create a Green Modernity?," 254.

⁵²¹ Beck, *World at Risk*, 215.

⁵²² Beck, "The Cosmopolitan Society and Its Enemies."

of the solution to global inequality and the threat of environmental catastrophe and climate change, at both consciousness-raising and public policy levels.

Ursula Heise, among others, has responded to Beck's notion of a world risk society by developing her own cosmopolitan theory of ecological global consciousness, "eco-cosmopolitanism," which imagines how individuals can look beyond their own experiences towards both the human and the non-human world and develop a greater sense of global responsibility. In her book, *Sense of Place, Sense of Planet*, Heise argues that the recent recuperation of cosmopolitanism has its intellectual roots in the earlier socio-cultural theories of postmodernism, globalization, transnationalism, and identity politics.⁵²³ She places her own theory of eco-cosmopolitanism, or "environmental world citizenship,"⁵²⁴ within this intellectual trajectory.

According to Heise, eco-cosmopolitanism helps to move the discussion away from the justly criticized universalist tendencies found in cosmopolitanism through a refocusing on perspective. By considering the complexity of eco-systems and environmental scales, eco-cosmopolitanism can help in the development of a global environmental imaginary. Eco-cosmopolitanism, in this sense, may well be the most global and egalitarian perspective available to help humanity imagine a different worldview, by fundamentally rethinking the human and the non-human other.

In her analysis of literary and artistic examples of eco-cosmopolitanism, Heise emphasises the formal and structural mechanisms, as well as narrative and metaphoric templates and tropes, employed to shape the perception of the global. She writes that eco-cosmopolitan cultural works, including examples as diverse as John Cage's performance poem "Overpopulation and Art" (1992), Lothar Baumgarten's 16mm film *Der Ursprung der Nacht (Amazonas-Kosmos)* (1973-77), and Don DeLillo's novel *White Noise* (1985),

deploy some conventional articulations of the relationship between the local and global environments only to twist them into more experimental forms

⁵²³ Heise, *Sense of Place and Sense of Planet*, 5–6.

⁵²⁴ *Ibid.*, 10.

that reach toward an innovative understanding of global ecology or that highlight the ways the more conventional images might be problematic.⁵²⁵

For Heise, John Klima's new media installation *Earth* (2001) is a key example of this dialectical eco-cosmopolitan form. A software based work, which culls real-time data from the Internet to create a 3D model of the earth, *Earth* allows for multiple and variable experiences of the planet through different presentation formats: a computer and monitor interface, a java browser module, and a simplified web-browser format. Heise writes:

In its combination of different imaging techniques and scales, the dynamic manipulation and social networks that span the world, *Earth* suggests some of the complexities an eco-cosmopolitan imagination of the global must take into account at the beginning of the third millennium.⁵²⁶

Heise's definition of eco-cosmopolitan-inspired art embeds a kind of sociological critique into its framework, emphasising the "destabilized human subject," often by using technology as a physical or conceptual tool, as well as playing with the audience's sense of geographical and environmental scale.⁵²⁷ Eco-cosmopolitanism reframes this concern in a truly global sense by emphasising a concern for both social and environmental justice while, at the same time, promoting a new worldview based on multiple scales.

Keeping in mind the criticisms of the many cosmopolitan projects, I want to propose a much more wide-reaching articulation of eco-cosmopolitanism, one that allows for the imaginary and utopian impulse of cosmopolitan thinking and 'ways of being' to sit side-by-side with a criticism of eco-cosmopolitanism's dark connection to neoliberalism, capitalism, and the universalising tendencies of Western intellectual humanism. This is not to in any way disregard the positive and regenerative power of the idea—eco-cosmopolitan thinking is in my mind a necessary contribution to the global environmental paradigm—but instead a way to acknowledge that new cosmopolitanisms cannot be separated from their historical and material roots in colonialism, humanism, and Western

⁵²⁵ Ibid., 65.

⁵²⁶ Ibid., 67.

⁵²⁷ Ibid., 79.

socio-political theory. Just as we can call for and imagine “cosmopolitanisms” that are not located in Enlightenment values but in the “ruins of modernity” and the deterritorializing effect of global capital, as well as propose alternative cosmopolitan visions, we must also acknowledge how dialectical and incomplete this imagining is. Eco-cosmopolitan perspectives have to be seen as utopic projects that can never be fully achieved. This also requires the acknowledgement that there are multiple and competing visions of the eco-cosmopolitan ethos. Eco-cosmopolitanism(s) will continue to emerge and evolve in the future.

Eco-photography offers a useful corollary to these many eco-cosmopolitanisms, a technologically rooted way to imagine an environmentally engaged world citizenry. Eco-photography embodies the environmental imaginary by representing cultural, social, and economic concerns and values about the human role in shaping the world. It can complicate an easy understanding of nature as outside or separate from culture by showing how human and environmental systems are mutually embedded. Eco-photography has the potential to decenter the human subject through the representation of the non-human world but it also can call into question the dominance of Western subjectivity by reflecting on issues of environmental rights, justice, and local-global citizenship. Photographers who work within this model, or whose work may fall into the category of eco-photography, employ visual and conceptual strategies to challenge standard interpretations of nature. These strategies may include altering the viewer’s visual perception, their sense of temporal or spatial scale, or their cultural perspective on the world.

A closer look at one photographer’s images reveals how one photographer’s eco-cosmopolitan perspective, and the strategies used to represent the more-than-human world, can contribute to an innovative awareness of global responsibility. Chris Jordan’s photographic series *Midway: Message from the Gyre* (2009-ongoing) can be challenging to look at. Each image focuses directly on a single subject, the corpse or decomposed remains of an adolescent albatross, a species of bird that lives in the North Pacific (Figure 80). The Midway Atoll, a group of coral islands covered in a thin layer of soil, make up the largest breeding grounds of the albatross on the earth. Midway is located near the geographical anomaly that is the Great Pacific Garbage Patch, a vortex of sludge and plastic waste trapped by the currents of the North Pacific gyre. Drawn to the detritus found in their nearby feeding grounds, the ocean, mother birds bring back this

plastic refuse and feed it to their chicks, thus inadvertently killing them. According to the artist's website, thousands of corpses litter the Atoll, once a military base for the United States Navy and now a marine wildlife research sanctuary managed by the U.S. Department of Fisheries.⁵²⁸

Midway: Message from the Gyre documents the terrible repercussions of global waste and pollution on a single species. Shot from above with a tight framing on the corpses, Jordan's photographs repeatedly and aggressively show the viewer the scale of this problem (Figure 81). Image after image draws the eye towards the small details of decomposing feathers and bones, not to mention bic lighters, toothbrushes, and bottle caps, which replace the flesh of the animals to make up the graves of the dead. By shooting from above in such a way as to trap the viewer's gaze in a tight hold, unable to relieve one's view by looking out to the background, Jordan forces the viewer to look carefully and recognize their own habits of consumption within the image (Figure 82). In these images, plastic, as a product of the global oil industry and a ubiquitous item of global industrial production and consumption, is a material that stands in for much of the (often invisible) pollution in the environment. The photographs demonstrate how the everyday actions of consuming and discarding can spiral out from a single point in time and space to impact another creature half way around the world. Emphasizing the local habitat of the albatross as well as the global reach of human plastic production and consumption, the *Midway* series represents a darkly eco-cosmopolitan vision of human-animal relations (Figure 83).⁵²⁹

Jordan's *Midway: Message from the Gyre* began as a photographer-driven project but has since taken on a life of its own. This work was begun in September 2009 during a trip Jordan organized with a group of five media artists (including his wife, the poet Victoria Sloan Jordan), to address and 'witness' the ongoing environmental disaster

⁵²⁸ Chris Jordan, "Chris Jordan - Midway," accessed October 8, 2014, <http://www.chrisjordan.com/gallery/midway/#CF000478%2019x25>.

⁵²⁹ "Dark ecology" is a term developed by Timothy Morton to describe the uncertainty, melancholy, and irony that tinges our ecological awareness. See: Morton, *The Ecological Thought*.

taking place on the Midway Atoll. Backed by a group of donors, that include private individuals, foundations, corporations and non-governmental organizations, Jordan's aim was to produce a documentary feature film, as well as photographs, and a book.⁵³⁰ During the trip, the group communicated through a blog as well as social media networks such as Flickr, Twitter, and Facebook. On the website devoted to the project, midwayjourney.com, they refer to it as a "the midway media project" (Figure 84). Visitors can use the provided links to follow them on Facebook, visit their YouTube channel, and donate to their project via Fractured Atlas, a crowdsourcing website for artists and arts organizations.

The use of various media platforms and the expanding ability of Web 2.0 to present, promote, and fundraise for their project echoes many other contemporary activist projects that employ what Roger Hallas calls the "new media ecology."⁵³¹ Hallas has argued that the crisis in photojournalism, and in the category of documentary as a whole, has led many photographers who wish to address issues of social responsibility to embrace new modes of working alongside alternative financial modes of support.⁵³² By participating in these new media ecologies, Jordan engages with what Yates McKee and Meg McLagan have called the "the premise of nongovernmental politics—organized political action separated from the state."⁵³³ McKee and McLagan write that "nongovernment is thus premised on a constitutive split between government and the forms of politics that operate outside of it while at the same time recognizing this split is not fixed, but mutable, constantly in dynamic interaction."⁵³⁴ They argue that circulation and different platforms of presentation shape and produce the image politically, effectively agreeing with Azoulay's notion that the event of photography continues

⁵³⁰ As of September 5, 2014, Director Chris Jordan and the Midway team has produced a short film and are continuing to work towards a full-length documentary.

⁵³¹ Hallas, "Photojournalism, NGOs, and the New Media Ecology."

⁵³² Hallas particularly emphasises the role of NGOs in supporting photojournalism. *Ibid.*, 100.

⁵³³ Meg McLagan and Yates McKee, eds., *Sensible Politics: The Visual Culture of Nongovernmental Activism* (New York : Cambridge, MA: Zone Books ; Distributed by the MIT Press, 2012), 10.

⁵³⁴ *Ibid.*, 12.

beyond its moment of taking. According to Azoulay, “the ontological nature of the photograph enables one to enact a civil reading, a viewing that one can call ‘nongovernmental viewing’ [...]”⁵³⁵ Chris Jordan’s project, by using the new media ecology of Web 2.0, and by presenting an eco-cosmopolitan vision of human and non-human risk and responsibility, is an attempt to picture an atrocity through a nongovernmental and civic sense of responsibility. Jordan’s images focus the viewer’s response not on a single platform of viewing but on the ‘image complex’ that frames the work. One such platform gave the profile of the *Midway* project a boost, when it was included in the short-list of the international photography prize le Prix Pictet.⁵³⁶

The Global Reach and Vision of the Prix Pictet

As we rethink the role that photography can play in promoting eco-cosmopolitan perspectives, another nongovernmental project on photography is worth considering. In 2008, the private Swiss banking firm Pictet & Cie (Figure 85) established a global prize devoted to photography and sustainability, placing the prize within the discourse of globalization, environmentalism, and ethics. On their website, the Prix Pictet organizers describe the prize as encouraging photography that addresses, “the pressing social and environmental challenges of the new millennium.”⁵³⁷ In doing so, they frame photography as an environmentally engaged medium which can help to bring about a global citizenry.

The global vision found in institutional formations of contemporary photography, represented here by the Prix Pictet, can be understood as a form of deterritorialization, where social, economic, and environmental concerns from around the world are placed side-by-side and ultimately detached from their original contexts. In fostering a specific vision of environmental crisis as global – in part by deterritorializing the specific places and cultures depicted in photography – the Prix Pictet attempts to connect the viewer to

⁵³⁵ Azoulay, “Regime-Made Disaster: On the Possibility of Nongovernmental Viewing,” 40.

⁵³⁶ His project was awarded the Prix Pictet commission of the 2010 year and he was sent to Kenya to photograph the Nukuprat-Gotu Community Conservancy.

⁵³⁷ Prix Pictet Limited, “Prix Pictet: Home,” accessed October 10, 2014, <http://www.prixpictet.com/home/>.

a common humanity. As Stephen Barber has written,

the overarching aim of the Prix Pictet [is ...] to convey, through the photographic image, critical messages about sustainability to a worldwide audience, in the hope that we may prompt action from individuals and decision makers in government, business, NGOs and institutions globally.⁵³⁸

As such, the goal of Prix Pictet is to extend their reach, “beyond Western Europe and into the rest of the developed and emerging- or emerged-world.”⁵³⁹

This event is a new power broker in the world of photography. Photographers from around the world annually vie for the chance at the major cash prize of a 100,000 Swiss Francs, a solo exhibition, a glossy coffee-table publication, and the increased professional profile that the Prix Pictet brings to their careers. The Honorary Chairman of the prize is Kofi Annan, former secretary-general of the United Nations. Spearheaded by Pictet & Cie’s Group Managing Director Stephen Barber, Director Michael Bensen, financed by the independent company Prix Pictet Limited, and produced by Candlestar, a private arts administration company based in London, the Prix invites a group of industry-based nominators (including gallerists, curators, editors, ministers of culture, and directors of art festivals and fairs) to propose photographers,⁵⁴⁰ chooses jurists to make final selections from hundreds of submissions, and organizes the annual publications, exhibitions, and award ceremonies that make up this major prize. The advisory Board of the Prix (as of 2014) include luminaries of the art, journalism, and academic worlds from Chair of Arts Council England Sir Peter Bazelgette, to the philosopher Slavov Zizek.⁵⁴¹

⁵³⁸ Stephen Barber and Michael Benson, eds., *Growth*, Prix Pictet 3 (Kempfen, Germany: teNeues Publishing Group, 2011), 121.

⁵³⁹ Ibid.

⁵⁴⁰ Prix Pictet Limited, “Nominators | Prix Pictet | The Global Award in Photography and Sustainability,” accessed September 5, 2014, <http://www.prixpictet.com/nominators/>.

⁵⁴¹ Prix Pictet Limited, “Advisory Board | Prix Pictet | The Global Award in Photography and Sustainability,” accessed September 5, 2014, <http://www.prixpictet.com/about/governance/advisory-board/>.

The Prix Pictet presents the spectator with a vision of the world unavailable to even the most ambitious globetrotter. Each year, based on their submitted portfolios, a group of photographers is chosen to be included on a short-list. The short-listed photographers are from around the globe, though not surprisingly the majority are European and North American. They are all featured on the Prix's website, alongside their portfolios, artist statement's and biographies (Figure 86). Some are emerging photographers while others have international reputations. As an example (Figure 87), 2011's short list was made up of thirteen photographers and included established photographers such as Thomas Struth (German), Taryn Simon (American), Edward Burtynsky (Canadian) and Guy Tillum (South African). The photographer's portfolios picture a wide variety of subjects: the Kibera slum in Nairobi (by emerging Danish photographer Christian Alys), the industrial landscape of the late twentieth century captured through the earlier technology of the camera obscura (New York based Vera Lutter); nuclear families living in a single Seoul mega-high rise apartment building (by emerging Korean photographer Yeondoo Jung); the abstract sublimity of Hong Kong architecture (Hong Kong based Michael Wolf); and the illegal copper-extraction and e-waste industry of Ghana (emerging Burkinan photographer Nyaba Leon Ouedraogo). The prize is now in its fifth year and the 2013 finalists were announced at the Musée d'Art Moderne in Paris on November 13 2013, to coincide with the opening of Paris Photo. The 2013 winner, German photographer Michael Schmidt for his project *Lebensmittel*, was announced at the Victoria and Albert Museum in May 2014 at the opening of the travelling show.

Every year works by the short-listed photographers are included in an exhibition that travels to galleries and museums around the world (Figure 88) and are published in a deluxe coffee table book.⁵⁴² Between 2012-2014, the short-listed exhibition of 2012 travelled from its inaugural installation at the Saatchi Gallery in London, to Bernheimer

⁵⁴² There have been five published to date: Stephen Barber et al., eds., *Water*, Prix Pictet 1 (Kempfen, Germany: teNeues Publishing Group, 2008); Barber et al., *Earth*; Barber and Benson, *Growth*; Stephen Barber and Michael Benson, eds., *Power*, Prix Pictet 4 (Kempfen, Germany: teNeues Publishing Group, 2012); Stephen Barber and Michael Benson, eds., *Consumption*, Prix Pictet 5 (Kempfen, Germany: teNeues Publishing Group, 2014).

Fine Art in Munich, Galerie Vanessa Quai in Paris, the Hungarian House of Photography in Budapest, Istanbul Modern, the Gallery of Photography in Dublin, Huis Marseille in Amsterdam, Beirut Exhibition Centre, Westbau in Zurich, the Artstation Gallery Tel Aviv, the Aperture Foundation in New York City, and, finally, to the Museum of Photographic Arts in San Diego.⁵⁴³ At the same time, exhibitions made up of other configurations, including a show from the annual winners' more recent work, were circulating through European galleries. Through its participation in the global network of galleries and museums, the Prix Pictet gains legitimacy as an art event that is created just beyond the perimeter of the traditional art world.

What prompted the creation of the Prix Pictet? The following statement by Ivan Pictet, Senior Managing Partner of Pictet & Cie, goes some way to clarifying the involvement of the bank as founder of a photography prize about sustainability. He writes:

Pictet attaches great importance to sustainability. We have been looking after the fortunes of families and institutions for over two hundred years. In a sense 'sustainability' lies at the heart of Pictet's business ethos. More specifically, we are committed to placing Pictet on a sustainable footing – from minimizing the environmental and social impact of our activities to making carefully chosen philanthropic contributions.⁵⁴⁴

While many economists, politicians, and businesspeople would applaud this focus on sustainable business practice, others have criticized the concept of sustainability because of its tainting by the practice of 'green washing', or the misuse of green marketing.⁵⁴⁵ What exactly is 'sustainability'?

In their aptly titled book, *Sustainability: If It's Everything, Is It Nothing?* Heather M. Farley and Zachary A. Smith argue that sustainability needs to be reassessed. As they write, "sustainability began as a promising, inspirational, and hope-filled worldwide endeavour

⁵⁴³ Prix Pictet Limited, "Exhibitions & Events | Prix Pictet | The Global Award in Photography and Sustainability," accessed September 4, 2014, <http://www.prixpictet.com/events/page/3/>.

⁵⁴⁴ Barber et al., *Earth*, 120.

⁵⁴⁵ Stefanie Bowles, *Whose Logo? Sustainable Consumption and Production in North America*, Research Paper (Ottawa, Ont.: Policy Research Initiative, 2011).

but has become a buzzword, often with little more behind it than rhetoric.”⁵⁴⁶ While it started as a term used by experts to discuss development, as a discourse it has not fulfilled expectations and has been easily co-opted. Farley and Smith define this misuse as “faux sustainability.”⁵⁴⁷ As a term used in many different contexts, from development, industry, and economics, to organizations like the United Nations General Assembly, the authors argue there is no universal definition. The major issue that Farley and Smith have with the term sustainable is found in the root “sustain.” They put it succinctly: “what we wish to perpetuate, however, is not clear in current definitions of sustainability.”⁵⁴⁸ Yet sustainability is understood to have “three pillars”: economic, social, and environmental. In terms of economics, the field in which Pictet & Cie operates, sustainability mostly refers to “the production, distribution, and consumption of goods and services which are derived from [...] land, labour, and capital.”⁵⁴⁹ Based on Ivan Pictet’s claim that sustainability is at the ‘heart’ of Pictet’s corporate philosophy, we can assume that for Pictet, the maintenance of their client’s business and financial capital (they are a bank, after all) is central to their valuation of sustainability. Whether based on the concept of weak sustainability, to maintain a non-diminishing stock, or strong sustainability, to maintain natural capital (i.e. the environment) and stock as part of capital as a whole, Prix Pictet also uses their leverage as a supporter of ‘cultural’ sustainability and photography to guarantee their position.⁵⁵⁰ This is where the exhibitions of the Prix Pictet photographers come in: by circulating to galleries and museums around the world and bringing their message of environmental sustainability to a global audience, Pictet & Cie demonstrates their own global presence.

As an eco-photographic phenomenon, the Pictet prize is striking for how it has harnessed a particular form of eco-cosmopolitanism to its cause: visualizing Pictet et Cie’s business as a global one. In part, this success has come from how it reframes eco-

⁵⁴⁶ Heather M. Farley and Zachary A. Smith, *Sustainability: If It’s Everything, Is It Nothing?*, Critical Issues in Global Politics 5 (London ; New York: Routledge, 2014), ix.

⁵⁴⁷ *Ibid.*, 4.

⁵⁴⁸ *Ibid.*, 27.

⁵⁴⁹ *Ibid.*, 47.

⁵⁵⁰ *Ibid.*, 48–53.

photography as a visual practice that transcends the traditional formal categories of the medium, united purely by the issues. Barber has decried what he calls the “artificial schism between art and photography.”⁵⁵¹ In this statement, Barber seems to be suggesting a divide between the conceptual and the artistic impulses of photography, or what Lucy Soutter has referred to as ‘photography as art’ versus ‘art photography’.⁵⁵² Soutter uses these descriptors in her book, *Why Art Photography?* to distinguish between the postmodern usage of the medium as a critical and conceptual tool and the more modernist emphasis on craft, authenticity, and personal expression.⁵⁵³ Yet, even Soutter acknowledges that today, these distinctions “have largely collapsed,” and that “the different practices are categorized partly by the way they look and also by the constantly shifting ways they are framed by language and institutions.”⁵⁵⁴ Soutter’s understanding of photography in the art market today echoes Barber’s desire to make the Prix Pictet rise above the ongoing debates of photographers, artists, theorists, and historians about the purpose and meaning of the medium, as if wishing it so would make the issue disappear.

While the Prix Pictet organizers claim that their prize does not privilege, in Soutter’s terms, ‘photography as art’ over ‘art photography’ a quick review of the winning projects reveals a different emphasis. The winner’s projects have focused on either specific geographical locations or ecological issues, highlighting issues of social justice, climate change, industrial and urban development, ecological aesthetics, and cultural and geographical transformation. In 2008, the winner was the Canadian photographer Benoit Aquin for his series *The Chinese 'Dust Bowl'* (Figure 89) on the human-made disaster that has denuded over 400,000 square kilometers of land in China through unsustainable agricultural practices. In 2009, Nadav Kander won the prize with his series *'The Long River'* (Figure 90), in which he photographed the people and the changing landscape along China’s Yangtze River. In 2010-11, Mitch Epstein’s *American Power*

⁵⁵¹ Barber et al., *Prix Pictet*, 125.

⁵⁵² For an in depth discussion of art photography today see: Lucy Soutter, *Why Art Photography?* (London: Routledge, 2013).

⁵⁵³ *Ibid.*, 3–5.

⁵⁵⁴ Soutter, *Why Art Photography?*, 2–3.

series (discussed in Chapter 5, see Figures 71-79) was awarded the prize. Luc Delahye's recent pictures on global conflict, *Various Works 2008-2011*, won in 2012 (Figure 91). The most recent prize was awarded to Michael Schmidt in 2013, for his series *Lebensmittel* on global food production and consumption (Figure 92). While the past years' short-lists include many well-known art photographers, such as Robert Adams, Edward Burtynsky, and Andreas Gursky, as well as a few photographic artists such as Mary Mattingly and Laurie Simmons, to date none of the winning projects could be described as anything less than documentary photography.

Once described by photographer and critic Martha Rosler as representing, "the social conscience of liberal sensibility presented in visual imagery,"⁵⁵⁵ documentary photography has a long history of being used in support of social reform and is broadly understood to be an approach to photo-making which attempts to represent events, places, and people in their historical and cultural context. We see explicit examples of the documentary approach in the annual commission prizes sponsored by Pictet each year. Along with the major prizewinner, every year a second photographer is chosen by the partners of Pictet Group to complete a commission in support of a particular charitable organization that is subsidized by the bank. Each commission is later published as a book. In 2008, Munem Wasif (whose work is discussed in Chapter 5, see Figures 66-70) was invited to photograph in his country of Bangladesh, where Prix Pictet was sponsoring the UK-based charity, Wateraid, to provide clean drinking water to a community whose supply had become contaminated.⁵⁵⁶ In the second year, Ed Kashi went to Madagascar to photograph the impact of slash and burn agriculture on the Malagasy people (Figure 93), where Pictet & Cie funded the work of Azafady, a NGO focused on sustainable living, health care, and education in that country.⁵⁵⁷ In 2010, Chris Jordan travelled to Kenya to photograph alongside the NGO TuskTrust in the Nakuprat-Gotu Conservancy (Figure 94), where foreign aid is given to local people "to

⁵⁵⁵ Martha Rosler, "In, Around, and Afterthoughts (on Documentary Photography)," in *The Contest of Meaning: Critical Histories of Photography*, ed. Richard Bolton (Cambridge, MA: MIT Press, 1989), 303.

⁵⁵⁶ Wasif, *Salt Water Tears: Lives Left Behind in Satkhira Bangladesh*.

⁵⁵⁷ Ed Kashi, *Madagascar: A Land Out of Balance* (London: Prix Pictet, 2010).

cultivate a way of life based on principles of environmental stewardship.⁵⁵⁸ 2012's commission was given to Simon Norfolk who went to Afghanistan with Medair, a charity that supports communities affected by floods, droughts, and landslides (Figure 95).⁵⁵⁹ The 2013 commission winner has just been announced as photographer Juan Fernando Herran.⁵⁶⁰ Each commission is later presented to the public in a gallery exhibition.⁵⁶¹ While the Prix Pictet's emphasis on sustainability offers the organizers a way to proclaim that environmental photography transcends the art versus document divide, it is clear that the prize is also focused on visualizing the company's most photogenic charitable works and sees photography as the ideal medium through which to document their contributions to the global humanitarian stage.

So why does the Prix place such emphasis on this division between art and photography? Why does it overemphasize their goal is to overcome this distinction in such a deliberate manner? What defines these works in the eyes of the Prix Pictet organizers is not their aesthetic sensibility or methodological approach but how effectively they can be instrumentalized by the firm's communications strategy. Each year the Prix Pictet structures the prize around a single word (Figure 96). Since 2008 there has been *Water*, *Earth* (2009), *Growth* (2010), *Power* (2012) and *Consumption* (2013): five semiotic touchstones so broad that they are rendered meaningless in face of the images they describe. Gathered under the overarching theme of sustainability, these categories offer the jurists, and ultimately the viewer, an easy way to read, structure, and interpret the photographs. This form of curatorial framing tends to neutralize the differences between each photographer's work, their styles and approaches, their intentions and their interpretations, by emphasizing that photographs are simply

⁵⁵⁸ Chris Jordan, *Ushirikiano Building a Sustainable Future in Kenya's Northern Rangelands*, The Third Prix Pictet Commission (Kempfen, Germany: teNeues Publishing Group, 2011).

⁵⁵⁹ As of September 2, 2014, no publication yet exists for Norfolk's commission from 2012.

⁵⁶⁰ Prix Pictet Limited, "Consumption Commission," *Prix Pictet*, accessed October 17, 2014, <http://www.prixpictet.com/consumption/commission/>.

⁵⁶¹ For example, Chris Jordan's commission *Ushirikiano* was exhibited in 2011 at the Diemar/Noble Gallery, a commercial fine art photography space in London which has since closed.

arresting and aesthetic visions of the thematic structure. As a result, as seen in the shortlist of *Consumption*, the jury can easily place Laurie Simmons's feminist object-performance series *The Love Doll* (2009-2011) (Figure 97), alongside Allan Sekula's project *Fish Story* (1988-1995) (discussed in Chapter five, see Figure 60), and Rineke Dijkstra's multi-year portrait series of *Almerisa* (1994-2008), about a Bosnian refugee to the Netherlands (Figure 98). The diversity of styles and subjects makes one suspect that any project could fit this description. In this way, sustainability seems to lose all meaning, and if sustainability is not driving the selection, what criteria are?

The Prix Pictet can also be understood as a prime example of a platform of presentation, which shapes and circulates images through the global media ecology. While there is enormous value in positioning the environment as a global issue, as Heise and others have persuasively argued, there is nevertheless something worrisome about the way that the Prix Pictet seems to uproot and universalize the meaning of these images, their styles, and their subject matter, mixing them into an ecological puree with a strong aftertaste of consumerist cosmopolitanism. By putting these images together, the prize attempts to shape the evolving meaning of the photographic objects and frame them through the discourse of global corporate stewardship. This form of corporate deterritorialization of culture functions at various levels: first at the level of the subject, which is reduced by its juxtaposition with other photographic projects, next at the level of meaning, where intention and context are swept away by the power of thematic framing, and finally at the level of presentation, where corporate and institutional intentions for the prize overcome the images themselves.

While corporate sponsorship is common for most contemporary arts events, financial support is usually sought by an organization or a museum in support of a project or event *not* created by the institution. The fact that this annual event is a prize adds an extra layer of meaning to the exhibition, as if the bank has officially sanctioned "sustainable" photography through their naming of it. James English has argued that prizes must be understood as practices that contribute cultural value to their winners. He writes that the primary function of prizes— "that of facilitating cultural 'market transactions', enabling various individual and institutional agents of culture, with their different assets and interests and dispositions, to engage one another in a collective

project of value production—is the value of cultural production as such.”⁵⁶² Yet, in describing our contemporary moment as “the age of awards,”⁵⁶³ English does not wish to disparage the prize in itself, but instead give it greater consideration as part of a cultural, economic, and political system that gives authority and, ultimately, contributes to the definition of what art is. Understanding the Prix Pictet in the context of other contemporary art events currently held around the world, often supported by corporate, government, and non-governmental funding, gives us another perspective through which to consider how the Prix Pictet contributes to an eco-cosmopolitan worldview.

English would probably agree that prizes should be considered within the context of “mega-events,” as Monica Sassatelli categorizes the output of the many contemporary global culture industries and institutions. These include major festivals, blockbuster exhibitions, branded museums and their burgeoning satellites, and biennials.⁵⁶⁴ Sassatelli argues that contemporary mega-events are often treated dismissively, as products of aesthetic cultural consumption, commercialized and antithetical to more ethical cosmopolitan perspectives.⁵⁶⁵ She states that the aesthetic cosmopolitanism of these events must be considered as part of a larger ‘cultural public sphere’, in which “meanings are, by definition, shared understandings that we learn, produce and reproduce in and for interaction.... [c]rucial in the idea of public culture is the constitutive dimension of reception or interpretation within the production of culture itself.”⁵⁶⁶ In this way, Sassatelli urges us to consider mega-events as more relational and contingent in meaning:

⁵⁶² James F. English, *The Economy of Prestige: Prizes, Awards, and the Circulation of Cultural Value* (Cambridge, MA: Harvard University Press, 2009), 26.

⁵⁶³ *Ibid.*, 90.

⁵⁶⁴ Sassatelli, “Festivals, Museums, Exhibitions: Aesthetic Cosmopolitanism in the Cultural Public Sphere,” 239.

⁵⁶⁵ See Monica Sassatelli, “Urban Festivals and the Cultural Public Sphere: Cosmopolitanism Between Ethics and Aesthetics,” in *Festivals and the Cultural Public Sphere*, ed. Gerard Delanty, Liana Giorgi, and Monica Sassatelli (Milton Park, Abingdon, Oxon ; New York: Routledge, 2011), 12–28.

⁵⁶⁶ Monica Sassatelli and Liana Giorgi, “Introduction,” in *Festivals and the Cultural Public Sphere*, ed. Gerard Delanty, Liana Giorgi, and Monica Sassatelli (Milton Park, Abingdon, Oxon ; New York: Routledge, 2011), 2.

Judged in terms of the 'standard' public sphere, the aesthetic cosmopolitanism discussed here appears inauthentic and inconsequential with no 'real' (read: political or ethical) purchase. Within a more inclusive — yet specific to contemporary cultural manifestations— cultural public sphere, it becomes possible to consider culture, or meaning, not in terms of purely cognitive, rational-argumentative communication, but also as the result of multifaceted sociable experience, where representational strategies are not the only indicator of empowerment.⁵⁶⁷

This conception of a public cultural sphere, should perhaps be expanded to acknowledge the pluralised public cultural spheres that make up our cosmopolitan world. Sassatelli's understanding of prizes and festivals as part of a larger contemporary aesthetic cosmopolitanism, allows us to ask how the Prix Pictet's vision of environmental sustainability can be reconciled with the development of multiple global environmental imaginaries and competing eco-cosmopolitan ethos..

There is a form of global world-making at work in the prize, driven by the circulation of these images around the globe and their representation of global subjects. At its best, the Prix Pictet gestures toward the ideal of an ecological citizenry of photography through its global outreach and vision of the photography as a deterritorialization of place, a project of concern for everyone around the world which challenges us to view and imagine the various scales of ecological interaction. Considered through the conception of cultural public spheres, in which art mega-events help to circulate environmental, political, economic, and social ideas throughout the world in the form of aesthetic cosmopolitanism, the Prix Pictet is in itself a valuable 'cultural transaction'.

Yet the Prix Pictet fails to fulfill the ethical potential of eco-cosmopolitan ethos because the Prix cannot successfully disguise its corporate intentions, a layer of meaning which may limit the development of a civic consciousness or at least curtail it through the sovereignty of Pictet & Cie. While Azoulay argues persuasively that photography is free of national, territorial, and cultural boundaries, enacting a global citizenry through the power of images, can we as spectators really overcome the irony of viewing Mitch

⁵⁶⁷ Sassatelli, "Festivals, Museums, Exhibitions: Aesthetic Cosmopolitanism in the Cultural Public Sphere," 241.

Epstein's images of the American oil and energy industry brought to us by a private Swiss banking firm? Nor can we ignore the multiple history and practices of photography represented by the winners, which are so easily discarded by the organizers as part of their attempt to limit the environmental photograph as an object by circumscribing the process of meaning within its heavy-handed thematic structure. While the prize must be applauded for the attention it has drawn to the work of these photographers – many of them aesthetically and socially engaged individuals – I would ultimately argue that the deterritorialization of photography through Prix Pictet model raises more ethical concerns than it answers. Perhaps that is of value in itself. Photography plays a powerful role in envisioning the global environment and in developing and circulating competing and multiple global public cultures but, in considering the Prix Pictet, we are left to wonder who is defining the global citizenry of photography and the culture of eco-cosmopolitanism?

CONCLUSION: The Future of Eco-Photography

A Daily Encounter with the Global Environmental Imaginary

I wake up this morning to Radio-Canada broadcasting on my radio alarm clock. They announce a protest to be held today, 12 October 2014, against the Albertan oil company TransCanada's plans to build a new petroleum port in Cacouna, Quebec.⁵⁶⁸ This is a part of TransCanada's proposal to develop the Energy East pipeline project, to facilitate the shipping of tar sands oil along the St. Lawrence Seaway and outward to the world. Preliminary drilling has already begun, although the National Energy Board review is not yet complete, and scientists are worried about the impact that the sonic disturbances from the geophysical testing and deep-water construction may have on the wildlife of the region.⁵⁶⁹ Environmentalists are gathering to create momentum for their cause: to denounce the Quebec Government's scientifically unverified environmental review, which led a Quebec Superior judge last month to halt TransCanada's exploratory drilling at the site. This injunction against the project expires in three days, when the Beluga whales of the St. Lawrence—one of Canada's most threatened species and one protected by Canada's Species At Risk Act—will have already completed their annual migration south from their calving grounds in the Rivière-du-Loup region.⁵⁷⁰ Radio-Canada, the French-language public broadcaster, describes the upcoming protests against the federally supported project, as the biggest in Quebec since the Maple Spring of 2012 when students took to the streets across the province to fight the provincial government's plans to increase university tuition.

⁵⁶⁸ "Bulletin régional - CBF," digital radio, *Samedi et rien d'autre* (Montréal, Qué: Radio-Canada, October 11, 2014), http://ici.radio-canada.ca/emissions/samedi_dimanche/2014-2015/.

⁵⁶⁹ CBC News, "St. Lawrence Belugas Threatened by Pipeline Plans," *CBC*, November 30, 2013, <http://www.cbc.ca/news/canada/montreal/st-lawrence-belugas-threatened-by-pipeline-plans-1.2446484>.

⁵⁷⁰ Brent Patterson, "Energy East Pipeline Threatens Beluga Whales in the St. Lawrence River," *The Council of Canadians*, September 29, 2014, <http://www.canadians.org/blog/energy-east-pipeline-threatens-beluga-whales-st-lawrence-river>.

Over breakfast, I read Evan Osnos's editorial in *The New Yorker* magazine on the student-led protests in Hong Kong against the Chinese governments announcement that they will be deciding on candidates for the region's 2017 elections. Reneging on their promise to provide the former British colony with a "high degree of autonomy" when the islands region rejoined China in 1997, the Communist Party had promised that elections would be a free vote.⁵⁷¹ Yet when the details of the vote were released in August, a slow simmer of discontent began across the region. On September 26th a "couple of hundred students" occupied the forecourt of the government's headquarters: the subsequent arrest of student leader Joshua Wong led to major support for the cause with, at its height, hundreds of thousands of people in the streets.⁵⁷² The "umbrella revolution" was so named after the protesters who, protecting themselves from tear gas and pepper spray, used their umbrella's to shield themselves from the police attacks, thereby "creating an instant symbol of resistance."⁵⁷³ This symbol of resistance, based on a device meant to protect people from inclement weather, reminds me of another eco-symbol—the maple leaf—used by Canadian students in their protests against the official powers. It also reminds me of the harsh and acrid taste of tear gas, a "non-lethal" chemical weapon that burns the eyes and mucus membranes of the face with its toxic fumes, while constricting air flow to the lungs.

Every day at 1 pm, I receive an email newsletter from *Grist Magazine*, an online environmentalist publication whose tag-line, "Gloom and doom with a sense of humour," belies the wealth of news and information it provides. As I write this conclusion, my email pings, and I unconsciously swipe my mouse across my screen to check my email: it is my daily fix from *Grist*. A storyline catches my eye amongst the many: "311,000 Climate Protesters Marched in New York. What's Next?" On 20-21 September, 2014, I was, as usual, standing at my computer writing, while the world's largest march against climate change took place in New York City and in cities around the world. Organized by activist and writer Bill McKibben and his group 350.org, a global climate activist organisation, to

⁵⁷¹ Evan Osnos, "The Party and the People," *The New Yorker*, October 13, 2014, 45.

⁵⁷² Ibid.

⁵⁷³ Ibid.

coincide with Secretary-General Ban Ki-Moon's United Nations Climate Summit, the People's Climate March was an enormous media success at drawing attention to the issue of climate change. In New York City alone, 311,000 people came out (the website peoplesclimate.org claims four hundred thousand people attended) and there were approximately two thousand marches in cities around the world—from Bogota to Lagos—that drew hundreds of thousands of people.⁵⁷⁴ Ban Ki-Moon marched down the streets of New York with French minister of ecology Segolene Royal, Primatologist Jane Goodall, and former U.S. vice-president and climate activist Al Gore. Writer Heather Smith, in her *Grist* article from one month later, writes that the march "was about making the number of people concerned about climate change into a visible thing."⁵⁷⁵

Scrolling through Facebook this afternoon, on a mental break from my work but not my computer, I come across a post by The Council of Canadians, who I follow, re-posted from Ricochet Media, whom I've never heard of. This post profiles the work of photographer Robert Van Waarden and his series *Along the Pipeline: The Many Faces of Energy East*.⁵⁷⁶ Clicking on the link, I am taken to a page that features Van Waarden's portraits and interviews with Canadians from across the Prairies, from the communities and towns that would be nearest to the pipeline. Each black and white photograph is accompanied by the name of the subject, where they are from, and a quote by them about their response to the pipeline. Standing against a white background, each subject is framed in a three-quarter pose. Some of the subjects are smiling, such Kahren Celeridad, a migrant worker from the Philippines who works as a server in Hardisty, Alberta. Kahren's statement expresses ambivalence to the pipeline issue, and a more global and long-term perspective about economics:

I am here in Canada for two years but Hardisty only for two months. I just want to work. That is what I am here for. Canada is really a rich and

⁵⁷⁴ Laura Westbrook and Roger Harrabin, "Global Protests over Climate Change," *BBC News*, September 21, 2014, <http://www.bbc.com/news/science-environment-29301969>.

⁵⁷⁵ Heather Smith, "311,000 Climate Protesters Marched in New York. What's Next?," *Grist*, October 9, 2014, <http://grist.org/climate-energy/311000-climate-protesters-marched-in-new-york-whats-next/>.

⁵⁷⁶ Robert Van Waarden, "Along the Pipeline: The Many Faces of Energy East," *Ricochet Media*, October 6, 2014, <https://ricochet.media/en/84/along-the-pipeline-photo>.

wealthy country, and it helps a lot of people like us. Hardisty is a pretty good town, and there are a lot of good people here.... If they don't have an oil field here, how can they open a restaurant?

In her portrait, Kahren smiles with her mouth but not with her eyes and one arm holds the other in an awkward embrace. Others display a variety of looks: serene, concerned, fierce. In *Evening Star, Cree woman warrior. Treaty 4 Territory, Peepeekisis First Nation*, Evening Star is turned slightly to the right, chin tucked, with her straw cowboy hat tilted downwards: her dyed blond hair frames her face and her gaze is strong and direct. Her thumbs hang from the pockets in her camouflage patterned short-shorts and her tight fitted tank top reveals a push-up bra with hefty straps. Nestled in her cleavage is a star shaped pendant and running down her left bicep is a tattoo of a lion's head and a woman's, their hair and fur intermingling and flowing around their united forms. Evening Star states:

I consider myself a Cree woman warrior. It came into my spirit that I am willing to go all the way: I'm willing to get arrested, I'm willing to lock myself down to some machinery, I'm even willing to put my life on the line if it comes down to that, because this pipeline is going through sacred territories of our ancestors. I've got to take a stand, because if I don't, who else will? I'm hoping there'll be more warriors out there that will "warrior up."

Some photographs include audio files that are elaborations of the statements by the subjects. I listen to Realle Wapioke, a 13-year-old student from Shoal Lake 39 First Nation talk about how important it is for her to speak out about the environment, for her little brother and her community. I hear Robert Smith, an organic farmer from Austin, Manitoba describe how he worries about accidents along the pipeline, the rail lines and highways and the risks they pose to his farm's water supply. He wonders whether the pipeline is really necessary or if we are just consuming more than we need. At the bottom, there is a hyperlink that states "for more on the project and to follow Robert's journey visit AlongThePipeline.com." So I do.⁵⁷⁷

⁵⁷⁷ Robert Van Waarden, "Along the Pipeline | a Photographic Journey Along the Proposed Energy East Pipeline in Canada," *Along The Pipeline*, accessed October 11, 2014, <http://alongthepipeline.com/>.

After supper, I sit down to watch *The Colbert Report* and find that the special guest for tonight is writer and activist Naomi Klein talking about her latest book *This Changes Everything: Capitalism Vs. The Climate*.⁵⁷⁸ Klein, an anti-capitalism activist and journalist who came to prominence with her books on the impacts of corporate marketing and disaster capitalism,⁵⁷⁹ joins the satirist Colbert in a battle of words about the changes that she feels must take place at the economic and global level to prevent climate change from irrevocably transforming the planet.

Colbert, in his persona as right-wing news pundit, says to Klein: "You can attack a lot of things but now you are attacking capitalism. Why are you attacking capitalism and what the heck does it have to do with the climate?"

She replies, with a smile, "Capitalism is attacking us."

Klein goes on: "The problem is that capitalism is a machine, it's a machine based on short-term profit and growth and the climate needs us to contract. So you have this tension between this system that needs to grow, grow, grow indiscriminately and a planet that's going 'guys? uh, ah, I've had it!' and that's why you're having more storms and ..."

Colbert interrupts: "What do you mean the planet says? What are you a druid, are the trees taking to you? What are you talking about?"

"We are overloading our planet's life support system," she tells Colbert.

Klein goes on to describe the system she proposes as a replacement to capitalism, one that would make the 'polluters pay' by redistributing corporate capitalist wealth to different parts of the economy, from health care and renewable energy, to the arts.

But Colbert always gets the last word in these segments and this is no exception.

He states: "I haven't finished reading the book so I don't want to know who wins—capitalism or the climate—but I assume it is capitalism since this book costs 30\$ and it is made of dead trees." The audience laughs and the

⁵⁷⁸ "The Colbert Report," Video, *The Colbert Report* (New York N.Y.: Comedy Central TV, September 24, 2014).

⁵⁷⁹ Naomi Klein, *No Logo: Taking Aim at the Brand Bullies* (Toronto, Ont.: Vintage Canada, 2000); Naomi Klein, *The Shock Doctrine: The Rise of Disaster Capitalism* (Toronto: Vintage Canada, 2008).

music rolls into commercial.

Thus ended the day that I began to conclude this thesis, a project which spans the globe and proposes that photographic images have fundamentally shaped and co-created the environmental imaginary of the people on this planet. My day—12 October, 2014—was full of eco-images, some photographic, some literary, some tragic, others hopeful—and some purely imaginary. Reading, watching, searching, and viewing the vast ‘media ecology’⁵⁸⁰ of my day, an experience that can be replicated by anyone living with high-speed internet and un-censored free access to Google, I am struck by just how many eco-photographs are out there: and how many types of images I did not discuss in this thesis.

Aside from the work of professional photographer Robert Van Waarden, the images I saw today are primarily ephemeral news-driven images—often by “citizen journalists” rather than professionals⁵⁸¹—that many people look at, in their email, online, and on TV. Yet these images of hope, worry, crisis, and catharsis that are found in the background of our everyday existences, may percolate and resurface at unusual and unexpected times. Beluga whales, book covers, colourful umbrellas circling in the smoke-filled air, and streets filled with costumed and colourful characters marching for the future: these images may just haunt my dreams tonight, until the parade of eco-images begins anew tomorrow.

Eco-Photography: Future Concerns of the Past Pages

I end this thesis with a question: what is the future of eco-photography? Above, I hinted at the vast variety of eco-photographs that I have not written about: images of protests,

580 See: Hallas, “Photojournalism, NGOs, and the New Media Ecology.”

581 Stuart Allan defines citizen journalism “as a type of first-person reportage in which ordinary individuals temporarily adopt the role of a journalist in order to participate in newsmaking, often spontaneously during a time of crisis, accident, tragedy or disaster when they happen to be present on the scene.” Sometimes also called “accidental journalism” or “participatory journalism” depending on an author’s negative or positive position towards the practice. See: Stuart Allan, *Citizen Witnessing: Revisioning Journalism in Times of Crisis*, Key Concepts in Journalism (Cambridge, UK; Malden, MA: Polity Press, 2013), 9.

portraits of authors and activists, citizen and participatory photo-journalism, not to mention the other forms of media—such as film, television, audio clips, multi-media websites and installations—that rely on the photographic image to support and promote their agendas. These images are ubiquitous and accessible to a wide variety of audiences, often more readily available than the documentary, art, and photojournalism photo projects, featured in the galleries, magazines, and books that I have discussed in this thesis. My corpus represents only a small part of the eco-photographic spectrum: there is further work to be done to explicate the relationship between photography and the environmental imaginary.

The direct appeal of eco-photography may be its greatest strength, drawing on a viewer's sense of civil responsibility and on the ethical imperative to communicate its message of concern. The photographers I have discussed in this thesis employ realism as a rhetorical and aesthetic approach that addresses the environmental imaginary in a direct and naturalizing manner. Drawing on the viewer's relationship to the real, to a desire for transparency in a complex world, and employing visual strategies to make complex concerns more understandable, eco-photography will continue to thrive in a digital media ecology because it speaks directly to the imaginary and affective power of the future. It is the ability to circulate these images through social media, and outside the traditional modes of promotion and presentation, that will offer eco-photography its greatest visibility.

The de-materialization of the photographic object by digital technologies, facilitated by the combination of the mobile phone camera and the Internet—has created a new photographic environment for all types of images, in addition to the standard media ecology made up of print, film, and television. As digital technologies improve, and more people, amateur and professional, gain access, the quality and quantity of eco-images can only grow. Yet just as digital dissemination is changing how we view and experience photography, digital alteration and malleability will continue to undermine our perception of photographic reliability, particularly in the traditional areas of the sciences and photojournalism. While critics, such as Fred Ritchin, worry about the impact of

postproduction technologies on photography,⁵⁸² I would argue that in many ways the knowledge of photographic fallibility has only made viewers more aware, and more desirous of authenticity in the medium. While some artists, such as the sculptor Mary Mattingly, have already begun to explore postproduction approaches in eco-photography, by using the compositing power of digital photography to picture the future as a landscape full of dystopian architecture and nomadic post-apocalyptic people,⁵⁸³ this type of work remains in the minority. These digital imaginaries have the potential to broaden the scope of images of environmental concern but the direct documentary approach—with all its faults and posturing—will remain the foundational vision of eco-photography.

Many of the same concerns that have been raised throughout this thesis will be important considerations for the future of eco-photography. In Chapter One, I describe the scholarship on the environmental imaginary, from history and literary studies to visual culture and art history, as a reflexive and catalytic force in the development of a sense of ecological concern, while articulating what I see as the lack of in-depth analysis of the role photography has played in developing the environmental imagination. I hope that this thesis helps to expand the scope of ecocritical thinking towards the visual and photographic, while offering new directions for research within the field of art history.

Chapter Two explores the difficulties of articulating environmental concern free from the tropes and iconic framing structures that can impede the contingency and emotional impact of the eco-photograph. By recounting the history of photography's relationship to suffering as an ongoing and contested issue that has occupied the minds of prominent theorists, such as Roland Barthes, Susan Sontag, and Robert Hariman and John Lucaites, I describe eco-photography as a form of public art that reflects and reinforces the values of the public sphere. The issue of the new media ecology will continue to be relevant as photography migrates into different and more complex media structures,

⁵⁸² Ritchin, *After Photography*.

⁵⁸³ Mary Mattingly, "Work - Nomadographies, 2007-2009," *Mary Mattingly*, accessed October 14, 2014, <http://www.marymattingly.com/html/MATTINGLYNomadographies.html>.

from the interactive website to photo-sharing networks such as Instagram, which allows users to add filters and re-post images to multiple social media sites. Text, captions, and context will be essential additions to these forms of 'amateur imagery' even as they were to cultural theorists of the photo essay and photographic magazine who interrogated the ideological themes and cultural authority imbued by those format's visual conventions. Barbie Zelizer's call to nuance our understanding of photography as a contingent and emotional influence on the imagination offers future thinkers of eco-photography a way to move beyond the strict rhetorical analysis of the image.

Chapter Three focuses on eco-photography's framing as a scientific and objective form of representation that gains authority through its repeatability. The scientific understanding of photography as a form of data, which is found in particular examples of eco-photography, helps to perpetuate a sense of the medium as representing a didactic and *observable* reality. As I argue in my analysis of James Balog's project *Extreme Ice Survey*, the authority of the photographer has a role to play in perpetuating the notion of photographic objectivity as a way of witnessing that is more authentic and reliable because of the photographer's position as neutral observer. This analysis remains relevant to the discussion of the Web 2.0 media ecologies, which privilege the citizen photographer and where "amateur images are judged to be more 'authentic' because they constitute first-hand recordings by individuals who witnessed or experienced an event as it was actually happening."⁵⁸⁴ Meanwhile, urgency and concern over issues such as climate change effect the critical viewing of eco-photography. This will only become more prevalent as the speed of image production and dissemination accelerates beyond what we see today. Chapter Three confirms that temporality is central to photography's value as a communicative device that needs to be understood as a force that can impact eco-photography's complexity and clarity of message.

In Chapter Four, I focus on the sense of risk and anxiety that is part of eco-photography's rhetorical toolkit. I argue that eco-photography is best understood as

⁵⁸⁴ Kari Andén-Papadopoulos and Mervi Pantti, eds., *Amateur Images and Global News* (Bristol, UK ; Chicago: Intellect, 2011), 12.

representing past, present, and future; as a form of temporal slippage that offers valuable insight into the ever-changing concerns about the environment. Looking at nuclear photography as an example of this socio-cultural awareness, I suggest that photographs of nuclear risk reflect the shifting worries of the global environmental imaginary, influenced by Cold-War concerns of toxification and militarism, by presenting threats of energy shortages, the carbon crisis, and planetary ecological and economic instability. The sense of future risk is embedded in these images, just as the uncertainty about the future climate is founded in our actions (or lack of action) today. My own position as a citizen and activist creeps into this chapter as I propose that only by a envisioning a better future, and understanding photography as a catalyst for this act of imagining, can we develop a sense of hope for the world at risk.

Chapter Five proposes that a spatio-temporal relationship is central to the understanding of eco-photography. Just as deterritorialization and dislocation are understood by scholars of globalization to profoundly transform the coherency of cultural identities, space-time compression is central to the global environmental imaginary. As eco-photographs travel through time and space—and across our computer monitors—a sense of global complexity and visual impenetrability makes understanding eco-photography a challenge. Environmental injustice figures as a prominent concern in this chapter, injustice that effects people, environments, and animals in uneven measure. As a result, strategies of visibility must be employed to picture what Rob Nixon has called the “slow violence” of global environmental crisis. Photography can be a useful tool for visualizing and imagining the complexities of environmental justice, from the disjuncture between local and global communities, to the spatial impact of environmental and economic decisions made at the centre have on the periphery, to the impact that corporate and governmental powers can exert on the landscape. Using photography dialectically, to complicate and explicate the relationships of space and time, offers viewers a way to critically engage with the realism of eco-photography. The eco-photography of the future will do well to absorb these approaches as the complexity of global environmental issues continue to grow and photographic responses to proliferate.

Finally, in Chapter Six I engage with the growing interest in a global ethos that places at its heart a concern for the people and the planet. Cosmopolitanism—and its ecological offshoot—engages with ideas of civil responsibility, human and non-human conviviality, and the complexity of human identity and existence in our globalized world. Eco-

photography can function as a platform for eco-cosmopolitanism when it is used to imagine and position its viewers as ecologically grounded world citizens. The Prix Pictet attempts to do just that by circulating, through books, websites, and exhibitions, photographic visions of environmental sustainability. Yet I critique the Prix Pictet for imagining a citizenry of photography that sees charitable works and corporate authority as the answer to planetary crisis. Nevertheless, prizes like the Prix Pictet and other cultural mega-events are part of a growing media ecology that offers a vision of eco-cosmopolitanism to many. Theorists of eco-photography must engage critically with this growing phenomenon of photographic world-making: to take on the authority of the global cultural industries and institutions that can sometimes dominate our media ecology and to fight for more pluralistic and ethical visions of the future.

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WHOLE EARTH CATALOG

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Figure 16: Edward Burtynsky. *Nickel Tailings #34, Sudbury, Ontario*, left panel, 1996

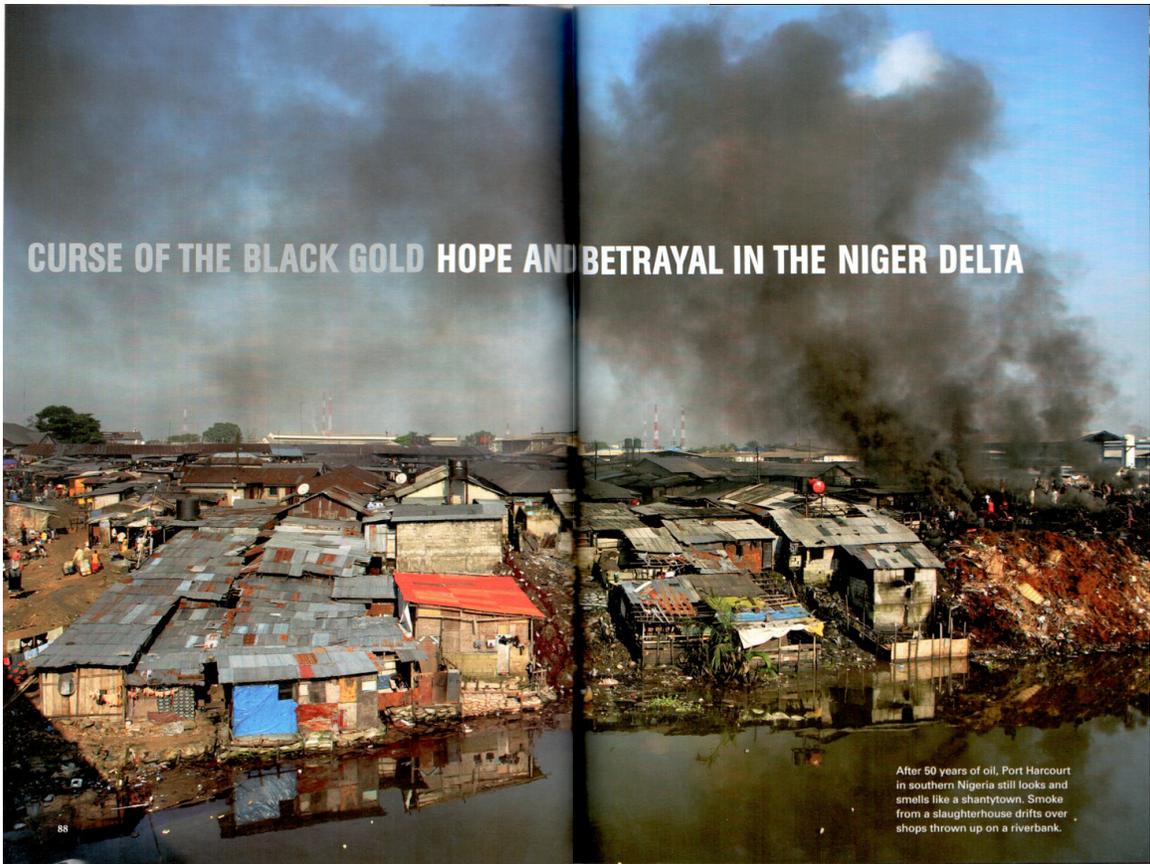


Figure 17: Ed Kashi. *Nigeria*, 2006. Tom O'Neill. "Curse of The Black Gold: Hope and Betrayal in the Niger Delta." *National Geographic* (February 2007): 88-89.



Figure 18: : Ed Kashi. *Nigeria*, from the series *Curse of the Black Gold: 50 Years of Oil in the Niger Delta*, 2006



Oil leaves its mark in Okrika, from a company umbrella to a trail of pipelines coiling through town. Since oil started flowing, most communities have seen living standards fall, betraying the hope that oil once brought to Nigeria.

Figure 19: : Ed Kashi, *Nigeria*, 2006. Tom O'Neill. "Curse of The Black Gold: Hope and Betrayal in the Niger Delta." *National Geographic*, (February 2007): 114-115.



Figure 20: Stephen Barber, Michael Benson, Leo Johnson, and Francis Hodgson, eds. *Earth*. Kempen, Germany: teNeues Publishing Group, 2009, 38-39.



Figure 21: Stephen Barber, Michael Benson, Leo Johnson, and Francis Hodgson, eds. *Earth*. Kempen, Germany: teNeues Publishing Group, 2009, 108-109.

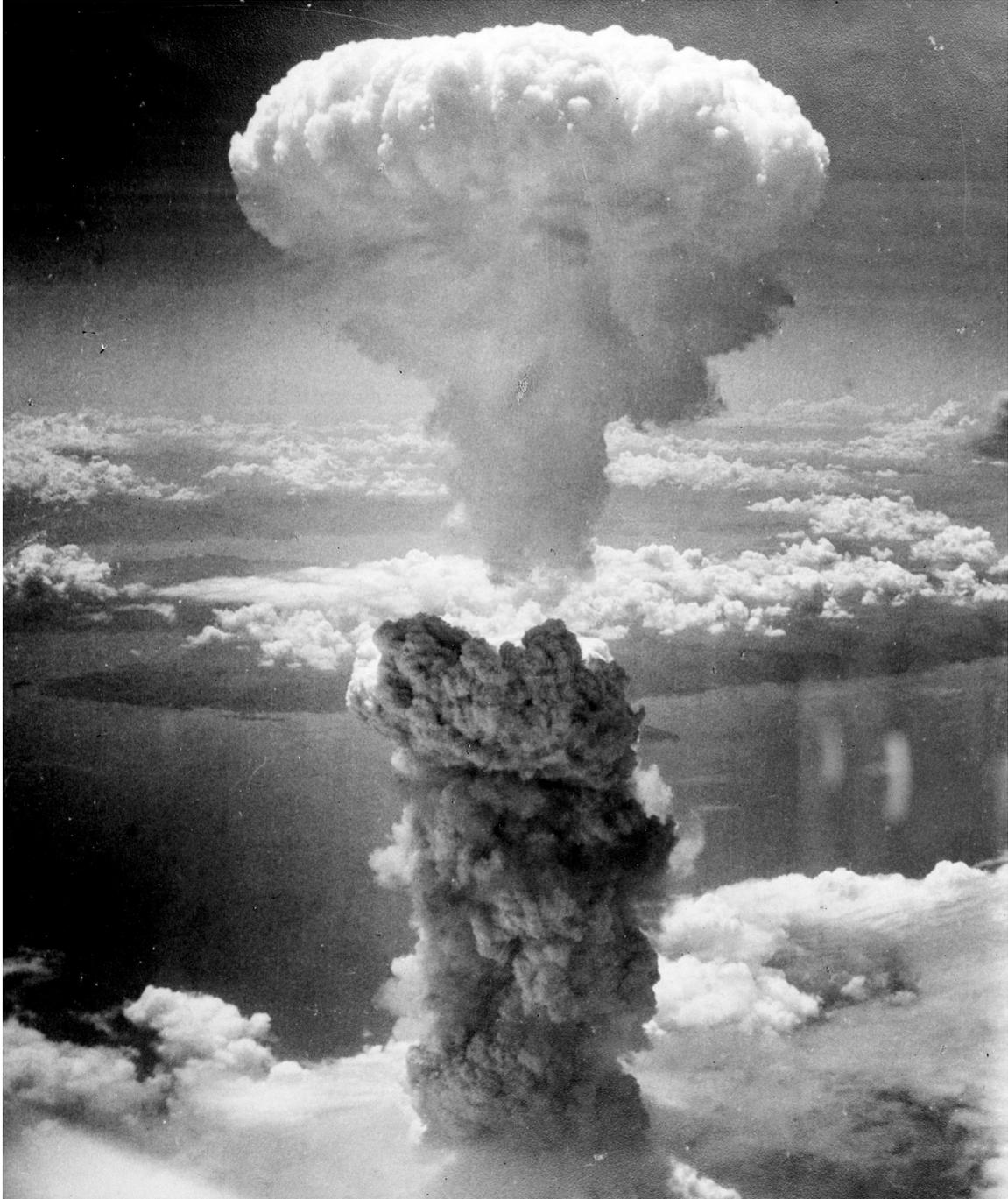


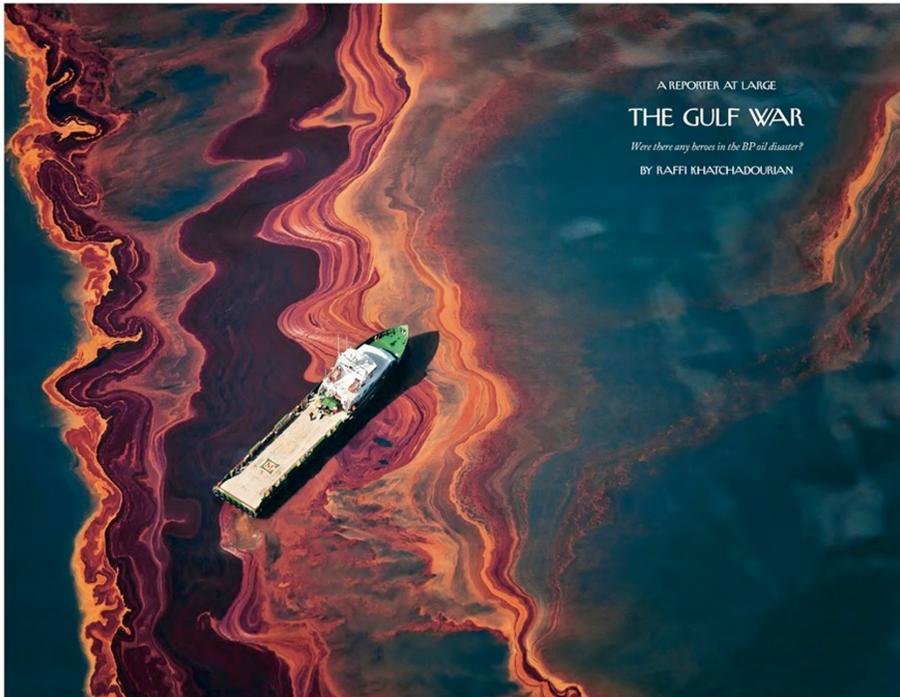
Figure 22: Atomic bombing of Nagasaki on August 9, 1945. Taken from one of six planes that flew out of Wendover Base, Utah.



Figure 23: Promotional poster for *An Inconvenient Truth: A Global Warning*. Davis Guggenheim, Director. Al Gore, Performer. Paramount, 2006.



Figure 24: Daniel Beltra. *Spill*, 2010



Oil gathering above the Deepwater Horizon wellhead on May 6, 2010. The oceanographer Ed Levine said, "With all of the skimmers in the world out there, you might as well be using thimbles." Photograph by Daniel Beltra.

A REPORTER AT LARGE

THE GULF WAR

Were there any heroes in the BP oil disaster?

BY RAFFI KHATCHADOURIAN

I. DEFENDING THE SHORE

The boat captain—an elderly man in coversalls who had spent most of his life on the water—was travelling along one of the main passes through the Louisiana marshland. He had steered his vessel, a rectangular flat-bottomed outboard, from a dock in St. Bernard Parish, navigating among the roseau cane and black mangroves. The sky was a pale blue dome suspended over motionless white clouds. It was a June morning, and under a hot sun the bayou was permeated with quiet unease. Other vessels on the water were working to contain oil from the Deepwater Horizon well site, which, on April 20th, had erupted forty miles offshore—an explosion that left eleven men dead and threatened to render the coast an ecological wreck for years. The captain directed his boat past shrimp trawlers going out to sea, presumably to skim the oil in waters beyond the coastline. Three- and four-man teams in other small boats were laying down brightly colored booms: floating barriers designed to impede oil slicks. The boom looked like giant yellow Magic Markers, forming long chains across the labyrinthine bayous.

"I can see open water—just after that booming boat," the captain called out. He looked out past a barge with piles of equipment stacked upon it. "No way to get around the boom," he said. (Fearing that he might lose his contract with BP, which operated the Deepwater Horizon, he insisted that he not be named.) Next to him, Marty Cramer, a thin, middle-aged Californian with weathered skin, squinted and nodded. Cramer, a specialist in emergency response for oil spills, had flown to Louisiana to help hunt for the deepwater crude. He was working with a company called Polaris Applied Sciences, which had been hired by BP to map the oil as it came ashore. He was joined by Carol Oz, a scientist from the California Department of Fish and Game, and Vincent Chatelain, a volunteer from the Louisiana Department of Environmental Quality. The team was one of six assessing marshes and beaches, using a method called Shoreline Clean-Up Assessment Technique, or SCAT.

Cramer had been surveying in Louisi-

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Figure 25: Daniel Beltra. *Spill*, 2010. Raffi Khatchadourian, "The Gulf War: were there any heroes in the BP oil disaster?" *The New Yorker Magazine* (March 14, 2011): 36-59.



Figure 26: Photographer Unknown, *Dead Birds Collected During Cleanup*, 1989. Image Courtesy of Exxon Valdez Oil Spill Trustee Council.

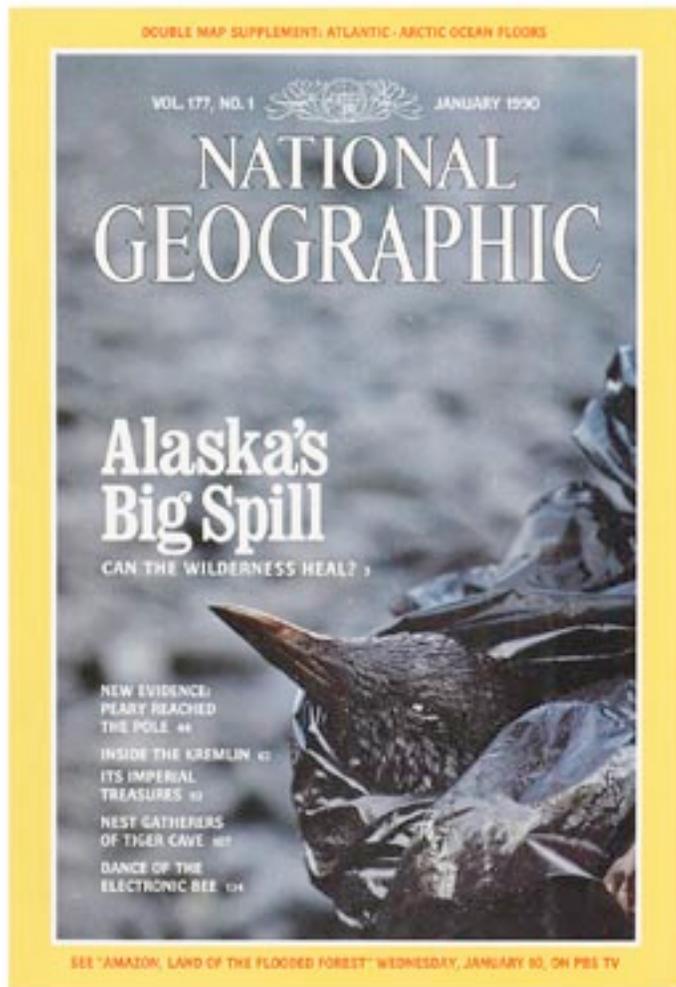


Figure 27: Natalie Fobes, photographer. Bryan Hodgson. "Alaska's Big Spill: Can the Wilderness Heal?" *National Geographic Magazine* (January 1990): cover.



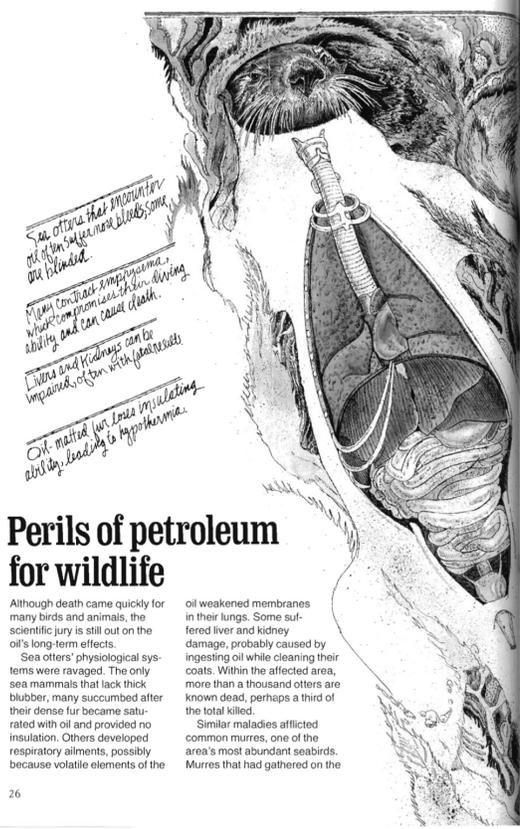
Netting a sad harvest, Jerry Patton collects birds that perished on Channel Island. They were analyzed in Valdez, as were Green Island victims including a sea otter and a loon (right). Concern ran high for some 5,000 bald eagles, such as this adult with an oiled head en route to a rehabilitation center. Nearly 150 eagles are known dead. Long-term effects may plague others that scavenged contaminated carrion.



Figure 28: Natalie Fobes, photographer. Bryan Hodgson. "Alaska's Big Spill: Can the Wilderness Heal?" *National Geographic Magazine* (January 1990): 24.



Figure 29: Natalie Fobes, photographer. Bryan Hodgson. "Alaska's Big Spill: Can the Wilderness Heal?" *National Geographic Magazine* (January 1990): Image used on pages 3-4.



Perils of petroleum for wildlife

Although death came quickly for many birds and animals, the scientific jury is still out on the oil's long-term effects.

Sea otters' physiological systems were ravaged. The only sea mammals that lack thick blubber, many succumbed after their dense fur became saturated with oil and provided no insulation. Others developed respiratory ailments, possibly because volatile elements of the

oil weakened membranes in their lungs. Some suffered liver and kidney damage, probably caused by ingesting oil while cleaning their coats. Within the affected area, more than a thousand otters are known dead, perhaps a third of the total killed.

Similar maladies afflicted common murrens, one of the area's most abundant seabirds. Murrens that had gathered on the



huge rafts prior to being fouled en masse. Gathers (inset) lost their ability and hypothermia.

Oil invaded the food web predators such as bald eagles, scavenging oily seabirds, carrying them to their and contaminating eggs. Of 125 eagle nests, 51, two-thirds failed.

Figure 30: Bryan Hodgson. "Alaska's Big Spill: Can the Wilderness Heal?" *National Geographic Magazine*, (January 1990): 26-27.

"FIGHTING BACK—STORIES FROM THE SPILL" SEPTEMBER 28 AT 9 P.M. ON NAT GEO CHANNEL

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NATIONAL GEOGRAPHIC

THE SPILL

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*Brown Pelican,
Fort Jackson Bird
Rehabilitation Center*

Figure 31: Special Report on "The Spill," *National Geographic Magazine* (October 2010).



Figure 32: Rescued Oil Coated Gull, June 10, 2010. Image uploaded to Flickr by user Louisiana GOHSEP: The Governor's Office of Homeland Security and Emergency Preparedness. Photo courtesy of Louisiana Department of Wildlife and Fisheries.



Figure 33: Top: M.P. Bridgland (1915) Bottom: E. Higgs and J.M.. Rhemtulla (1998)
 Composite of Eremite Glacier and Peak, from Station 13 - Thunderbolt Peak, Jasper
 National Park, Rocky Mountains

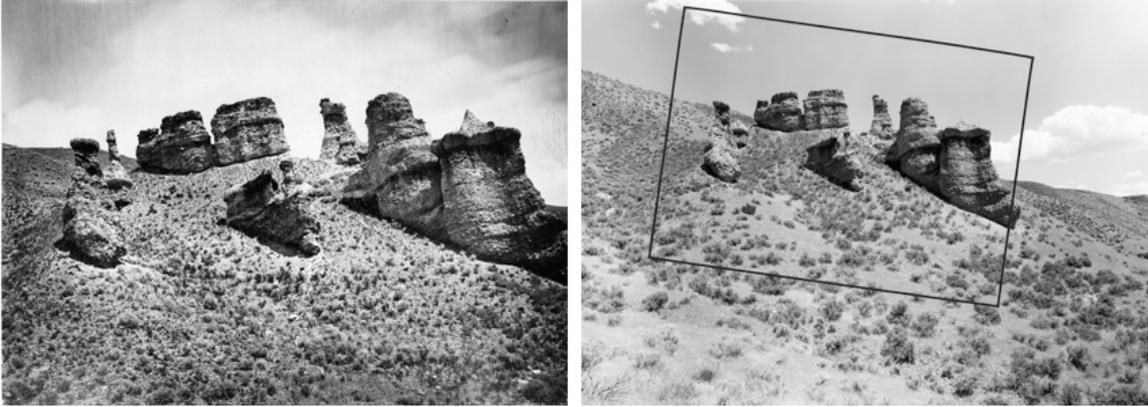


Figure 34: Left: Timothy O'Sullivan. *Tertiary Conglomerates, Weber Valley, Utah, 1869*
Right: Rick Dingus for the Rephotographic Survey Project, *Witches Rocks, Weber Valley, Utah, 1978*

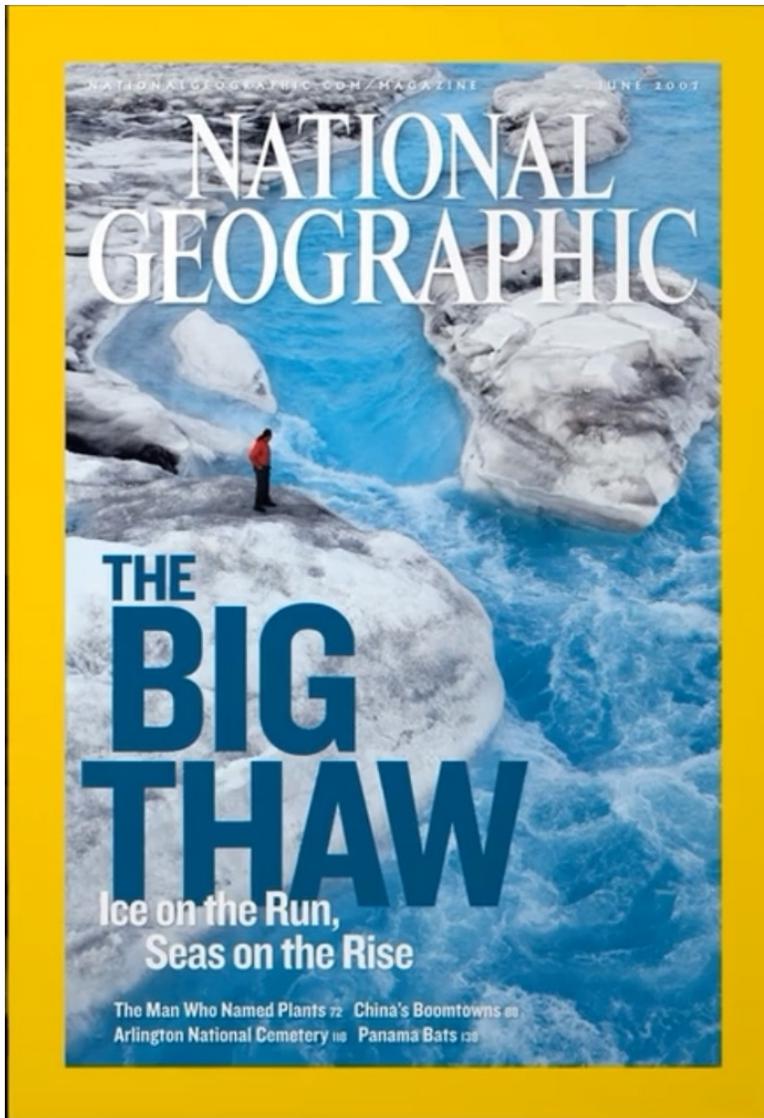


Figure 35: James Balog, photographer. Tim Appenzeller, "Big Thaw: Ice on the Run, Seas on the Rise." *National Geographic Magazine* (June 2007): 56-71; cover.



Figure 36: Adam LeWinter, *Extreme Ice Survey* time-lapse cameras in action, Columbia Glacier, May 2009



Figure 37: James Balog. *Greenland Ice Sheet, Greenland*, July 18, 2006



Figure 38: Top image: James Balog, *Columbia Glacier, Alaska*, June 2006
Bottom image: Adam Le Winter, *Columbia Glacier, Alaska*, May 2009

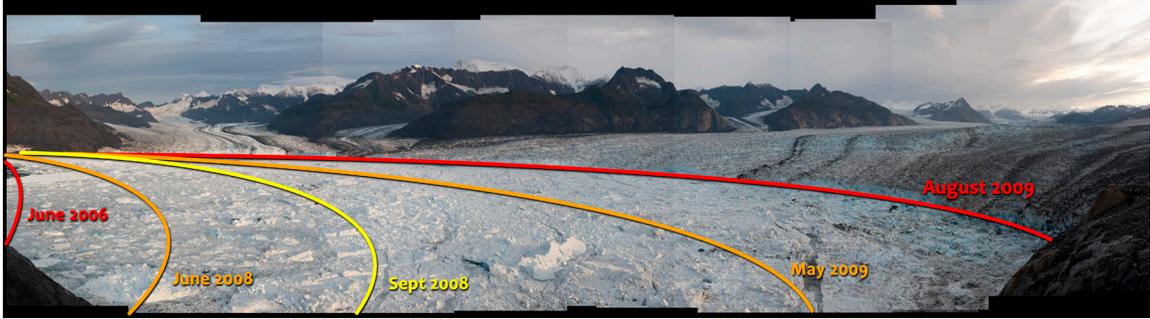


Figure 39: James Balog, *Columbia Glacier, Alaska*. Lines show position of terminus over period June 2006 - August 2009



Figure 40: James Balog. *Ice Diamond, Jökulsárlón, Iceland, No. 3, 2012*



Figure 41: Tad Pfeffer, *Extreme Ice Survey* Founder and Director James Balog working on a time-lapse camera system at Columbia Glacier, Alaska in May 2007.



Figure 42: Berlyn Brixner, *Trinity Experiments, Alamogordo Desert*, July 16, 1945

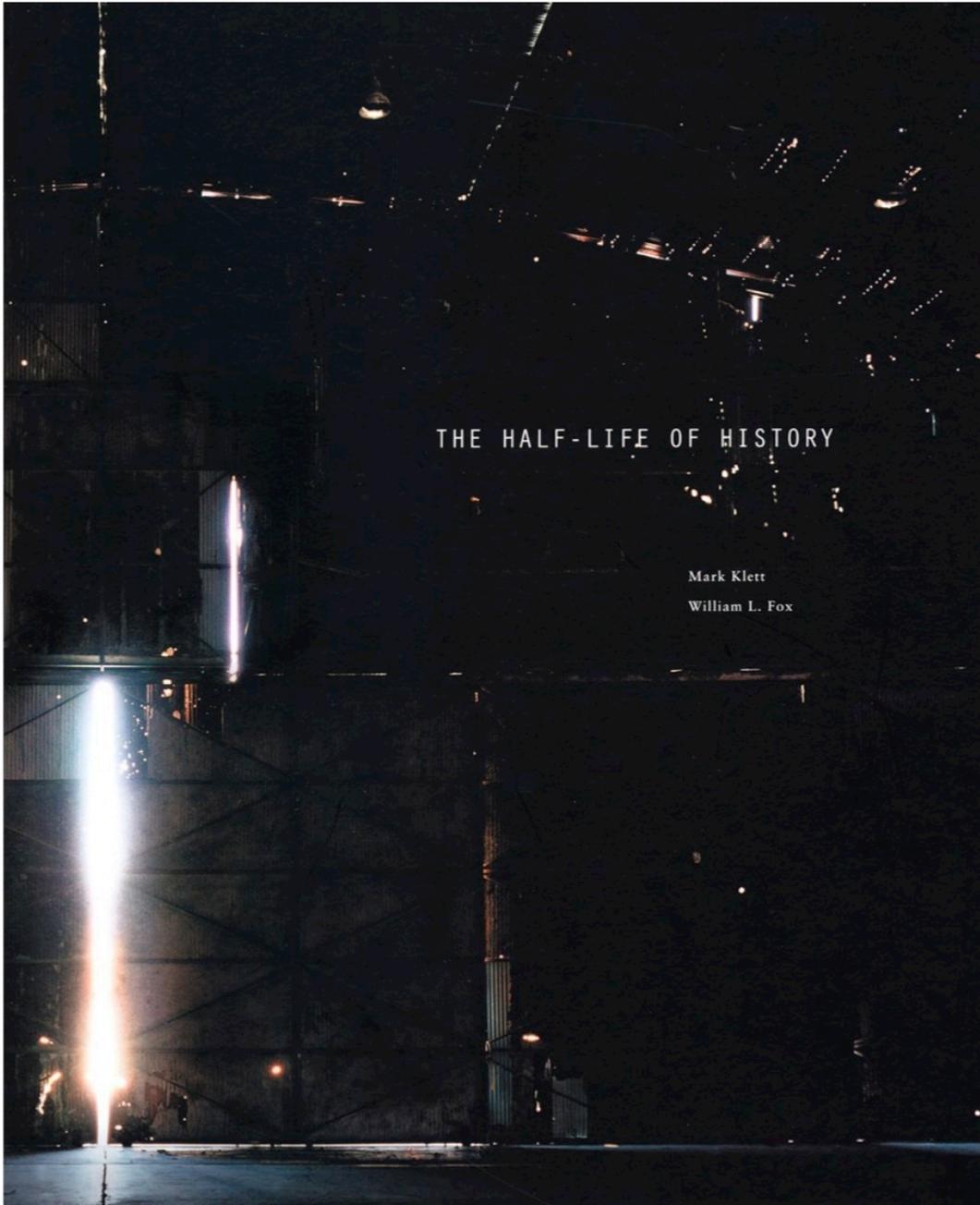


Figure 43, Mark Klett and William L. Fox. *The Half-Life of History: The Atomic Bomb and Wendover Air Base*. Santa Fe, NM: Radius Books, 2011.



Figure 44: Mark Klett, *Barrack Windows, Wendover Base*, from the series *The Half-Life of History* 2001-2006

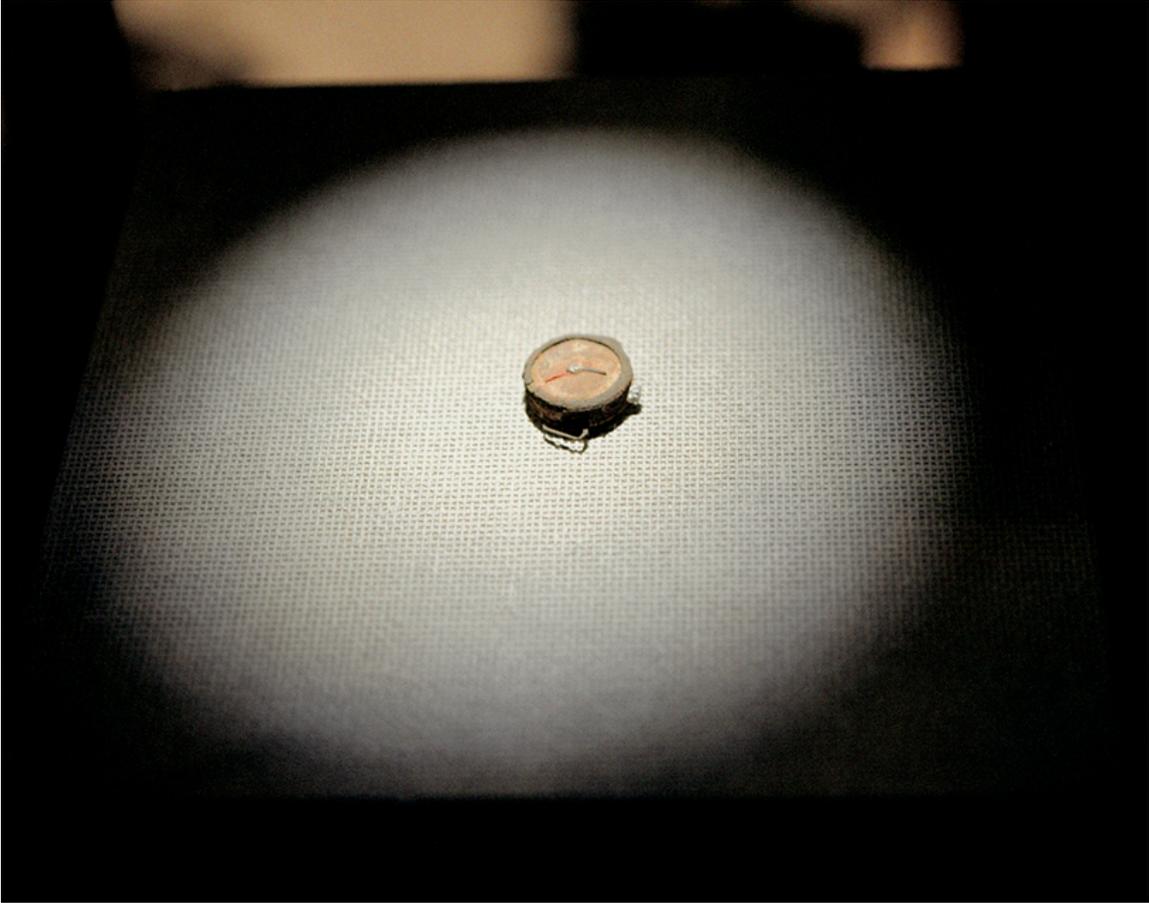
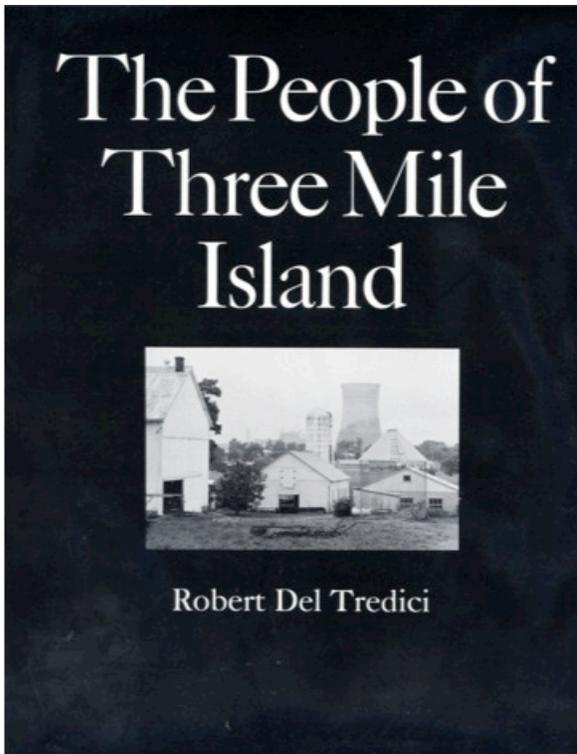


Figure 45: Mark Klett, *Hiroshima Watch*, from the series *The Half-Life of History* 2001-2006



Figure 46: Mark Klett, *Hanger*, from the series *The Half-Life of History*, 2001-2006



The people of Three Mile Island speak their minds.

They're ordinary people. They live in villages and towns and cities, in southeastern Pennsylvania. They work farms, go to school, run businesses. But since the threatening events that began March 28, 1979, at the nearby nuclear power plant, they have lived in a unique crucible of fear, anger, and confusion.

In *The People of Three Mile Island* you'll see the faces and hear the voices of these Americans who are still living under extraordinary conditions. Nearly without comment, photographer Robert Del Tredici introduces a retired civil engineer who was the first eyewitness to "the accident," a Christian minister whose faith remains unshaken by events, a nursing home director who coolly supervised a rushed evacuation, a husband and wife whose cows mysteriously died, a woman anguished over the abortion she never intended to have, and many others, including NRC, state, and Metropolitan Edison officials.

No "expert" can refute the human truth of this book. No matter where you stand on the issue of nuclear energy, you will feel changed by your meeting with *The People of Three Mile Island*.



87/80

ISBN 0-87136-237-3

Figure 47: Del Tredici, Robert. *The People of Three Mile Island*. San Francisco: Sierra Club Books, 1980.

AT WORK IN THE FIELDS OF THE BOMB

PHOTOGRAPHS & TEXT BY

Robert Del Tredici

INTRODUCTION BY JONATHAN SCHELL

AT WORK IN THE FIELDS OF THE BOMB

"For six years I have been putting together a body of basic imagery to render visible the Bomb and all its works.

I want to open up a window on the Bomb with photographs and interviews so people will be able to view the nuclear arsenal at its source.

My purpose is to give the collective imagination something accurate and graphic to hang onto as it strives to come to terms with the Bomb's reality."

—Robert Del Tredici



From top to bottom:
1 The Atom
2 The Factory
3 The Bomb



Figure 48: Del Tredici, Robert. *At Work in the Fields of the Bomb*. New York: Perennial Library, 1987.



Figure 49: John Pfahl. *Three Mile Island Nuclear Plant, Susquehanna River, Pennsylvania*, 1982, from the series *Power Places*, 1981-1984



Figure 50: Richard Misrach. *Shrapnel Bombs and School Bus*, 1987, from the *Desert Cantos Series*, 1981-present



Figure 51: John Kippen. *Air Control Tower* from the series *Cold War Pastoral*, 1998-2000



Figure 52: Edward Burtynsky. *Uranium Tailings #5, Elliot Lake, Ontario, 1995*



Figure 53: David McMillan, *Portrait of Lenin*, October 1997, from the series *The Chernobyl Exclusion Zone*, 1994-present



Figure 54: David McMillan. *Playground*, October, 1997, from the series *The Chernobyl Exclusion Zone*, 1994-present



Figure 55: David McMillan, *Gymnasium, Palace of Culture*, (Top) October 1996 and (Bottom) October 2004, from the series *The Chernobyl Exclusion Zone*, 1994-present



Figure 56: Chris Hamilton, photographer. In the article by Charles Petit. "It's Controversial. It's Expensive. And It Just Might Save the Earth. Nuclear Power: Risking a Comeback." *National Geographic* (April 2006): 54-55.



Figure 57: Still Image of *The Simpsons* television series, New York, NY: Twentieth Century Fox.



A survivor rides his bicycle through the leveled city of Minamisanriku. When the tsunami receded, some of the towns in a region that traced its history to the seventh century had ceased to exist in visible form. Photograph by David Guttenfelder.

Figure 58: David Guttenfelder, photographer. Evan Osnos, "Aftershocks: A Nation Bears the Unbearable." *The New Yorker* (March 28, 2011): 80-81.



LETTER FROM JAPAN
AFTERSHOCKS
A nation bears the unbearable.
BY EVAN OSNOS

At a decontamination center, a fireman awaits arrivals from the potential contamination zone around the nuclear reactors at the Fukushima

Daiichi power plant. The prospect of radiation introduced a threat all its own, and one throbbing with history. Photograph by Adam Dean.

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Figure 59: Adam Dean, photographer. Evan Osnos, "Aftershocks: A Nation Bears the Unbearable." *The New Yorker* (March 28, 2011): 70-71.



Figure 60: Allan Sekula's *Middle Passage (Chapter 3 from Fish Story)*, 1994, installed at TBA21–Augarten, 2008



Figure 61: Subhankar Banerjee, *Churchill, Manitoba, Canada*, 2000



Figure 62: Subhankar Banerjee. *Caribou Migration I*, from the series *Oil and The Caribou, Arctic*, 2002



Figure 63: Subhankar Banerjee, *Caribou Tracks on Coal Seams II*, from the series *Coal and The Caribou, Arctic*, 2006



Figure 64: Subhankar Banerjee. *Danny Gimmel and Rocky John*, from the series *Gwich'in and The Caribou, Arctic*, 2007



Figure 65: Sebastião Salgado. *Korem Camp, Ethiopia*, from the series *Sahel: The End of the Road*, 1984



Figure 66: Munem Wasif. *Ashasuni, Satkhira*, from the series *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, 2009



Figure 67: Munem Wasif. *Sunderban, Satkhira*, from the series *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, 2009



Figure 68: Munem Wasif. *Bolabaria, Satkhira*, from the series *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, 2009



Figure 69: Munem Wasif. *Vamia, Satkhira*, from the series *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, 2009



Figure 70: Munem Wasif. *Gabura, Satkhira*, from the series *Salt Water Tears: Lives Left Behind in Satkhira, Bangladesh*, 2009



Figure 71: Mitch Epstein. *Gavin Coal Power Plant, Cheshire, Ohio*, from the series *American Power*, 2003



Figure 72: Mitch Epstein. *Beulah "Boots" Hern, Cheshire, Ohio*, from the series *American Power*, 2004



Figure 73: Mitch Epstein. *Signal Hill, Long Beach, California*, from the series *American Power*, 2007



Figure 74: Mitch Epstein. *Altamont Pass Wind Farm, California II*, from the series *American Power*, 2007



Figure 75: Mitch Epstein. *Biloxi, Mississippi*, from the series *American Power*, 2005



Figure 76: Mitch Epstein. *Grand Gulf Nuclear Power Plant, Mississippi II*, from the series *American Power*, 2006



Figure 77: Mitch Epstein. *Poca High School and Amos Coal Power Plant, West Virginia*, from the series *American Power*, 2004



Figure 78: Mitch Epstein. *Kern River Oil Field, Oildale, California* from the series *American Power*, 2007



Figure 79: Mitch Eptein and Susan Bell, *What is American Power?* Installation at 5456 West Broad Street, Columbus, Ohio, 2010.



Figure 80: Chris Jordan. *Untitled*, from the series *Midway: Message from the Gyre*, 2009-ongoing



Figure 81: Chris Jordan. *Untitled*, from the series *Midway: Message from the Gyre*, 2009-ongoing



Figure 82: Chris Jordan. *Untitled*, from the series *Midway: Message from the Gyre*, 2009-ongoing



Figure 83: Chris Jordan. *Untitled*, from the series *Midway: Message from the Gyre*, 2009-ongoing

Midway

Film Trailer The Journey Film and Media Why Midway The Team Support Contact

We're still flying! And new Midway film teaser...

By VICTORIA SLOAN JORDAN | Published: SEPTEMBER 18, 2013



Dear supporters of *Midway*:

Thank you from deep in our hearts for all the support and comments and well-wishes. *Midway* has been shouldering the blustery winds of film post-production, taking its inspiration from the albatrosses' winged perseverance through all that man and nature send their way.

We are proud to announce that a work-in-progress version of the film screened at the 2013 Toronto International Film Festival last week, and had several edifying showings over the course of the festival. Co-directors Jordan and Emiliani are now back to work polishing a final version of our film. Our new goal: another festival premiere in early 2014.

In the meantime, if you haven't already, please check out the new film teaser created for TIFF at www.midwayfilm.com.

It's been a long flight, but *Midway* is closer than ever...and we are so grateful you are with us on this journey.

In deep appreciation,
the *Midway* film team

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MIDWAY

The MIDWAY media project is a powerful visual journey into the heart of an astonishingly symbolic environmental tragedy. On one of the remotest islands on our planet, tens of thousands of baby albatrosses lie dead on the ground, their bodies filled with plastic from the Pacific Garbage Patch. Returning to the island over several years, our team is witnessing the cycles of life and death of these birds as a multi-layered metaphor for our times. With photographer Chris Jordan as our guide, we walk through the fire of horror and grief, facing the immensity of this tragedy—and our own complicity—head on. And in this process, we find an unexpected route to a transformational experience of beauty, acceptance, and understanding.

We frame our story in the vividly gorgeous language of state-of-the-art high-definition digital cinematography, surrounded by millions of live birds in one of the world's most beautiful natural sanctuaries. The viewer will experience stunning juxtapositions of beauty and horror, destruction and renewal, grief and joy, birth and death, coming out the other side with their heart broken open and their worldview shifted. Stepping outside the stylistic templates of traditional environmental or documentary films, MIDWAY will take viewers on a guided tour into the depths of

Figure 84: The Midway Media Project, <http://www.midwayjourney.com/>. Image captured: October 8, 2014.



Figure 85: The corporate logo of the banking firm Pictet et Cie.

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[Consumption](#) | [Power](#) | [Growth](#) | [Earth](#) | [Water](#)

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Commission

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[Christopher Anderson](#)
[Sammy Balaji](#)
[Edward Burtynsky](#)
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[Andreas Gursky](#)

[Naoya Hatakeyama](#)
[Abbas Kowsari](#)
[Yao Lu](#)
[Edgar Martins](#)
[Chris Steele-Perkins](#)

[Ed Kashi](#)

[Curse of the Black Gold: 50
Years of Oil in the Niger
Delta](#)

[Biography](#)
[Artist's Statement](#)



Figure 86: Portfolio of Ed Kashi's project *Curse of the Black Gold: 50 Years of Oil in the Niger Delta*, from <http://www.prixpictet.com/portfolios/earth-shortlist/ed-kashi/>. Image captured: October 8, 2014.



Christian Als



Edward Burtynsky



Stéphane Couturier



Mitch Epstein



Chris Jordan



Yeondoo Jung



Vera Lutter



Nyaba Leon Ouedraogo



Taryn Simon



Thomas Struth



Guy Tillim



Michael Wolf

Figure 87: Prix Pictet shortlist from 2011.

Consumption now showing at Westbau, Zurich



[A Prix Pictet Retrospective](#)
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Consumption

The theme of the fifth cycle of the Prix Pictet is *Consumption*. The theme was announced at *Les Rencontres d'Arles*, before a preview of the photographs Simon Norfolk made in Afghanistan for the *Power* Commission. The Shortlist of eleven artists was announced at the Musée d'Art Moderne de la Ville in Paris on 13 November 2013. The Award Ceremony and Finalists' Exhibition took place at the Victoria and Albert Museum, London, in May 2014, at which German photographer Michael Schmidt was announced as the fifth Laureate of the Prix Pictet. The fifth cycle saw additions to our jury of Luc Delahaye, the Laureate for *Power*, along with the architect Wang Shu, curator Elisabeth Sussman and arts writer for the Financial Times, Peter Aspden.

[Winner](#)
[Commission](#)
[Shortlisted artists](#)
[Jury](#)

Figure 88: Main page of the Prix Pictet's website: www.prixpictet.com. Image captured: October 8, 2014.



Figure 89: Benoit Aquin. *Untitled, Wuwei Oasis, Gansu, China*, from the series *The Chinese "Dust Bowl"*, 2006



Figure 90: Nadav Kander. *Chongqing IV (Sunday Picnic)*, Chongqing, China, from the series *The Long River*, 2006



Figure 91: Luc Delahaye. *Les Pillards*, 17 January, 2010, Port-au-Prince, Haiti, from the series *Various Works: 2008 – 2011*



Figure 92: Michael Schmidt. *Untitled*, from the series *Libbensmittel*, 2006-2010

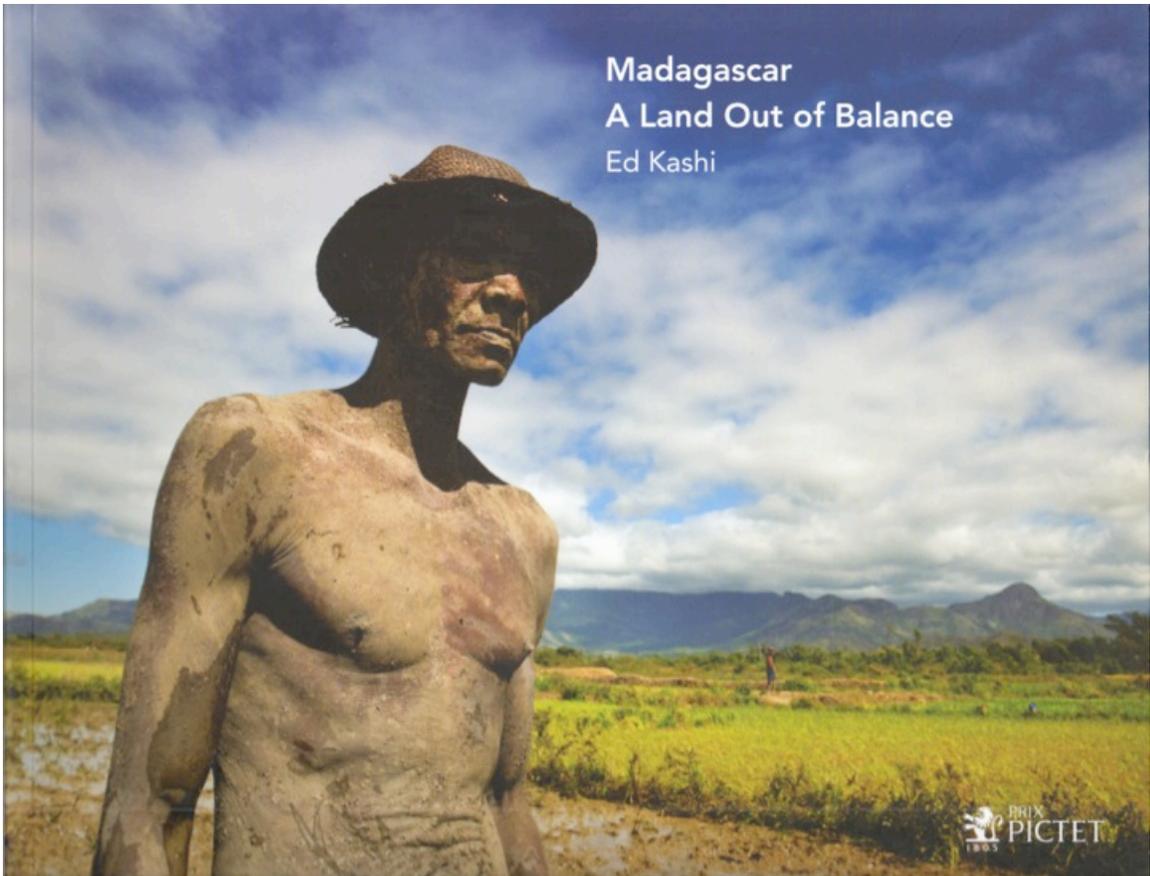


Figure 93: Kashi, Ed. *Madagascar: A Land Out of Balance*. London: Prix Pictet, 2010.



Figure 94: Chris Jordan. *Samburu elder Lemasulani Letarekeri after performing healing ritual with skull of elephant killed by poachers, Namunyak Wildlife Conservancy, Kenya, from the series Ushirikiano, 2011*



Figure 95: Simon Norfolk. *Untitled* image and series, 2012



Figure 96: Covers of three of the books published by the Prix Pictet, *Water* (2008), *Earth* (2009), and *Growth* (2010).



Figure 97: Laurie Simmons. *The Love Doll, Day 27/Day 1 (New in Box, Head)*, 2010, from the series *The Love Doll (2009-2011)*



Figure 98: Rineke Dijkstra. From left: *Almerisa, Zoetermeer, The Netherlands*, March 24, 2007; *Almerisa, Zoetermeer, The Netherlands*, January 4, 2008; *Almerisa, Zoetermeer, The Netherlands*, June 19, 2008, from the series *Almerisa*, 1994-2008