HOLLYWOOD AT THE TIPPING POINT:

BLOCKBUSTER CINEMA, GLOBALIZATION, AND THE CULTURAL LOGIC OF ECOLOGY

by

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Twenty-first century American cinema is permeated by images of globalization and environmental change. Responding to what Yale researchers have described as a "sea change" in public perceptions of global warming occurring between 2004 and 2007, this dissertation provides the first extended examination of Hollywood's response to the planet's most pressing social and environmental challenge – global climate change. Among the most widely distributed and consumed forms of popular culture, Hollywood blockbuster films provide a unique textual window into the cultural logic of ecology during this important turning point in Americans' perceptions of environmental risk. The term "cultural logic of ecology" is defined as the collective cultural expression of a society's dominant perceptions and enactments of its relationships with other organisms and their shared bio-physical environments. Surveying the history of climate cinema, my second chapter examines the production and reception contexts of the two films most responsible for renewing public interest in global warming: *The Day After Tomorrow* (2004) and *An Inconvenient Truth* (2006). Despite their generic differences, both films combine the formal techniques of melodrama and realism to translate the science of global warming

into a moral vernacular. In subsequent chapters, I further intertwine textual and historical analysis to examine other films released during the period that portray aspects of global warming. Considered a children's film, *Happy Feet* (2006) employs digital animation to illustrate the ecological impacts of globalization on Antarctica, thus presenting viewers with a more accurate picture of the threats facing emperor penguins than did the documentary *March of the Penguins* (2005). I next analyze *There Will Be Blood* (2007) as a critique of patriarchy and natural resource exploitation that resonated with American filmgoers as oil prices were skyrocketing and President George W. Bush admitted "America is addicted to oil." Consumed on Imax screens and iPods, and as toys, t-shirts, and video games, blockbusters leave massive cultural and carbon footprints. I conclude by arguing that ecocritical scholarship offers the most effective scholarly toolkit for understanding contemporary cinema as a cultural, textual, and material phenomenon.

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For Alice and Donovan

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION: THE CULTURAL LOGIC OF ECOLOGY

"*The world is changed. I feel it in the water.*
I feel it in the earth. I smell it in the air."
~ The Fellowship of the Ring *(Peter Jackson, 2001)*

Twenty-first century American cinema is permeated by images of global environmental change. This dissertation examines five popular Hollywood films released between 2004 and 2007 – *The Day After Tomorrow, In Inconvenient Truth, March of the Penguins, Happy Feet,* and *There Will Be Blood* – that collectively illustrate American society's growing awareness of the environmental risks posed by the convergence of globalization and climate change. Responding to what Yale public opinion researchers have described as a "sea change" in American public perceptions of climate change during the period in which these films were released, this dissertation combines ecocritical media analysis with historical, sociological, and scientific evidence to demonstrate that these films both reflected and participated in what can only be described as the nascent stages of a profound shift in cultural understandings of the environment.[1] These films signal that audiences during this period began to seriously consider whether or not the planet can survive the globalization of the American Dream.

Since the beginnings of the modern environmental movement in the United States in the 1960s and 1970s, there has been a subtle but pronounced shift in discourse across the socio-cultural spectrum about the relationship between humans and the earth. In the early twenty-first century, these conversations coalesced within American popular culture

[1] "Sea Change in Public Attitudes Toward Global Warming Emerge: Climate Change Seen as Big a Threat as Terrorism." Yale Center for Environmental Law and Policy. (March 20, 2007): <http://opac.yale.edu/news/article.aspx?id=4787>.

around the issue of climate change. Contributing to the growing body of scholarship in environmental media studies, this project situates popular Hollywood films as both texts and commodities which can be usefully evaluated for their expressions of popular attitudes about the environment. Whether we watch them on Imax screens, iPods, or televisions, via 35mm print, digital projection or online streaming, in malls, minivans, or airplanes, Hollywood films play a significant role in bolstering corporate earnings and shaping cultural conversations.[2] Consumed not only as theatrical films but as magazine advertisements, television commercials, toys, clothing, and water cooler conversations, Hollywood films provide a rich template for illustrating how American culture has entered the nascent stages of a paradigm shift in *the cultural logic of ecology,* which may be defined as the collective expression of a given society's dominant (or hegemonic) perceptions of the ecological relationships between humans, other organisms, and their shared environments. Collectively, the production, distribution, and exhibition contexts of the films discussed at length in this project demonstrate Hollywood's complex articulation of the American cultural logic of ecology.

If the public continues to express uncertainty about the nature of climate change in opinion polling, filmgoers, at least, are spending billions of dollars to see movies that employ melodramatic and generic devices to situate global environmental risk in terms of moral confrontation and familiar plotlines. The films chosen for examination in this dissertation are far from the only popular texts released during this period to address environmental concerns but the production and reception contexts of these five films are

[2] *Avatar*, the highest grossing film of all time ($2.7 billion worldwide), led to record earnings in 2010 for News Corporation, (which owns 20th Century-Fox, Fox News, *News of the World*, *The Wall Street Journal*, and hundreds of other media outlets around the globe), bolstering earnings by 55% in one quarter alone. Goldsmith, Jill. "'Avatar' Gives News Corp Record Q3." *Variety* (May 4, 2010): <http://www.variety.com/article/VR1118018724?refCatId=13>.

particularly significant sites for demonstrating how the cultural logic of ecology is mediated by popular culture. Each of these films generated strong responses from critics and audiences and was widely referenced and recirculated throughout the culture, becoming tangled in the swirl of American media pastiche through parodies on such television shows as *South Park* and *Saturday Night Live*, political cartoons in such publications as *The New Yorker* and *Time*, and (starting in 2005) through YouTube internet videos like "Al Gore's Penguin Army" (2006).[3] Climate change is, of course, only one of the many environmental challenges the world currently faces and there is room for considerable growth in ecocinema studies as a field of inquiry.

I have also selected films from a range of genres as evidence that these films are collective indicators of a broad cultural shift. Watching movies about climatologists, penguins, and oilmen, theatergoers during this period were confronted with a number of important socio-ecological concerns associated with the process of global environmental change. Particularly at issue in the study are the ways in which these films, through their combination of melodramatic narrative and dazzling spectacle, speak to viewers' concerns about global environmental change and, through the interplay of their status as commodities and works of art, articulate the cultural logic of ecology. Popular cultural texts offer telling insights into the socio-historic contexts from which they originate.

[3] YouTube went online in February 2005 and exploded in popularity after it was purchased by Google in November 2006. Uploaded by the user Toutsmith (and allegedly sponsored by a lobbying firm in the employ of Exxon-Mobil) on May 24, 2006, "Al Gore's Penguin Army" has since been viewed more than 600,000 times. Regaldo, Antonio and Dionne Searcey. "Where Did that Video Spoofing Gore's Film Come From." The Wall Street Journal (Aug. 3, 2006): B1. See also, "The Day Before the Day After Tomorrow." *South Park*. Comedy Central. (Oct. 19, 2005); "'There Will Be Blood' Skit: I Drink Your Milkshake." *Saturday Night Live*. NBC (Feb. 24, 2008); Sipress, David. "It's Al Gore." *The New Yorker* (June 12, 2006): <http://www.cartoonbank.com/2006/its-al-gore/invt/129816/>.

Globalization theory helps to demonstrate the complex role that Hollywood plays in the cultural logic of ecology, which by 2008 had begun to visibly shift in respond to the issue of global warming. In order to begin mitigating and adapting to climate change; however, society's perception of the climate change must still transition from conceptualizing the phenomenon as what sociologist Anthony Giddens terms an external risk ("as coming from the outside, from the fixities of nature") to a manufactured risk ("created by the very impact of our developing knowledge upon the world").[4] Since the end of the Cold War and dismantling of the Soviet Union, the manufactured risk of nuclear war now feels far less tangible to most Americans. In the twenty-first century, climate change joined nuclear warfare to become a primary risk to the global social order. In his 2009 book *World at Risk*, sociologist Ulrich Beck argues that climate change and terrorism have risen to the level of nuclear war as risk as global environmental, economic, and security threats. Beck characterizes global society as a "World Risk Society" in which, "the distinction between risk and cultural perception of risk is becoming blurred."[5] In the face of global meta-threats, writes Beck, "world risk society compels the nation-state to admit that it cannot fulfill its self-declared constitutional promises, namely to guarantee its citizens what is arguably the highest legal good, namely, their security."[6] In other words, we are compelled by the persistent threat of intangible and unseen forces to live in state of constant anticipation of these threats manifesting in our daily lives. As a result of biodiversity loss, ozone depletion, and now

[4] Giddens, Anthony. *Runaway World: How Globalization is Reshaping our Lives*. New York: Routledge, 2003: 26.

[5] Beck, Ulrich. *World at Risk*. Trans. Ciaran Cronin. London: Polity, 2009: 9.

[6] Ibid. 41.

global warming, the cultural logic of ecology is shifting. Beck and Giddens's insights, which I discuss in greater detail below, offer ecocriticism a critical theoretical stance from which to explore the representation of globalization and climate change.

Situating my approach within the growing field of ecocinema studies, in this opening chapter I further define the cultural logic of ecology and demonstrate how the historical roots of the contemporary film melodrama are intertwined with capitalism and climate change, making these particular films key sites for locating hegemonic social and environmental perceptions that are present if not always explicit in dominant cultural texts. Blending film studies and ecocriticism, subsequent chapters explore a series of popular films from a range of genres that employ the formal techniques of melodrama to provoke viewers to reframe their perceptions of real world socio-ecological conditions. Chapter 2, "Global Warming and the Melodramatic Imagination: *The Day After Tomorrow* (2004) and *An Inconvenient Truth*," argues that Roland Emmerich's disaster film sparked a surge in media interest in global warming and inspired the production of former American vice president Al Gore's Oscar-winning documentary *An Inconvenient Truth* (2006). Contextualizing the films within a brief history of climate cinema, I consider how their formal use of melodrama articulates the abstract complexities of climate change in terms of the moral and affective vernacular of Hollywood cinema. These films offer telling reflections of the cultural logic of ecology at the textual level and their attempts to incorporate sustainable production practices call attention to the film industry's massive carbon footprint. Chapter 3, "Penguins, Politics, and Performance: *March of the Penguins* (2005) and *Happy Feet* (2006)" examines the ideologically charged media role played by emperor penguins as megafauna mascots of the warming

planet. These films were selected for this study because they facilitated the shift in the cultural logic of ecology that was sparked by *The Day After Tomorrow* and *An Inconvenient Truth* by drawing the attention of viewers to emperor penguins – a species dubbed the beacon bird of climate change by ornithologists. I contend that given penguins' unique situation, the production and reception of these films is so deeply interconnected with human culture and politics that climate justice advocates (concerned as they are with at-risk coastal communities) should see penguins as, in Donna Haraway's words, a "companion species." By employing digital animation to illustrate the impacts of globalization on Antarctica, *Happy Feet* presents viewers with a more direct picture of the threats facing emperor penguins than the documentary *March of the Penguins.* Chapter Four, "'Something Horribly Efficient: *There Will Be Blood* (2007)" examines a film that had a less direct impact on the cultural logic of ecology but which provides a telling reflection of the shift that had occurred American cultural attitudes by 2008 toward the natural resource most heavily exploited by white patriarchy in the development of Modernity – oil. The cultural logic of (post)Modernity and its catastrophic impacts on the physical world have depended, according to environmental historian Carolyn Merchant, on the cooperation of modern science, Christian religion, and capitalism. *There Will Be Blood* provides a fitting conclusion to this project because it employs self-reflexive melodramatic techniques as it navigates the fragmentation of this grand narrative in the wake of globalization and rising oil prices during the final years of the George W. Bush administration. My conclusion looks beyond the period covered by this study to the relationship between media, politic, and science and argues

that ecocinema studies will remain a vital area of growth within cinema and media studies as environmental concerns deepen.

Shifting Perceptions of Climate Change in the United States

On a sweltering day in June 1988, NASA climatologist Dr. James Hansen testified before the United States Senate on the clear and present dangers posed by anthropogenic climate change. Hansen stated "with 99 per cent confidence" that a long-term climate shift was already underway and that current evidence overwhelmingly suggested its cause was anthropogenic amplification of the greenhouse effect.[7] Hansen's testimony has often been credited with bringing the issue of global warming into the mainstream of American public life.[8] More than two decades later, however, the federal government has yet to fully enact the necessary reforms to curb greenhouse gas emissions or reduce the nation's dependence on fossil fuels. In June 2008, in his role as Director of NASA's Goddard Institute for Space Studies, Hansen testified again before Congress on the immediate need reduce greenhouse gas emissions. This time, Hansen argued that humanity has "used up all slack in the schedule for actions needed to defuse the global warming time bomb" and is precariously close to triggering "tipping points in the planetary climate system."[9]

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[7] Hansen, James. "Twenty Years Later: Tipping Points Near on Global Warming." *The Guardian* (June 23, 2008): <http://www.guardian.co.uk/environment/2008/jun/23/climatechange.carbonemissions>.

[8] Responding to a growing public interest in the fragile state of the planet's climate, Time magazine, for example, ran a cover story on ozone depletion and greenhouse effect in 1987 and in 1989 decided to forgo its traditional Person of the Year and named "Endangered Earth" Planet of the Year. (Accessed June 12, 2008): <http://www.time.com/time/covers/0,16641,19890102,00.html>.

[9] Hansen, James. "Twenty Years Later", ibid.

Underscoring the arguments about Hollywood cinema I make in this project is my broader aim of encouraging scholars to rethink our disciplinary borders in what the journalist Thomas L. Friedman has appropriately termed the "Energy-Climate Era."[10] According to Friedman, around the year 2000, the convergence of global warming, rising populations, and economic expansion sent the world "onto a track where the global demand for energy, natural resources, and food all started to grow at a much accelerated pace."[11] The films examined in dissertation have thus been specifically chosen for their portrayal of such socio-ecological problems identified by Friedman as: "energy supply and demand, petropolitics, climate change, energy poverty, and biodiversity loss."[12]

This project is further informed by the 2007 United Nations Intergovernmental Panel on Climate Change Report. As *Time* reporter Jeffrey Kluger summarizes:

> [The IPCC] was surprising only in its utter lack of hedging. "Warming of the climate system is unequivocal," the report stated. What's more there is "very high confidence" that human activities since 1750 have played a significant role by overloading the atmosphere with carbon dioxide hence retaining solar heat that would otherwise radiate away. The report concludes that while the long-term solution is to reduce the levels of CO2 in the atmosphere, for now we're going to have to dig in and prepare, building better levees, moving to higher ground, abandoning floodplains altogether.[13]

The accumulated evidence demonstrates that the cultural logic of ecology will inevitably shift in response to anthropogenic global environmental change as society is impelled to

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[10] Friedman, Thomas. *Hot, Flat, and Crowded*. New York: Farrar, Straus, and Giroux, 2008: 26.

[11] Ibid., 38.

[12] Ibid., 47.

[13] Although the findings of the IPCC were somewhat tainted by leaking of questionable emails from climate scientists at East Anglia University in Britain (the event dubbed "Climategate" by climate change deniers such as former Republican vice presidential candidate Sarah Palin), the panel's findings have been widely accepted by the scientific community. Kluger, Jeffrey, "What Now for Our Feverish Planet?" *Time* (April 3, 2007): 51; and Palin, Sarah. "Sarah Palin on the Politicization of the Copenhagen Climate Conference." *Washington Post* (Dec. 9, 2009): < http://www.washingtonpost.com/wp-dyn/content/article/2009/12/08/AR2009120803402.html>.

undergo profound material and ideological changes. Upon reflection, therefore, the years 2004-08 can be seen as a transitional period in the cultural logic of ecology – bracketed on one by the reelection of President Bush, revelations about the war in Iraq, and Hurricane Katrina, and on the other end by record oil prices, economic recession, and the election of President Barack Obama – in which the discourse of climate change shifted from questions of *if* and *why* to *when* and *how*.

Although climate change remains perhaps the most underreported issue in history given its significance, the period covered by this study witnessed an important shift in media coverage of the issue. In a 2007 paper titled "Flogging a Dead Norm," media analyst Max Boykoff examined coverage of global warming between 2003 and 2006 and found that by 2006 "false balance" (i.e. presenting the issue as a widely debated issue among scientists rather than consensus) had almost completely disappeared from major U.S. newspapers.[14] In *Climate Shift*, a 2011 study of media coverage of the issue over 2009 and 2010, media analyst Mathew Nisbet and his research team found that while coverage in mainstream outlets such as the *New York Times*, *Washington Post*, and *CNN.com* reflected the scientific consensus roughly 90% of the time:

> given the tendency of many audiences to selectively seek out and pay attention to ideologically confirming information, just a few prominently-placed op-eds or articles [particularly in *The Wall Street Journal* and other outlets owned by News Corporation] dismissing consensus views on climate change—or exaggerating the economic costs of action—can serve to reinforce doubt and strengthen opposition to such policy proposals as cap and trade.[15]

[14] False-balance decreased from 36.6% of coverage in 2003 to 10.4% in 2004 and 3.1% in 2006. Boykoff, M.T. "Flogging a Dead Norm? Newspaper Coverage of Anthropogenic Climate Change in the United States and United Kingdom from 2003 to 2006." *Area* 39/4 (2007): 470-481.

[15] Nisbet, Mathew. *Climate Shift*. Washington, DC: American University School of Communications, Spring 2011: <http://climateshiftproject.org/report/climate-shift-clear-vision-for-the-next-decade-of-public-debate/#chapter-3>.

Nisbet's analysis confirms the fact that while polling on climate change has continued to fluctuate in recent years, with the highest levels of concern over the issue measured before the onset of the global financial crisis in 2008, the general trend for this period is marked by increasing acceptance.[16] As environmental reporter Andrew Revkin puts it, however, "The processes that winnow and shape the news have a hard time handling the global-warming issue in an effective way . . . because it is not black and white or on a time scale that feels like news."[17] Coverage of the issue is further complicated by the extraordinary degree to which it has become politicized by members of both major political parties. Within the United States, according to researchers at the Brookings Institution, "an individual's partisan affiliation is the most important determinant of their views on the existence of global warming, with Democrats significantly more likely than Republicans to believe that the Earth is warming."[18] This situation is compounded by a mediascape in which viewers are encouraged by outlets to selectively seek out information that confirms their preexisting ideological positions.

Evidence of shifting attitudes toward the environment during this period can be found in all sectors of society, from the scientific community and government to the public and business. In 2004 in the journal *Science*, historian Naomi Oreskes published the results of an extensive study of every scientific article on global warming published in

[16] Although poll numbers on public attitudes toward the immediate risks posed by climate change dropped between 2008 and 2010 general acceptance of global warming remained high. For data from 2011 comparing Americans and Canadians views on climate change see Borik, Christopher, Erik Lachapelle, and Barry Rabe. "Climate Compared: Public Opinion on Climate Change in the United States and Canada." *Issues in Governance Studies* 39 (April 2011): <http://www.brookings.edu/papers/2011/04_climate_change_opinion.aspx>.

[17] Revkin, Andrew. "Climate Change as News: Challenges in Communicating Environmental Science." *Climate Change: What It Means for Us, Our Children, and Our Grandchildren*. [Eds.] P.M. Doughman and J.C. Dimention. Boston: MIT Press, 2007:142.

[18] Borik, Lachapelle, and Rabe, ibid.

a peer-reviewed journal over the previous 10 years.[19] In her sample study of 928 articles (representing 10% of the total), Oreski discovered that not a single one of the articles disagreed with the scientific consensus that global warming is a serious problem for which humans are primarily responsible. Then, over an eighteen month period beginning in the summer of 2005, as Bill McKibben notes, "almost weekly some new study about the pace of climate change [is published], and virtually every one finds the speed and magnitude of global warming is going off the top end of the old ranges of prediction."[20] Perhaps the most significant indicator of scientific attitudes toward global warming is the 2007 survey of American climate scientists conducted by the Statistical Assessment Service housed at George Mason University. The survey found that "belief in human-induced warming has more than doubled since the last major survey of American climate scientists in 1991."[21] According to the report, "eighty-four percent [now] say they personally believe human-induced warming is occurring." In January, 2009, the National Oceanic and Atmospheric Administration released a study confirming that climate change will cause "changes in surface temperature, rainfall, and sea level that are largely irreversible for more than 1,000 years" even if carbon dioxide emissions are completely halted.[22]

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[19] Oreskes, N. "Beyond the Ivory Tower: The Scientific Consensus on Climate Change." *Science* 306/5702 (2004): 1686.

[20] McKibben, Bill. *Deep Economy*. New York: Holt, 2007: 229.

[21] Lichter, Robert S. "Climate Change Scientists Agree on Warming, Disagree on Dangers, and Don't Trust the Media's Coverage of Climate Change." Statistical Assessment Service (STATS). George Mason University. (Apr. 24, 2008):<http://stats.org/stories/2008/global_warming_survey_apr23_08.html>

[22] "New Study Shows Climate Change Largely Irreversible." Press Release. National Oceanic and Atmospheric Administration. (Jan. 26, 2009): <http://www.noaanews.noaa.gov/stories2009/20090126_climate.html>

Americans' increasing acceptance of the risks posed by climate change during this period is undeniable. A Yale research survey released in March 2007 revealed "a significant shift in public attitudes toward the environment and global warming" between 2004 and 2007. Researchers found that, "fully 83 percent of Americans now say global warming is a 'serious problem', up from 70 percent in 2004."[23] Despite the global economic recession that began in September 2008 and subsequent fluctuation in the public's belief over the immediacy of climate change, Yale's 2009 report *Climate Change in the American Mind* found that "despite the economic crisis, over 90 percent of Americans said that the United States should act to reduce global warming, even if it has economic costs."[24] In a related survey in 2011, Yale and George Mason University reported that "71 percent of Americans say global warming should be a very high (13%), high (27%), or medium (31%) priority for the president and Congress" and "91 percent of Americans say developing sources of clean energy should be a very high (32%), high (35%), or medium (24%) priority for the president and Congress.[25] Despite their skepticism of the scientific community, Americans growing acceptance of climate change science is consistent with the increasing consensus among the scientific community during this period.

[23] "Sea Change," ibid.

[24] Leiserowitz, Anthony, Edward Maibach, and Connie Roser-Renouf. *Climate Change in the American Mind: Americans' Climate Change Beliefs, Attitudes, Policy Preferences, and Actions*. Yale Project on Climate Change and George Mason University Center for Climate Change Communication, 2009.

[25] Leiserowitz, A., Maibach, E., Roser-Renouf, C. and Smith, N. *Climate change in the American Mind: Public Support for Climate & Energy Policies in May 2011.* Yale University and George Mason University. New Haven, CT: Yale Project on Climate Change Communication, 2011: <http://environment.yale.edu/climate/files/PolicySupportMay2011.pdf>.

Government response at the local and state level in the United States is signaled by the symbolic signing of the Kyoto protocol by mayors from major cities across the country, the establishment of state government committees to study the issue, and California Governor Arnold Schwarzenegger's highly visible efforts to curb greenhouse gas emissions and energy consumption.[26] After the 2008 elections, when Democrats took control of the White House and both houses of Congress, a carbon cap-and-trade bill passed in the House but stalled in the Senate. However, "Tens of billions of dollars" for green energy research and development were included in President Obama's 2009 economic stimulus plan and in March of that year the Environmental Protection Agency announced its decision to tackle the issue through regulation by declaring greenhouse emissions "a direct threat to public health."[27] In August 2010, on the heals of the BP oil spill in the Gulf of Mexico, Democrats and Independents in the Senate came within a single vote (59-41) of bringing a climate bill to the floor for majority vote but failed in their attempts to close debate on the measure when they unable to secure a single Republican vote.[28] Following the vote, the Obama/Biden administration tabled efforts push legislation through Congress during his first term. However the issue has remained prominent as the parties continue to clash over the question of whether green technologies will lead to job creation or whether environmental protections hamper

[26] "Schwarzenegger's Green Challenge." *60 Minutes*. CBS Television (Dec. 21, 2008).

[27] Herbert, H. Josef. "EPA: Global Warming a 'Threat to Public Health'." *USA Today* (March 23, 2009): <http://www.usatoday.com/weather/climate/globalwarming/2009-03-23-global-warming-public-health_N.htm>; and Joyce, Christopher. "Green Energy Scores Big in Obama's Stimulus Plan." *Morning Edition*. National Public Radio. (Jan. 27, 2009).

[28] A version of the climate and energy bill had already passed in the House by a vote of 219-212 in 2009. Wasserman, Lee. "Four Ways to Kill a Climate Bill." *New York Times*. July 26, 2010: A23.

economic growth.[29] While the parties have drawn sharp lines over climate change, there is wrangling within each camp as well. Democrat's failure to move climate legislation through Congress drew criticism from Al Gore, who charged in a 2011 *Rolling Stone* editorial that "President Obama has thus far failed to use the bully pulpit to make the case for bold action on climate change."[30]

Greenhouse gas emissions from North America, and other leading emitters such China and Japan, the European Union, and Australia are already creating enormous challenges for people living in the developing world. In October, 2009 in the run up to the United Nations Climate Change Conference in Copenhagen, Denmark (which failed in its intention to replace the 1997 Kyoto Protocol) Mohamed Nasheen, President of the Maldives, held a cabinet meeting under the Indian Ocean to draw attention to his government's preparations for short-term migrations and long-term evacuation from the island nation. Bangladesh, Vietnam, Egypt, Tuvalu, the African Sahel, and Mexico are among the countries which will produce an estimated "200 million environmentally induced migrants by 2050" according to a 2009 U.N., Care International, and Columbia University report.[31] As D. Mark Smith contends in his 2006 book *Just One Planet: Poverty, Justice, and Climate Change*, the legacy of colonialism and capitalist

[29] In 2009, for example, the conservative Heritage Foundation claimed that global warming legislation would cost the average family $3900/year due to the increased cost of goods and services. The Heritage Foundation. "Waxman-Markey Global Warming Tax Kills More Jobs and Kills the Economy." Heritage.org (May 20, 2009): <http://www.heritage.org/research/factsheets/waxman-markey-global-warming-tax-kills-more-jobs-and-kills-the-economy>. See also, "In State of the Union Obama Promotes Green Tech & Science Fairs." *Discover* (Jan. 26, 2011): <http://blogs.discovermagazine.com/80beats/2011/01/26/in-state-of-the-union-obama-promotes-green-tech-science-fairs/>.

[30] Gore, Al. "Climate of Denial." *Rolling Stone* (June 22, 2011): <http://www.rollingstone.com/politics/news/climate-of-denial-20110622>.

[31] Wynn, Gerard. "Climate Change Forces New Migration Response-Study." Reuters. (June 10, 2009): <http://www.reuters.com/article/idUSLA1045416>

development means that "40 percent of the global population are [already] unable or barely able to meet their basic needs for survival, while climate change is transforming the familiar ecology of the Earth. . . . We are living in an era of unprecedented change and planetary-scale risk."[32] Already strained by the economic forces of globalization, the Global South is at the greatest risk to planet-wide changes in the climate system that have the potential to exponentially complicate pre-existing social and economic inequities.

In the business sector, Apple, Starbucks, Wal-Mart, General Electric and other major international businesses have responded to shifting consumer demands by promoting and developing, to varying degrees, more sustainable business models. Punctuating the fact that climate change finally began to reverberate across the social spectrum during the period examined in this project, Dan Etsy, Director of the Yale Center for Environmental Law and Policy, argued in 2007:

> Rather than seeing environmental issues as a set of costs to bear, regulation to follow and risks to manage, companies have begun to focus on the 'upside,' recognizing that society's desire for action on climate change, in particular, will create a huge demand for reducing carbon-content products.[33]

In October, 2009 Apple joined several companies and quit the US Chamber of Commerce over its failure to support a cap and trade system that would generate a price on carbon emissions.[34] Corporate America has, in some cases, begun taking advice like that offered in the 2008 edition of the "Memo to the CEO" series published by Harvard Business

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[32] Smith, Mark D. *Just One Planet: Poverty, Justice and Climate Change*. Warwickshire, UK: Intermediate Technology Publications, 2006: 1.

[33] "Sea Change," Ibid.

[34] Staul, Jenna. "Apple Quits Chamber of Commerce over Climate Change." *Huffington Post* (Oct. 5, 2009): <http://www.huffingtonpost.com/2009/10/05/apple-quits-chamber-of-co_n_310301.html>; and Plumer, Bradford. "How Good is Wal-Mart's Green." National Public Radio (Feb. 28, 2010): <http://www.npr.org/templates/story/story.php?storyId=124180532>.

Press: As a business executive . . . you should not think of climate change as an environmental issue at all. Instead, you should think of it as a market transition [that] will affect virtually all sectors of the economy."[35] At a time when green cinema (e.g. *Avatar*), television programming (e.g. NBC's Green Week), and "greenwashing" (e.g. petroleum & natural gas company and Toyota Prius advertisements) are reshaping the mediascape, media studies must embrace interdisciplinary scholarship and rethink its methodologies by incorporating ecocriticism into textual, historical, and political-economic analysis in order to better understand the constantly changing texts, industries, and audiences we study. In the following section, I define the cultural logic of ecology in greater detail and in the final section of the chapter situate my theoretical approach to cinema within the field of ecocinema studies as it currently stands.

The Cultural Logic of Ecology

The consensus reached in 2007 by the UN-IPCC – representing the research of thousands of scientists from around the world – is clear: "anthropogenic warming of the earth's atmosphere is unequivocal."[36] This verdict mirrors a slow but perceptible shift across the socio-cultural spectrum in response to the convergence of globalization and climate change – a dynamic poised to impact everything from food and water to energy and security.[37] The world population has more than tripled since World War II, globalization has led to unprecedented economic growth and fossil fuel consumption, and

[35] Hoffman, Andrew J. and John G. Woody. *Climate Change: What's Your Business Strategy?* Cambridge, MA: Harvard Business Press, 2008: 1.

[36] Kluger, ibid.

[37] Friedman, ibid.

carbon dioxide levels in the atmosphere are higher than at any time in recorded history; yet policy makers and consumers in the major industrialized Western nations have yet to directly confront what acclaimed sociologist Anthony Giddens has dubbed "Giddens's Paradox." In his 2009 book, *The Politics of Climate Change*, Giddens explains:

> No matter how much we are told about the threats, it is hard to face up to them, because they feel somehow unreal – and, in the meantime, there is life to be lived, with all its pleasures and pressures. The politics of climate change has to cope with what I call 'Giddens's paradox'. It states that, since the dangers posed by global warming aren't tangible, immediate or visible in the course of day-to-day life . . . many will sit on their hands and do nothing of a concrete nature about them. Yet waiting until they become visible and acute before being stirred to serious action will, by definition, be too late.[38]

Giddens's paradox underscores the fact that as American's awareness of the situation facing the planet has deepened over the past decade, so has the nation's ecological footprint. As McKibben puts it, "It is the contrast between the pace at which the physical world is changing and the pace at which human society is reacting that constitutes the key environmental fact of our time."[39] Hybrid car sales are up, recycling is becoming pervasive, and popular media outlets have increased "green" programming to exploit audience awareness of environmental issues. Yet more carbon dioxide is being released each day into the atmosphere than at any point in human history.[40]

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[38] Giddens, Anthony. *The Politics of Climate Change*. Cambridge, UK: Polity, 2009: 2.

[39] McKibben, Bill. "Forward." *The End of Nature*. New York: Random House, 2006: xv.

[40] In 2011 NASA reported that total U.S. greenhouse gas emissions increased 7.3 percent from 1990 to 2009 and in November 2010, a group of researchers from Britain and the U.S. reported in the journal Nature Geoscience that although "global CO_2 emissions … decreased by 1.3% in 2009" as a result of the global financial crisis that started in 2008, "if economic growth proceeds as expected, emissions are projected to increase by more than 3% in 2010, approaching the high emissions growth rates that were observed from 2000 to 2008." See: "2011 U.S. Greenhouse Gas Inventory Report." (April 2011) Washington DC: National Aeronautics and Space Administration: ES-3; and Friedlingstein, P., et al. "Updating CO2 Emissions." *Nature Geoscience* 3 (November 2010): 811-12.

In 1987, McKibben gave up his job as a *The New Yorker* columnist and moved to the Adirondack Mountains in upstate New York. Two years later, McKibben published his first book, *The End of Nature*. *The End of Nature* has sold millions of copies, been translated into more than twenty languages, and is considered the first book for a general audience about climate change.[41] The increasing tangibility of global warming, McKibben predicted, will clash with our cultural perceptions, "until, finally, our sense of nature as eternal and separate is washed away, and we will see too clearly what we have done."[42] "When I say 'nature,'" McKibben explains, "I mean a certain set of human ideas about the world and our place in it. But the death of those ideas begins with concrete changes in the reality around us – changes that scientists can measure and enumerate."[43] McKibben's provocative claim, "we are producing the carbon dioxide—we are ending nature" popularized the period's scholarly notions about the relationship between human industrial activities and global environmental change. *The End of Nature* had an immediate impact on mainstream environmentalism and the popularization of global warming as a political and cultural phenomenon. McKibben drew on and influenced key theoretical developments in a number of fields from which this project draws: environmental studies, cultural theory, and media studies.

McKibben's claims cut straight to the heart of the mainstream American environmental movement by implicating his individual consumer actions within global context. Inspired by such writers as Thoreau, Muir, Leopold and other preservationist causes such as the National Parks system, the movement has until recently been

[41] "Bill McKibben." Wikipedia.org. (Viewed Jan. 8, 2010).

[42] McKibben, ibid., 7.

[43] Ibid.

dominated by middle to upper-middle class white men whose efforts to protect/preserve large areas of wilderness from human intervention and save mascot animal species (such as baby seals and blue whales) from industrial slaughter are based on an ideological separation between humans and the 'natural'. Yet as Robert Gottlieb explains in his history of the environmental movement, *Forcing the Spring* (1993), by the late 1980s and early 1990s feminism and social justice become and important forces within the movement as advocates began to frame to the problems faced by ethnic minorities as examples of environmental injustice. The traditional patriarchal "Edenic notion of nature," argues Giovana Di Chiro, came to be seen by "many communities of color [as] a tool of oppression that operates to obscure their own 'endangered' status."[44] A conception of environment as "the place you work, live, and play" began to spill over into the environmentalist mainstream.[45] According to Di Chiro, the mid-1990s marked the beginnings of a convergence of environmentalism and social justice as perceptions of "the daily realities and conditions of people lives" began to take on new meaning, signaling that traditional dichotomies of culture versus nature and urban versus wild were being usefully deconstructed.[46]

More than twenty years since *The End of Nature* was first published, visible signs of a perceptual shift in the cultural logic of ecology began to manifest across the mediaspace and the entire socio-cultural spectrum. The question we have not yet

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[44] Di Chiro, Giovanna. "Nature as Community: The Convergence of Environment and Social Justice." *Uncommon Ground*. Ed. William Cronon. New York: W.W. Norton, 1996.

[45] Gottlieb, Robert. *Forcing the Spring: The Transformation of the American Environmental Movement*. Washington D.C.: Island Press, 1993.

[46] Di Chiro, 301-302.

answered, which is why it is asked over and over again in contemporary cinema, both explicitly and implicitly, is whether or not we should continue to hope that it is not too late society for society to act on the perceptual shift taking place in the cultural logic of ecology in time to mitigate the most catastrophic social and ecological impacts of climate change. According the National Oceanic and Atmospheric Administration and World Meteorological Organization, 2000-2009 marks the hottest decade of global surface temperatures in recorded history; 1990-1999 was the second hottest and 1980-1989 the third.[47]

The complexity of cinema reflects and informs that of humanity's relationships with the natural world. According to McKibben, "We have not ended rainfall or sunlight; in fact, rainfall and sunlight may become more important forces in our lives. . . . But the *meaning* of the wind, the sun, the rain—of nature—has already changed."[48] Just looking up at the stars, while they are still visible above the glowing urban night, reminds one that at even the longest term effects of catastrophic climate change or nuclear holocaust, like the extinction of the dinosaurs 65 million years ago, will mark the passing of but a fleeting moment in the earth's already four and half billion-year journey through the Milky Way galaxy. Be that as it may, since the "so-called primitive accumulation of wealth" (as Marx puts it) began in earnest in sixteenth century England when the fencing of pastures for livestock grazing forced laborers to migrate to the cities and sell their

[47] "NOAA: 2009 Global Temperatures Well Above Average; Slightly Above-Average for U.S." Press Release. National Oceanic and Atmospheric Administration. (Dec. 8, 2009): <http://www.noaanews.noaa.gov/stories2009/20091208_globalstats.html>; and Revkin, Andrew C. and James Kanter. "No Slowdown of Global Warming, Agency Says." *New York Times* (Dec. 8, 2009): <http://www.nytimes.com/2009/12/09/science/earth/09climate.html?_r=1&ref=global-home>

[48] Ibid.

labor (thus divorcing producers from the means of production), capitalism, Christianity, and the state have combined to frame perceptions of nature as *entirely* separate from (rather than uncannily distinct from) society.[49] Carolyn Merchant, demonstrates in her 1980 book *The Death of Nature* (1980) that between the sixteenth and seventeenth centuries patriarchy's "mechanistic worldview" shifted the cultural logic of ecology by successfully reframing nature as "dead and passive, to be dominated and controlled by humans."[50] Merchant's historical analysis adds credence to McKibben's assessment of the contemporary moment by demonstrating that anthropogenic climate change is not bringing about the end of organic life, the collapse of history, or the rupturing of the cosmos (as a Biblical literalist might apocalyptically interpret the end of nature), but instead the ending hegemonic perception of nature as "dead" and therefore separate from and exploitable by humanity.

First published in 1984, Frederick Jameson's "Postmodernism, or The Cultural Logic of Late Capitalism," quickly became one of the most influential arguments in contemporary critical, cultural, literary, and media theory. Although Jameson and McKibben do not reference one another, their arguments rely on the assumption that there is no longer a material world that exists outside of the influence of human industrialization:

> In modernism, some residual zones of 'nature' and 'being,' of the old, the older, the archaic, still subsists; culture can still do something to that nature and work at transforming that 'referent'. Postmodernism is what you have when the modernization process is complete and nature is gone for good.[51]

[49] Marx, Karl. *Capital*. Oxford: Oxford UP, 1999. 63-80.

[50] Merchant, Carolyn. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. San Francisco: Harper & Row, 1990: xxi-xxii.

Both McKibben and Jameson, argues Ingram, complacently assume "that the human 'conquest' of nature is complete, rather than an ongoing, provisional, two-way process that includes not only partial conquests of non-human nature on the part of human beings, but also adaptations to it."[52] In other words, while Jameson is correct to assert "this whole global, yet American, postmodern culture is the internal and superstructural expression of a whole new wave of American military and economic domination throughout the world," his theory nevertheless rests on the faulty assumption that nature could ever be 'gone for good.' "Nature, if by that we mean the ecological and biological fabric of life on this planet," as Ivakhiv explains "has neither ended nor gone away . . . even if it is increasing modified and interlaced with human activities."[53]

In his 2008 article, "Stirring the Geopolitical Unconscious: Toward a Jamesonian Ecocriticism," Ivakhiv argues that on one hand while Jameson's methodology of reading "products of culture as heralding, reflecting, and responding to the latest stage in the development of capitalism" effectively highlights the means by which "commodification has been extended, albeit unevenly, to all levels of social and biological life," on the other Jameson's 'political-economic' approach to cultural production must be thickened by a 'political-ecological' one because "uneven development and global inequality are directly related to the ways advanced industrial capitalism both commodifies and thoroughly

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[51] Jameson, Frederick. *Postmodernism, or The Cultural Logic of Late Capitalism*. Durham, NC: Duke UP, 1991: ix.

[52] Ingram, 140.

[53] Corwin, Jeff. "The Sixth Extinction." *Los Angeles Times* (Nov. 30, 2009): <http://articles.latimes.com/2009/nov/30/opinion/la-oe-corwin30-2009nov30>; and Ivakhiv, Adrian. "Stirring the Geopolitical Unconscious: Toward a Jamesonian Ecocriticism." *New Formations* (Spring 2008): 98.

transforms the natural world and our relationship with it."[54] Taking the argument a step further, one can say that because humanity's perceptual, ideological, and physical relationship with their ecological surroundings long predates capitalism as means through which Western culture has enacted a particular cultural logic of ecology, and that the political-ecological therefore guides the political-economic, although both are always in flux. Combining psychoanalysis with the geopolitical aesthetic, Ivakhiv uses McKibben's and Jameson's articulations of the end of nature as a jumping off point for reading films from the 1990s. Arguing that during Clinton-era globalization "ecology was once again overshadowed by everyday life," Ivakhiv sees such films as Robert Altman's *Short Cuts* (1993), Paul Thomas Anderson's *Magnolia* (1999), and Ang Lee's *Ice Storm* (1997) as typical of a society in which capitalism's quest to veil its ecological destruction could no longer contain the return of a "repressed nature."[55] In these films, Ivakhiv suggests, one finds "a veiled recognition of the 'strange weather' transpiring outside, at the point where society meets that unmappable and uncanny Other of global nature."[56] Applying Ivahkiv's model to the second term of President George W. Bush, I contend that what we see in the films discussed in this project is, if not a complete lifting of Giddens's paradox, at the very least an articulation of *irrepressible* nature. This irrepressible nature is visible in a myriad of socio-ecological concerns populating the texts, subtexts, and contexts of today's film melodramas and particularly in the depiction of climate change, penguins, and oil in the five film studied here.

[54] Ivakhiv, "Stirring," 99.

[55] Ibid., 100.

[56] Ibid., 101.

Change is the condition of all life. However, the anthropogenic escalation of the greenhouse effect is the result of the ideological and physical organization of (whether intentionally or not) Western society as it has progressed since the early modern era, radically altering planetary systems in ways previously unimaginable. Capitalism renders the cultural logic of ecology dynamic. At the heart of the capitalist system is individual consumption. As a consequence of rapidly increasing consumption (enabled, as Karl Marx argues by means the commodity fetish that masks the means of production from the consumer) globalization is directly escalating anthropogenic climate change.

Making arguments similar to Jameson's, McKibben's, and Merchant's, Giddens analyzes the means by which globalization has radically reshaped the relationship between society and environment in his 1991 book *Modernity and Self Identity*. Attending to the dramatic influence of neoliberal economic policies and multinational capitalism on society, Giddens contends:

> There has taken place a marked acceleration and deepening of human control of nature, directly involved with the globalization of social and economic activity. The 'end of nature' means that the natural world has become in large part a 'created entertainment', consisting of humanly structured systems whose motive power and dynamics derive from socially organized knowledge-claims rather than from influences exogenous to human activity."[57]

In 1999, as globalization, rising populations, and climate change were converging to send the world into the Energy-Climate Era, Ulrich Beck published *World Risk Society*. Expanding his earlier work with Giddens and Scott Lash, Beck describes global ecological risks as the manufactured and unintended consequences of the process of modernization, on par with the global meta-risks of nuclear war, economic collapse, and

[57] Giddens, Anthony. *Modernity and Self-Identity*. Stanford: Stanford UP, 1991: 144.

terrorism.[58] In other words, Western society did not mean to put itself and the planet's biodiversity at risk of collapse, but in treating other animals and the earth's resources as commodities in order to achieve a "higher standard of living" it did not foresee that problems like DDT poisoning, ozone depletion, mass species extinction, nuclear and industrial pollution, and anthropogenic climate change would emerge as inadvertent by-products of scientific "progress" and economic "growth." All of the means by which globalization is enhancing modernity's domination over the non-Western and non-human worlds, therefore, are reinforced and intensified by the penetration of neoliberal capitalism into everyday life. The market, like the environmental movement and the cinema, is an instrument through which an individual attains his or her goals.

Giddens and Beck have both written at length on what Giddens terms "the sequestration of experience" and Beck "institutional individualism" as hallmarks of globalization. In *Individualization* (2002), Beck and Elisabeth Beck-Gersheim argue that in the contemporary moment of "reflexive modernity," "neoliberal market ideology enforces atomization" which stands in contradiction to the individualization promoted by the welfare state.[59] Rather than creating security though social cooperation, atomization leads to a life dominated by insecurity and fear. Social problems are now considered individual problems. Psychological dispositions are considered personal failures rather than systemic problems. The "globalization of biography" means that identity is no

[58] Beck, Ulrich. *World At Risk*. Cambridge, UK: Polity, 1999.

[59] David Li has usefully applied Beck and Gidden's theory of reflexive modernity to Edward Yang's 2001 film *Yi-Yi*, which depicts the effects of globalization on Tawain. Li, David Leiwei, "Yi Yi: Reflections on Reflexive Modernity in Taiwan." *Chinese Films in Focus*. Ed. Li. Hong Kong: Hong Kong UP, 2004: 198-205; Giddens, Anthony. *Modernity and Self-Identity*. Stanford: Stanford UP, 1991: 144; and Beck, Ulrich and Elisabeth Beck-Gersheim. *Individualization: Institutional Individualism and its Social and Political Consequences.* New York: Sage, 2002: 24.

longer rooted in place but space, tied to several places at once and non-places such as the internet.[60] Beck and Beck-Gersheim demonstrate that because individualism is now written into the institutions of globalization and we are collectively compelled to search for self-identity and that this process now provides our social cohesion. Global Hollywood, therefore can thus be understood on one level as articulating what Beck calls the paramount political contradiction of late modernity, namely that while collective political imagination and action are essential to confront the unprecedented social, geopolitical, economic, and environmental problems facing society, the globalization of individualism has eroded "the social-structural conditions for political consensus, which until now have made possible collective political action."[61]

Anticipating the motion picture industry's transition to the global digital age, director John Ford quipped in a 1964 BBC interview, "Hollywood is a place you can't define geographically. We don't know where it is."[62] In their 2005 book, *Global Hollywood 2*, Toby Miller, et al, demonstrate that Hollywood continues to be seen around the world as a key player in the spread of American culture around the world. U.S. owned companies, "own between 40 and 90 percent of the movies shown in most parts of the world . . . [and] Los Angles-New York culture and commerce dominate screen entertainment around the world."[63] Between 1990 and 2004 Hollywood doubled its proportion of the world theatrical market and since 2000 has "obtained more revenues

[60] Ibid., 26.

[61] Ibid., 29.

[62] Qtd. in Bordwell, David, Kristin Thompson and Janet Staiger. *The Classical Hollywood Cinema*. New York: Routledge, 1988: xiii.

[63] Miller, Toby, et al. *Global Hollywood 2*. London: BFI, 2005: 9.

overseas than domestically."[64] *New York Times* media reporter Brooks Barnes explains, "If Americans go to see the Statue of Liberty's head ripped off, as they have in droves for [*The Day After Tomorrow* or] *Cloverfield* (2007) all the better. But the fans the studios are really trying to attract with such imagery are in Eastern Europe, South Korea, and Latin American."[65] As more and more people around the world consume American culture, American theater-goers are being increasingly invited to experience cosmopolitan identities and worldviews.

While theorists rightly contend that the globalization of capital and culture have diminished the relevance of the nation, "America" remains the dominant framing device in contemporary cinema, television, and online media as well as in systems of social interaction and legal governance in the United States. Americans bear responsibility for consumption choices, carbon footprints, and individual votes that exert a greater impact on climate change and globalization than those of most other citizens. For these contextual reasons then, I have selected films that speak to the unique challenge facing audiences in the United States, where less than five percent of the world's population collectively consumes twenty-five percent of the earth's energy and resources. The prevailing source of global military, economic, and cultural influence in the contemporary moment, America remains the most important player on the world stage in terms of globalization and climate change, and Hollywood an important site for examining the representations of eco-cultural perceptions. As Beck explains:

Global ecological dangers, far from intensifying a general lack of meaning in the

[64] Ibid., 10.

[65] Banes, Brooks. "Moviegoers in Seoul Will Love this Film." *New York Times* (January 27, 2008): <http://www.nytimes.com/2008/01/27/business/27/steal.html>.

> modern world, create a meaning filled horizon of avoidance, protection and assistance, a moral climate that grows sharper with the scale of the perceived danger, and in which a new political significance attaches to the roles of hero and villain.[66]

Displacing ecological disaster into spectacular metaphor, the blockbuster melodramas discussed in this dissertation highlight the new ecological, moral, political, and economic significance attached to Hollywood's heroes and villains at a time when the cultural logic of ecology has become bound to the convergence of climate change and globalization.

EcoCinema Studies

The developing field of environmental or eco-cinema studies finds its roots in innovative scholarship produced throughout the 1990s and 2000s by a largely unaffiliated and international group of film and media scholars. This scholarship focuses primarily on depictions of environmental issues in Hollywood film, the historical trajectory of the wildlife film, and avant-garde "eco-cinema". Environmental film criticism emerged primarily out of the methodologies, theories, and debates of environmental literary studies which first coalesced in 1992 around the formation of the Association for the Study of Literature and Environment. The field has further been inspired by a growing body of interdisciplinary work on environmental and social issues across the sciences and humanities. Responding to these trends, film scholars have been working to theorize and problematize notions of what counts as a "nature film" worthy of critical discourse, attracting attention from both media and literary ecocritics.

In 1998, the University of California Press published, *Refiguring American Film Genres*, which is edited by Nick Browne and includes a number of widely referenced

[66] Beck, Ulrich. *World Risk Society*. Cambridge, UK: Polity, 1999: 45.

essays by such film scholars as Rick Altman, Linda Williams, Tom Schatz, Vivian Sobchack, and Leo Braudy. In retrospect, two threads of discourse surface in the authors' effort to align film theory with, as Browne puts it, "a more dynamic understanding of the function of popular culture in American society."[67] On the one hand, Browne observes, the authors' collectively deconstruction of the assumptions underlying genre studies as they historicize film cycles and genres and question "the logic of internal relations among genres."[68] Not discussed by Browne, however, is a second thread, a visible undercurrent of ecocentric rhetoric evident in Altman's utilization of the popular terms 'resuable' and 'recycling' to define genre as an ongoing process of negotiation between producers and consumers and in Williams' insistence on pastoral innocence as a key ingredient in melodrama's appeal to viewers.[69]

Proposing an explicit eco-cultural definition of nature, Braudy ties these discursive threads together in the book's concluding essay, "The Genre of Nature: Ceremonies of Innocence." Although Braudy does not reference ecocriticism, his definition of "nature" as sometimes "the primitive essence of what it means to be human; sometimes it is the animal world . . . sometimes it is the inanimate world of vegetation rock, and earth. And sometimes it is all three" neatly shares a similar conception of humanity's place in the natural world proposed by environmental literary critic Cheryl Glotfelty.[70] In the 1996 anthology *The Ecocritical Reader*, Glotfelty signaled a second-

[67] Browne, Nick, Ed. "Preface." *Refiguring American Film Genres*. Berkeley: U California Press, 1998: xi.

[68] Ibid. xii.

[69] Altman, Rick "Reusable Packaging: Generic Products and the Recycling Process." Ibid., 16. Williams, Linda. "Melodrama Revised." Ibid., 65.

[70] Braudy, Leo. "The Genre of Nature: Ceremonies of Innocence." Ibid., 278.

wave of environmental literary criticism when she argued in her introduction that the field had previously focused too heavily on the representations of nature in literary texts (primarily by white male eco-romantics in the tradition of Thoreau) and needed instead to focus "the interconnections between nature and culture."[71] Noting the abundance of "myths, metaphors, and motifs of nature" in popular films from the 1980s and 90s, Braudy, anticipating the emergence of ecocinema studies, argues that this development constitutes:

> something between genre and a cultural node, neither an explicitly codified nor codifiable form nor a bundle of thematic coincidences, but a product of the inadequacy of established narrative modes and systems of production to deal effectively with the new world the audience inhabits.[72]

Linda Williams (as discussed in greater detail below) in her essay provides a useful methodology for formally analyzing Hollywood's narratives at the textual and contextual level. And by defining eco-cinema as "something between a genre and a cultural node" Braudy serves notice that as film studies inevitably turns its attention toward the environment, our approach must consider how Hollywood films reflect both the ethos of the media industry and the public it exploits for profit.[73]

Marking the beginnings of a sustained scholarly attention to the intersections between cinema and environmental studies are five book projects published around the turn of the twenty-first century: Jhan Hochman's *Green Cultural Studies: Nature in Film, Novel and Theory* (1998); Gregg Mitman's *Reel Nature: America's Romance with Wildlife on Film* (1999), Derek Bousé's *Wildlife Films* (2000); David Ingram's *Green*

[71] Glotfelty, Cheryll. "Introduction." *The Ecocritical Reader*. Athens: U Georgia Press, 1996: xix.

[72] Braudy, Ibid.: 281.

[73] Ingram cites Williams and Braudy as influences in *Green Screen*.

Screen: Environmentalism and Hollywood Cinema (2000); and Scott MacDonald's *The Garden in the Machine: A Field Guide to Independent Films about Place* (2001). While Mitman and Bousé's provided the first comprehensive examination of wildlife nature films, Ingram's *Green Screen* and Jochman's *Green Cultural Studies* were the first book-length studies of environmental representations in Hollywood films, and MacDonald turned his attention to avant-garde cinema. Published by scholars with different disciplinary expertise, each examines a metagenre of cinema—wildlife nature films, Hollywood fictional films, or independent avant-garde films—and applies ecocritical attention to filmic texts, serving as timely reference points for scholars interested in how cinema interfaces with the environment and shapes our perceptions of and interactions with the materiality of the non-human biophysical world. The growing predominance of visual media in contemporary discursive arenas has continued to fuel studies in eco-cinecriticism from a variety of disciplinary and ideological perspectives.[74]

In *Green Cultural Studies,* Hochman contends "[s]o that nature does not disappear into culture, and culture does not authorize and naturalize itself as nature or Nature, closer scrutiny is necessary when blurring the boundary between nature and culture."[75] Hochman argues that cinema provides a useful site of study precisely because it blurs that boundary. For Hochman, popular cinema serves primarily serves to "render viewers separate and superior to filmed nature even as it brings them into proximity. Nature

[74] There has been a profusion of research in this area, with books such as Mark Meister and Phyllis M. Japp's edited collection *Enviropop: Studies in Environmental Rhetoric and Popular Culture* (2002), Pat Brereton's *Hollywood Utopia* (2005), Sean Cubitt's *EcoMedia* (2005), Cynthia Chris's *Watching Wildlife* (2006), Deborah Carmichael's edited collection *The Landscape of Hollywood Westerns: Ecocriticism in an American Film Genre* (2006), Robin Murray and Joseph Heumann's *Ecology and Popular Film* (2009), and Sidney Dobrin and Sean Morey's edited collection *Ecosee: Image, Rhetoric, Nature* (2009).

[75] Hochman, Jhan. *Green Cultural Studies*. Moscow: U Idaho Press, 1998: 14.

becomes, then, prop(erty) and commodity."[76] Hochman reads popular film as a modernist reification of capitalism and environmental destruction writ large and regards cinema's technological apparatus as a means of achieving that end. Hochman's view of mainstream cinema is view shared by Scott MacDonald. In his 2004 *ISLE* essay, "Toward an Eco-Cinema," MacDonald praises an avante-garde approach, arguing:

> I see the fundamental job of an eco-cinema as a retraining of perception, as a way of offering an alternative to conventional media-spectatorship . . . providing something like a *garden*—an "Edenic" respite from conventional consumerism—within the *machine* of modern life, as modern life is embodied by the apparatus of media.[77]

Compelling in their earnest articulation of eco-centric (as opposed to anthropocentric or bio-centric) positions through which to consider the role of cinema, Hochman and MacDonald nevertheless fall into the same ideological trap as mainstream environmentalism by privileging definitions of nature and ecology inherent to their own privileged positions as Western academics and assuming that it is the right of scholars to have the final say on what counts as environmentally self-reflexive cinema. Effectively challenging Hochman's technophobia, Sean Cubitt argues in *EcoMedia* – a wide-ranging look at such concerns as biosecurity, anthropomorphism, resource exploitation, ecoterrorism, and genetic modificiation - "that not all technologies are instrumental, that is used as instruments for domination over nature or other humans."[78] Cubitt instead argues that "both scientific and entertainment media rely on technologies to communicate between human and natural worlds." Expanding Ingram's consideration of environmental concerns and providing a counterweight to Hochman's Frankfurt school criticism, Cubitt

[76] Ibid., 3.

[77] MacDonald, Scott. "Toward an Eco-Cinema." *ISLE* 11/2 (Summer 2004): 108-109.

[78] Cubitt, Sean. *EcoMedia*. Amsterdam: Rodopi, 2005: 2-3.

notably offered the first tentative efforts to situate the field as one concerned with cinema's ecological rather than strictly environmentalist meanings, promoting a fuller sense of the multiple ways organisms and their environments interact and acknowledging the paradoxical role of technology in this process.

For environmental philosophers, one response to the conceptual end of nature and very real impacts human industrialization has had on biodiversity, air and water quality, and climate change has been to challenge the claims of radical postmodernism, which during the 1990s became so immersed in the discourse of discourse as to distract scholars from considering the material phenomena represented discursively within texts and within the extra-discursive processes of production and circulation that frame the individual and collective consumption of those texts. In her groundbreaking book *What is Nature?* (1995), Kate Soper challenged postmodernist assumptions about the relationship between discourse and reality:

> I defend a realist position as offering the only responsible basis from which to argue for any kind of political change whether in our dealings with nature or anything else. I recognize, that is, that there is no reference to that which is independent of discourse except in discourse, but dissent from any position which appeals to this truth as a basis for denying the extra-discursive reality of nature. . . . Representations of nature, and the concepts we bring to it, can have very definite political effects, many of them having direct bearing on the cause of ecological conservation itself.[79]

As Greg Garrard points out in *Ecocriticism*, Soper's claim that "it is not language that has a hole in its ozone layer," has been cited by numerous critics "to exemplify the emphasis on literal truth, rather than social construction, that marks ecocriticism from other literary

[79] Another influential thinker on these matters is Timothy Morton, who traces ecological thought in literature and philosophy through the history of capitalism. Morton, Timothy. *Ecology Without Nature*. Harvard: Harvard UP, 2007; and Soper, Kate. *What is Nature?* London: Blackwell, 1995: 8.

[and now media] critical schools."[80] Yet as Garrard also points out, Soper's use of the vernacular "hole in the ozone layer" to simplify the complexities of atmospheric science serves as a reminder that much like climate change "the ozone problem is real, but its is mediated by a popularising metaphor, and framed within international political discourses that are not scientific but ideological."[81] Troubling the scholarly tendency to essentialize postmodern theoretical insights (by taking the knowledge that semiotic systems do not naturally represent material signifiers to mean that discourse exists apart from the material conditions of life), Soper's insights have also helped to reshape ecocriticism, which in its first-wave was getting back to what William Cronon has called "the wrong nature" by framing wilderness as "out there" and environment as some "thing" disconnected from the experiences and thoughts of most people. Contemporary ecocriticism as a result, "demands attention to the literal and irreducibly material problems . . . but it also depends upon the insight that scientific problems are never fully separable from cultural and political ones."[82]

Congruent with Soper's claims, Robin Murray and Joseph Heumann argue that popular films are formally situated to offer audiences the space to simultaneously escape and engage such complex socio-ecological issues as global warming and serve as "indicators of real changes worldview."[83] In *Ecology and Popular Film: Cinema on the Edge* (2009), Murray and Heumann explore the explicit and subtle portrayals of socio-

[80] Garrard, Greg. *Ecocriticism*. New York: Routledge, 2008: 167.

[81] Ibid., 168.

[82] Ibid., 168; and Cronon, William. "The Trouble with Wilderness, or Getting Back to the Wrong Nature." *Uncommon Ground*. Ed. Cronon. NY: W.W. Norton, 1996. 69-90.

[83] Murray, Robin L. and Joseph K. Heumann. *Ecology and Popular Film*. Albany: SUNY Press, 2009: 3.

ecological issues at play in a wide range of narrative and documentary films. Informed by debates within literary ecocriticism, Murray and Heumann align themselves with Dana Phillips and Patrick Murphy, who define the environment not only in its material sense, but as "as a fundamental feature of the ideological horizons of literary works."[84] This poststructuralist move serves two purposes. First, it provides firm theoretical grounding for reading a film's ecological imagery and themes as historically situated rather than universal and "natural". Murray and Heumann effectively contend that examining ecological concerns requires getting beyond surface level readings. Like Hochman, Macdonald, Ingram, Cubitt, and Murray and Heumann this project relies heavily on textual analysis as an effective means of reading cultural conversations about the environment into popular cinema.

In the first comprehensive survey of this emerging field, "Green Film Criticism and its Futures," first published in 2006, Adrian Ivakhiv argues the while the field has excelled at analyzing "representations" of nature in film texts, it has yet to fully consider the broader implications of these films' "discursive and narrative structure[s]," their "inter-textual relations" and "the actual contexts and effects" of their "technical and cultural … apparatus in the larger world."[85] Summarizing this growing body of work, Ivakhiv points out the tendency among scholars to pass value judgments on the ethics of environmental representation and suggest that field expand its methodology by combining textual analysis with a fuller consideration of both the material and social impacts of cultural production. If eco-cinecriticsm is to consider what Ivahiv terms

[84] Ibid., 12.

[85] Ivakhiv, Adrian. "Green Film Criticism and Its Futures." *ISLE* 15/2 (Summer 2008): 18.

cinema's three ecologies – "the material [or economic-industrial], the perceptual [or textual-perceptual], and the social [or political-cultural]," then cultural and sociological theory, must be considered alongside media aesthetics if ecocinema studies is to consider the relationship between the text, the viewer, and the political, economic and environmental concerns which problematize the process of encoding and decoding through which a film's meaning is produced.[86] Introducing Raymond Williams' framework of cultural circulation to ecocinema criticism, Ivakhiv identifies four areas of analysis that offer a solid intellectual template for work in the field:

> a) the production of cultural products and texts [i.e. how meaning is both materially and abstractly encoded into media commodities]; . . .
> b) the texts themselves, including both their form and content; . . .
> c) the consumption, reception, use, or decoding of the texts' meanings by audiences [i.e. the social and material contexts of consumption]; and . . .
> d) the subsequent reproduction of these meanings as they affect everyday life, which then serve as the grounds for further production.[87]

My approach to this project draws to varying degree on all four of these areas of concern to ecocinema studies and is thus firmly situated within a growing body of ecocritical work and poised to take the field in new directions.

In the face of such complexities as global warming and toxic pollution, Hollywood aesthetic strategies may not be as inadequate as they appear at first glance. In *Green Screen* (2000), Ingram analyzed the representation of environmental issues in popular cinema by exploring a diverse array of topics from animals and land use politics to race and gender. Ingram briefly cites Williams' theory of melodrama as he convincingly argues "popular accusations of misrepresentation often presuppose a realist

[86] Ibid., 24.

[87] Ibid., 28.

interpretive context" when they should instead presuppose "an emotional/moral interpretive context."[88] Through such formal devices as continuity editing, close-ups, and musical punctuation, melodrama operates in the films discussed in this project to paradoxically unveil socio-cultural concerns as it seeks to mask them through spectacular excess and the possibility of escape from reality into cinematic space. Read this way, such popular films can be understood as offering viewers the possibility to engage in complex interrogations of environmental conflicts. Using Griffith's *Way Down East* (1920) as a model, Williams identifies five fundamental features of the film melodrama:

1) Melodrama begins, and wants to end, in a space of innocence. . . Gardens and rural homes are the stereotypical locuses of such innocence. The narrative proper usually begins when the villain intrudes upon the idyll . . .
2) Melodrama focuses on victim-heroes and the recognition of their virtue . . . the key function of victimization is to orchestrate the moral legibility crucial to the mode . . .
3) Melodrama appears modern by borrowing from realism, but realism serves the melodramatic passion and action . . .
4) Melodrama involves a dialectic of pathos and action—a give and take of "too late" and "in the nick of time" . . .
5) Melodrama presents characters who embody primary psychic roles organized in Manichaean conflicts between good and evil.[89]

I have quoted Williams at length here because her model is so crucial to this project's effort to analyze the multi-faceted aspects of the cultural logic of ecology in contemporary cinema as they emerge in the interplay between textual and meta-textual concerns. Taking Ingram's observations further, it can be argued that melodrama is particularly adept at mediating environmental concerns through an emotional/moral interpretive context because of the mode's historical relationship with capitalism.

[88] Ingram, David. *Green Screen*. Exeter: University of Exeter Press, 2000: 2-3.

[89] Ibid., 60-79.

According to the *Oxford English Dictionary*, the term "melo-drama" dates to 1789, when the English music historian Charles Burney coined it to describe the works of Italian composer Nicolò Jomelli (1714-1744). Introducing dramatic narrative and ballet into his operas, Jomelli eschewed the period's typical consideration of story as an afterthought to highly decorative, technically challenging arias. In France, the term *mélodrame* (from the Greek *melos* for music and the French *drame* for drama) came into use in 1802 to describe the century-old practice of blending elements of song and dance into traditional forms of drama, as in Jean-Jacque Rousseau's *Pygmallion* (1762), a partnership with composer Horace Coignet that is generally considered the first full melodrama.[90] Historically, the development of melodrama traces to what Raymond Williams has described as "the crucial development of realism as a whole form" in eighteenth-century bourgeois drama.[91] In "A Lecture on Realism" (1977), he identified three defining characteristics of realism that developed during the eighteenth century from which melodrama would later borrow: social extension (e.g. the qualities of tragic heroism were extended to characters of lower social ranks), an emphasis on the contemporary world, and an emphasis on secular action (i.e. narrative causes and effects were no longer of a metaphysical or religious order). Realism and melodrama are not mutually exclusive, but operate in historical tension with one another**,** products of the early modern turn to capitalism and a redefinition of the meaning of the individual and humanity's relationships with the material world. As democratic institutions slowly

[90] Branscombe, Peter. "Melodrama." *The New Grove Dictionary of Music and Musicians*. (Eds.) Stanley Sadie and John Tyrell. New York: Grove, 2001: 360-363.

[91] Williams, Raymond. "A Lecture on Realism." *Screen* 19/1 (Spring 1977): 66.

began to replace monarchies following the American and French Revolutions, audiences increasingly connected with melodramatic narratives of good versus evil in which ordinary men and women become heroes. Burgeoning first on British Victorian stages, melodrama has been the dominant narrative mode in the most widely consumed forms of Western popular culture in each ensuing historical epoch, from the nineteenth-century novels of such writers as Victor Hugo, Charles Dickens, and Harriet Beecher-Stowe to twentieth-century cinema and the twenty-first century blockbuster.

Deriving from both the high opera and a popular oral tradition that began with medieval morality plays, folktales, and ballads, melodrama refers denotatively to a drama that is emotionally punctuated by music. Connotatively however, it is often used to describe stories that exhibit "strong emotionalism; moral polarization and schematization; extreme states of being, situations, actions; overt villainy, persecution of the good, and final reward of virtue; inflated and extravagant expression; dark plottings, suspense."[92] Melodramas are set in symbolic worlds where characters embody either good or evil. As Peter Brooks puts it, "Everything appears to bear the stamp of meaning, which can be expressed, pressed out from it."[93] Hollywood cinema's "melodramatic imagination" continues to articulate what Thomas Elsaesser described in 1972 as "the anxiety, the moral confusion, the emotional demands, in short the metaphysics of social life."[94] With clearly visible recurring motifs – such as excess emotion and action and symbolically

[92] Brooks, Ibid.

[93] Brooks, Ibid.

[94] Elsaesser, Thomas. "Tales of Sound and Fury: Observations on the Family Melodrama," orig. pub. in *Monogram*, no. 4 (1972), in *Imitations of Life: A Reader on Film & Television Melodrama.* Ed. Marcia Landy. (Detroit: Wayne State University Press, 1991) 68-88.

charged elements of mise en scène (props, costumes, sets, lighting, actors' bodies) – melodrama operates through metaphor and moral confrontation to explore social conditions otherwise obscured the hegemonic view of reality.

Until the early 1970s, film and literary historians generally used the term melodrama in a pejorative sense to describe a specific genre of film they considered 'women's weepies'. Signaling a shift in scholarship toward a view of melodrama not as a specific genre, but as a trans-generic mode of storytelling, Peter Brooks traced the mode's literary development to the French Revolution in his seminal analysis, *The Melodramatic Imagination* (1976). Brooks argues that the Revolution metonymically illustrates, "the final liquidation of the traditional Sacred and its representative institutions (Church and Monarchy)."[95] Although Christianity has remained a powerful influence in Western political and social life, the Revolution spelled the end of the Church and Monarchy's hegemonic control over dominant cultural perceptions of the "moral occult" which Brooks defines as "the domain of spiritual forces and imperatives that are not clearly visible within reality."[96] As democratic institutions began to replace monarchies, traditional religious narratives were increasingly challenged by proponents of scientific and social rationalism. Western culture came to perceive that traditional institutions could no longer provide society with a set of transcendent moral codes and guidelines. During the period of market capitalism, melodrama has grown in popularity by resonating with audiences by presenting the moral order as "part and parcel of the

[95] Brooks, Peter. *The Melodramatic Imagination*. New Haven, CT: Yale UP, 1976: 15.

[96] Ibid., 17.

nature of things and as a causal force or a as a regulatory force with causal efficacy."[97] Melodrama borrows from realism to naturalize secularism individualism and capitalist exchange.

In contemporary films, melodrama remains the "principal mode for uncovering, demonstrating, and making operative the essential moral universe in post-sacred era."[98] The moral occult continues to hold deep sway over society as people search for ontological and existential Truth, however, its representative institutions of Church and Monarchy have been subsumed by capitalism. Melodrama resonates with the ethic of individualism that has dominated social interaction in the capitalist era by representing "both the urge toward resacrilization and the impossibility of conceiving of sacralization other than in personal terms."[99] Melodrama, capitalism, and climate change are intertwined with the personalization of the moral occult. In the first line of his first book, *A Theory of Moral Sentiments* (1759), Adam Smith argues, "How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortunes of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it."[100] Smith used the term "sympathy" to describe how individuals feel these moral sentiments. Sympathy (the essence of melodrama) serves as the fundamental moral connection felt between individuals in society, providing an "invisible hand" that guides the process of capitalist exchange toward social

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[97] Carrol, Noel. "The Moral Ecology of Melodrama: The Family Plot and *Magnificent Obsession*." *Imitations of Life*. Ed. Marcia Landy. Detroit: Wayne State UP, 1991: 189.

[98] Ibid., 15.

[99] Ibid., 20.

[100] Smith, Adam. *Theory of Moral Sentiments*. (1759) Whitefish, MT: Kessinger, 2004: Section I, line 1.

improvement. As members of society, individuals and investors may be pursuing their own interests but their collective actions are "led by an invisible hand to make nearly the same distribution of the necessaries of life, which would have been made, had the earth been divided into equal portions among all its inhabitants, and thus without intending it, without knowing it, advance the interest of the society."[101] Melodrama resonates with capitalism by centering on stories of individual agency.

In the darkened spaces of the modern Cineplex, in "blue states" and "red states" alike, melodrama remains what Williams calls the "fundamental mode of American moving pictures," because (like capitalism) it structurally accommodates the nation's political and ideological divisions by imagining a shared moral center based on the ethic of individualism.[102] Resonating with audiences' increasing awareness of global environmental risk, the films discussed in the following chapter and throughout this this dissertation seem to set their narrative closure in spaces of pastoral innocence, yet couch these spaces within worlds irreversibly altered by industrialization, evoking McKibben's aphorism "we are producing the carbon dioxide – we are ending nature" while at the same time offering the hope that may not be too late if humanity learns to accept the obligation that comes with its unique ecological position as the one species capable of socially and economically organizing to radically alter the habitat of every other species with whom it shares the planet.[103]

[101] Ibid., Section IV, Part 1, line 10.

[102] Williams, Linda. Ibid., 42.

[103] McKibben, *The End of Nature*.

CHAPTER II

GLOBAL WARMING AND THE MELODRAMATIC IMAGINATION:

THE DAY AFTER TOMORROW (2004) AND *AN INCONVENIENT TRUTH* (2006)

"We are, if not in the domain of reality, in that of truth."
~ Peter Brooks, The Melodramatic Imagination *(1976)*

Tipped off by a phone call to the office, a National Weather Service employee turns on the Weather Channel and sees that an unprecedented storm front has hit the Los Angeles Basin. He immediately calls his supervisor for authorization to issue a severe weather alert. Cut to the supervisor who answers the call, turns on his TV, and walks to his bedroom window to watch a funnel cloud form on a nearby hillside. Cut to paleo-climatologist Jack Hall (Dennis Quaid) and his team of researchers as they walk into the White House situation room. The room is filled with televisions broadcasting 'live' Fox News footage of a tornado destroying the Hollywood sign. Cut back to the supervisor now getting out of his car in downtown LA. He looks toward the Virgin Records tower as several more funnels destroy the city's skyscrapers and he shouts at a family in the street (who are shooting home video of the storm) to run for cover. Cut back to the employee who turns the channel on his television to Fox News and sees his boss standing in the middle of the storm's path. He dials his cell phone. Cut to the boss who answers his phone and gets in his car to flee. Cut back to the employee who watches live while a funnel picks up a bus and drops it on the supervisor's car. Cut to a reporter who has been tracking the storm. He steps out of the news van to report on the action. "It-it-it looks like some sort of huge, horrific, terrifying nightmare, only this is the real thing!" he shouts into the camera in the instant before he is smashed by the wall of a building, flung by a global warming super-tornado in this computer-generated sequence from

writer/director/producer Roland Emmerich's 2004 movie blockbuster *The Day After Tomorrow*.

Imbued with menacing agency by Harald Kloser's *Jaws*-like musical score, funnel clouds continue to destroy downtown Los Angeles as the sequence plays out in a series of parallel cuts between news helicopters flying around the storm and audiences around the globe watching the catastrophe unfold on their televisions. A few minutes earlier in the film, Paris, Tokyo, and New Delhi have bit hit by unprecedented winter weather while Jack has been arguing with the American vice president during a presentation at the United Nations:

> *Jack Hall*: Our climate is fragile. At the rate we're polluting the environment and burning fossil fuels, the ice caps will soon disappear.
> *Vice President Becker:* Professor Hall, our economy is every bit as fragile as the environment. Perhaps you should keep that in mind before making sensationalist claims.
> *Jack Hall:* Well, the last chunk of ice that broke off was the size of the state of Rhode Island. Some people might call that pretty sensational.

This dialogue between Jack and Vice President Becker (Kenneth Walsh), a look-alike for then Vice President Dick Cheney, evokes the fierce ideological and political battle that frames global warming in the American cultural logic of ecology.[104]

In the world of Emmerich's disaster genre film neither scientific consensus nor increasing weather anomalies inspire the government or the public to begin mitigating global warming in time to avert disaster. Only when Americans finally *see* climate change and *feel* its direct impact within the United States, the film argues, will they accept responsibility for causing global warming and begin to take action in response to it. But in a disaster film this moment of recognition - the turning point in the narrative

[104] Emmerich has explained that the character of Becker was modeled after Cheney. Edelstein, David. "Ice Age Cometh." *Slate* (May 27, 2004): <http://www.slate.com/id/2101386/>.

when the characters begin to act - is signaled to the audience as being always-already too late to avoid catastrophe. In this case, a thirteen degree temperature drop in the Atlantic Ocean's thermohaline circulation system triggers an abrupt climate tipping point that sends the Northern Hemisphere into an ice age over the course of a few days.[105] While scientists were quick to point out the film's flaws, particularly its shift in meaning of the phrase "climate tipping point" from geological time (decades) to cinematic time (minutes), the film's popularity offered the scientific community a rare opportunity to directly communicate their views with the public.[106] Despite the film's narrative closure in a melodramatic space of innocence, illustrated in Becker's mea-culpa speech about the perils ignoring nature and in Hall's reunion with his erstwhile nuclear family, the government's decision to evacuate comes too late to save much of nation, leaving hundreds of millions of dead or displaced to Mexico. Exploiting the digital technologies whose manufacture, development, and use are enabled by globalization, and adapting the science of climate change to fit the conventions of the disaster film, *The Day After Tomorrow* drew widespread public attention by providing a spectacular hyperbole of the cataclysmic social and ecological impacts of global warming. Describing "all the hoopla" and "media feeding frenzy" that developed in anticipation of the film's exaggerated

[105] The Pew Research Center responded to the film's popularity by creating a chart comparing the film's "science" and actual climate science. At the time of the film's release it was believed that a shutdown in the Thermolahine system was a possible but unlikely ecological scenario. See, "The Day After Tomorrow: Could it Really Happen?" Pew Center on Global Climate Change. (Accessed Feb. 2010): <http://www.pewclimate.org/dayaftertomorrow.cfm>

[106] In advance of the film the Weather Channel hired its first climatologist, Dr. Heidi Cullen. *USA Today* reported at the time that although climate scientists and environmental groups regarded the film's science as "bunk, most applauded it for bringing the global warming debate to Americans' attention." Bowles, Scott. "'The Day After Tomorrow' Heats Up a Political Debate." (May 26, 2004): <http://www.usatoday.com/educate/college/firstyear/articles/20040530.htm>. See also, Feder, Don. "The Day After Tomorrow" *Free Republic*. (June 2, 2004): <http://www.freerepublic.com/focus/f-news/1146038/posts>.

portrayal of climate change, the editors of *Discover* decided that the magazine would join the growing list of nationwide publications (including *National Geographic, Newsweek, Science,* and *Time*) to dedicate extensive coverage to global warming and its depiction in the film in the weeks before and after the film's release.[107] The film's formal use of melodrama illustrates the mode's ability to translate the objective complexities of climate change in terms of the moral and affective vernacular of cinema.[108] The film's production methods also called attention to the film industry's ecological footprint and its timely reception highlights a moment in American history when the issue of climate change began to fully emerge in the cultural imagination.

In 2003, Anthony Leiserowitz, currently Director of the Yale Project on Climate Change, wrote in his University of Oregon environmental studies dissertation "Global Warming in the American Mind": "Public opinion is at a critical turning point. Americans are aware and concerned about global climate change. . . [but] have yet to confront the tradeoffs that will ultimately be required."[109] *The Day After Tomorrow* engages those tradeoffs by employing the techniques of melodrama to temper its

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[107] Lemly, Brad. "A New Ice Age?" *Discovery* (May 22, 2004): <http://discovermagazine.com/2004/may/a-new-ice-age-day-after-tomorrow>; Lovgren, Stefan, "'Day After Tomorrow Ice Age Impossible, Researchers Say." *National Geographic* (May 27, 2004): <http://news.nationalgeographic.com/news/2004/05/0527_040527_DayAfter.html>; "We Have to Think of the Future." *Newsweek* (May 25, 2004): <http://www.newsweek.com/2004/05/25/we-have-to-think-of-the-future.html>; Lane, Anthony. "Cold Comfort." *The New Yorker*. (June 7, 2005): <http://www.newyorker.com/archive/2004/06/07/040607crci_cinema>; Hansen, Bogi, et. al. "Already the Day After Tomorrow." *Science* 305/5686 (Aug. 2004): 953-954; Edelstein, David. "Ice Age Cometh." Slate (May 27, 2004): <http://www.slate.com/id/2101386/>; and Grossman, Lev. "Hollywood's Global Warming." *Time* (May 17, 2004): <http://www.time.com/time/magazine/article/0,9171,638411,00.html>.

[108] Miriam Hansen has established the use of 'vernacular' to describe cinema's textual and contextual relationship with modernism and modernity in her essays, "The Mass Production of the Senses: Classical Cinema as Vernacular Modernism." *Reinventing Film Studies.* Ed. Christine Gledhill and Linda Williams. New York: Oxford UP, 2001. 332-350; and "Fallen Women, Rising Stars, New Horizons: Shanghai Silent Film as Vernacular Modernism." *Film Quarterly* 54/1 (2000): 10-22.

[109] Leiserowitz, Anthony A. "Global Warming in the American Mind." Environmental Studies Dissertation. University of Oregon. (Dec. 2003): iv.

apocalyptic visions with moments of family nostalgia and pastoral hope. Doing so helped the film make millions at the box office and brought the issue of climate change to the center of the American environmental movement.[110] *The Day After Tomorrow* was among the top grossing films of 2004 and its reception played a key role in sparking a shift in the media frame around climate change; evidenced by its impact on audiences, subsequent films, and the broader public discourse surrounding climate change, such as the persistent mention of global warming during coverage of Hurricane Katrina in 2005 after the storm devastated the city of New Orleans.[111] Katrina raised questions about the linkage between global warming and severe weather patterns, an issue still heavily debated within the scientific community.[112] In September 2005, with *An Inconvenient Truth* still in production, former vice president Al Gore was invited to speak on the link between hurricanes and global warming at meetings held by such groups as the State Insurance Commissioners and the Sierra Club.[113] In his interviews with the press during the crisis, Gore commonly repeatedly claimed that "the scientific community is warning

[110] Environmental activist Paul Hawken explains in his book *Blessed Unrest* that over the first decade of the twenty-first century thousands of foundations and non-govermental organizations (NGOs) representing varied social and environmental concerns slowly began rallying around the issue of climate change. By 2006, according to Hawken, climate change had become the most prominent concern for environmental activists across the globe. Hawken, Paul. *Blessed Unrest: How the World's Largest Social Movement Came into Being and Why No One Saw It Coming*. New York: Viking, 2007.

[111] Veteran environmental journalist Ross Gelbspan, for example, claimed in an editorial published in *The Boston Globe* the day after Katrina that "the hurricane that struck Louisiana yesterday was nicknamed Katrina by the National Weather Service. Its real name is global warming." The links between climate change during coverage of Katrina are further documented in the film *Everything's Cool* (2007). Gelbspan, Ross. "Katrina's Real Name." *The Boston Globe* (Aug. 30, 2005): <http://www.boston.com/news/weather/articles/2005/08/30/katrinas_real_name/>.

[112] Broder, John M. "Climate-Change Debate is Heating Up in Deep Freeze." *New York Times* (Feb. 10, 2010): <http://www.nytimes.com/2010/02/11/science/earth/11climate.html>.

[113] Gore, Al. "On Katrina, Global Warming." Speech to the Sierra Club National Convention. (Sept. 12, 2005): <http://www.commondreams.org/views05/0912-32.htm>.

us that the average hurricane will continue to get stronger because of global warming."[114] *An Inconvenient Truth* clearly exploited the immediacy of the Katrina disaster; the film's poster design, for example, prominently features a hurricane looming over a factory. Prior to the release of Gore's film, *The Day After Tomorrow* had imbued the issue of global warming with a sense of immediacy and Katrina made climate change feel tangible, factors that proved crucial to Gore's reemergence into the media spotlight as climate change was becaming a cultural and political concern of the first order.

A Brief History of Climate Change Cinema

In a sense, all cinema, broadly speaking, is a form of climate cinema because humanity's changes to the planet's climate were already well underway by the time Edison and the Lumière Brothers made their first films. Global warming and climate change are both phrases which refer the warming of the earth's climate system resulting from greenhouse gas emissions. For thousands of years prior to 1750, carbon dioxide in the earth's atmosphere averaged around 280 parts per million by volume. Yet by 1957, when Charles Keeling began measurements of CO_2 at the National Oceanic and Atmospheric Administration's Mauna Loa Observatory in Hawaii, levels were measured at 310 ppm.[115] In 2010 the total volume of carbon dioxide in the earth's atmosphere

[114] During the Katrina crisis Gore appeared frequently on television and his upcoming documentary was often mentioned. On Fox News, for example, his claims about global warming led to roundtable discussions in which his claims were often discredited, however, he was cast in the role of hero for a prominent story covering his work rescuing evacuees from flooded areas of Lousiana. "Al Gore Airlifts Evacuees." Associated Press (Sept. 9, 2005): <http://www.foxnews.com/story/0,2933,168978,00.html>.

[115] Doyle, Alistair. "CO2 at New Heights Despite Economic Slowdown." Reuters. (Mar. 15, 2010): <http://www.reuters.com/article/idUSTRE62E2KJ20100315?feedType=RSS&feedName=environmentNews&utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+reuters%2Fenvironment+%28News+%2F+US+%2F+Environment%29>; and Tans, Pieter. "Atmospheric CO_2 at Mauna Loa

surpassed 393 ppm, an increase of 40% over the preindustrial era.[116] Increased levels of carbon dioxide in the atmosphere amplify what scientists describe as "the greenhouse effect," a natural process that traps the sun's heat at the earth's surface. The increased carbon released through the burning of fossil fuels is slowing the earth's natural heating and cooling process, acting "like a thermal blanket to keep the earth warmer than it would otherwise be."[117] By the end of the nineteenth century, the immense scale of coal mining and burning in the industrializing nations had multiple environmental and social consequences, as depicted throughout the canon of nineteenth-century literature. As it turns out, a series of related events in 1896 mark the year as touchstone moment in the intertwined histories of climate change, globalization, and cinema.

In 1896, Swedish chemist Svante Arrhenius first calculated the effects of increased carbon concentrations in the atmosphere. Arrhenius predicted that doubling the amount of CO_2 in the atmosphere would cause average global temperatures to rise between 5 to 6˚ (9 to 11˚ F), a result remarkably similar to current projections."[118] CO_2 emissions, however, did not present the Earth's 1.6 billion inhabitants with a global environmental risk. Arrhenius, who argued that long-term warming would be beneficial for agricultural production in northern Europe, estimated that it would take another 3,000 years to double the volume of CO_2 in the atmosphere to 500 ppm, a level we may

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Observatory." National Oceanic and Atmospheric Administration. (Accessed Dec. 2009): <http://www.esrl.noaa.gov/gmd/ccgg/trends/co2_data_mlo.html>.

[116] McKibben, Bill. "The Science of 350, the Most Important Number on the Planet." (Oct. 6, 2009): <http://www.treehugger.com/files/2009/10/the-science-of-350-the-most-important-number.php>

[117] Leiserowitz, Anthony A. "Global Warming," 2-5.

[118] Ibid., 6.

potentially reach by 2050.[119] Also in 1896, less than a year after Auguste and Louis Lumière first exhibited their moving pictures to audiences in Paris, Lumière cinematographers were traveling the globe filming and exhibiting for local audiences.[120] Included in that group, Kamill Serf traveled to the oil fields of Baku, Azerbaijan – "renowned for its oil for some 3,000 years" – and set his cinématograph on a tripod and shot a thirty second film of burning oil wells.[121] In his DVD commentary on *The Lumière Brothers First Films* (1996), Bertrand Tarvernier asserts that *Oil Wells of Baku: Close View*, "may be the first ecological film ever made."[122] In the film, smoke and flame billow from two tall derricks, and a plume of gray and black smoke covers the sky at the top of the frame. The scale of the spectacle is emphasized by a small human figure walking away from the center derrick and out of the frame. Carefully framing the lines and movement that make up the misé en scene in order to capture the attention of the viewer, Serf's film neatly falls under Tom Gunning's description of film produced between 1895 and 1906 as constituting a "cinema of attractions."[123]

For a spectator in 1896, it is likely that the oil worker's "performance" both normalized the unfolding spectacle and displaced any anxieties that the spectacle was

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[119] Caldiera, Ken. "CO2 Emissions Could Violate EPA Ocean Quality Standards Within Decades." *Earth Observatory*. National Aeronautics and Space Administration. (Sept. 19, 2007): <http://earthobservatory.nasa.gov/Newsroom/view.php?id=33395>.

[120] As film historian Charles Musser has discussed, the differing technologies used by each film company reflects their differing ideological approaches. Musser, Charles. "At the Beginning: Motion Picture Production, Representation and Ideology at the Edison and Lumiére Companies." *The Silent Cinema Reader*. Ed. Lee Grievson and Peter Kramer. New York: Routledge, 2004. 15-30.

[121] Searight, Sarah. "Region of Eternal Fire: Petroleum Industry in Caspian Sea Region." *History Today* 5/8 (2000): 46.

[122] Qtd. in Murray and Heumann, ibid., 18.

[123] Gunning, Tom. "The Cinema of Attractions: Early Film, Its Spectator and the Avant-Garde." *Early Film.* Ed. Thomas Elsaesser and Adam Barker (British Film Institute, 1989).

documenting an ecological disaster. As Murray and Heumann point out in their reading of the film, the lone human figure "moves without the urgency of an ecological reading . . . as if he's unconcerned about anything."[124] Understood from a contemporary eco-critical perspective, however, the film's meaning shifts, especially when considered alongside such later films as *Lessons of Darkness* (Werner Herzog, 1992), *There Will Be Blood* (2007) and *Home* (Yann Arthus-Bertrand, 2009), which juxtapose the aesthetic pleasures of oil fires with their economic, political, and environmental consequences. Within a space of reflection enabled by our historical distance from the film's original context its images appear as both disaster spectacle and environmental disaster.

In June 1896, in the United States, Henry Ford, a chief engineer at Edison Illumination Company, completed work on his first gasoline-powered automobile, the "Quadricycle".[125] By the 1950s, the gasoline-powered automobile became the dominant form of transportation in Western world, oil became the world's primary source of energy, and the United States the dominant Western economic and military power.[126] In the Energy-Climate Era, the gasoline-powered automobile offers simultaneously the "freedom" to pursue a consumer lifestyle and a threat to the long-term sustainability of that lifestyle. Despite a growing income gap between the world's wealthiest citizens and average earners, automobile sales continue skyrocketing worldwide as ever more people in developing nations purchase Western culture's dominant symbol of personal affluence

[124] Murray and Heumann, 21.

[125] Clymer, Floyd. *Treasure of Early American Automobiles*. New York: Bonanza Books, 1950: 58.

[126] See, for example, Duffield, John S. *Over a Barrel: The Costs of US Dependence on Foreign Oil.* Stanford, CA: Stanford Law and Politics, 2008. Nye, Joseph. *The Future of Power*. New York: Public Affairs, 2011; and Zakaria, Fareed. *The Post-American World.* New York: W.W. Norton, 2008.

and mobility.[127] As Zygmunt Bauman has argued, "the freedom to move, perpetually a scarce and unequally distributed commodity, has fast become the main stratifying factor of our late-modern or postmodern times."[128]

Cinema's relationship with environmental themes was heightened by industrialization, World War I, and the Great Depression. While much has been written of *King Kong* (Cooper and Schoedsack,1933), no scholar until Donna Haraway had argued that if beauty did kill the beast, it was the terrible beauty of men's guns, ether, and steamships and of New York's concrete, steel, and electricity – of modernity itself – that killed the beast, not a woman.[129] *King Kong* succeed with audiences by combining motifs from the horror genre with safari motifs from the studio film, *Trader Horn*, Martin and Osa Johnson's documentaries *Simba* (1927) and *Congorilla* (1932), and the producer's previous films *Grass* (1925) and *Chang* (1927) to render "nature" a character, sympathetic but ultimately monstrous. The first monster movie, *Kong*, like F.W. Murneau's final film *Tabu* (1931), articulates the era's cultural logic of ecology by portraying modernity's tragic triumph over the natural world.

Documentary and fiction film in the US during the 1930s and early 1940s were filled with nostalgic motifs of ecological loss. The first feature-length documentaries, Robert Flaherty's *Nanook of the North* (1922) and *Moana* (1926) have been described as

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[127] Garrett, Geoffrey. "Globalization's Missing Middle." *Foreign Affairs* (Nov/Dec 2004): <http://www.foreignaffairs.com/articles/60271/geoffrey-garrett/globalizations-missing-middle>;

[128] In China, for example, which in 2009 surpassed the United States in total annual carbon emissions, 14.5 million vehicles were added to the road between 2006 and 2007, bringing the total at that time to nearly 160 million; and in February, 2010 National Public Radio estimated that nearly two-thirds of all current Chinese drivers have been licensed in just the past two to three years, meaning that we have only begun to feel the environmental impacts of globalization's convergence with climate change. Bauman, Zygmunt. *Globalization: The Human Consequences*. New York: Columbia UP, 2000: 2.

[129] "Donna Haraway Reads *National Geographic* of Primates." Paper Tiger Television (1987); and Haraway, Donna. *Primate Visions*. New York: Routledge, 1989.

examples of what anthropologists call "salvage ethnography."[130] Flaherty had indigenous actors re-create cultural practices that had already disappeared from northern Canada and the south Pacific a generation or two earlier after imperial intrusion reached the most remote places on the globe. John Ford put to melodramatic affect to work in his Academy Award-winning *How Green Was My Valley* (1941). Setting the story of young Welsh protagonist in a green valley already being polluted by coal production from the time of his birth, the film anticipates the setting of many contemporary films which figure their protagonists as always-already living with environmental collapse. Setting out to convince those not living in the mid-west that the great eco-collapse known as the Dust Bowl had actually occurred and that government dam projects were needed to control flooding along the Mississippi, Pare Lorentz wrote and directed the first (and two of the only) theatrically-released documentary films funded by the U.S. government, *The Plow that Broke the Plains* (1936) and *The River* (1938). Allusions to Lorentz's framing of the Dust Bowl and the continued vitality of land and home as central motifs in the environmental imagination can be found in such studio-era classics as *The Wizard of Oz* (1939), *Gone With the Wind* (1939), and *The Grapes of Wrath* (1940).

During World War II, (after which oil became the nation's primary source of energy and concerns about global raised by scientists), industrialization was framed as a matter of survival and nearly every major Hollywood film released during the period was explicitly pro-war.[131] In his essay "World War II and the Hollywood 'War Film,'" Schatz explains that even though President Franklin Delano Roosevelt "decided against

[130] Barnouw, Eric. *Documentary: A History of the Non-Fiction Film*. 2nd Ed. New York: Oxford UP, 1993.

[131] In 1950 oil surpassed coal as the leading source of energy in the United States and Europe. Ristinen, Robert A. and Jack J. Kraushaar. *Energy and the Environment*. New York: Wiley, 1999.

the complete conversion of the motion picture industry to war production, as occurred with other major U.S. industries such as steel, construction, and automobile manufacturing," Hollywood's "ideological and commercial imperatives" were closely aligned during the period.[132] In *Pittsburgh* (1942), for example, John Wayne plays Charles 'Pittsburgh' Markham, who works his way to the top of the Pittsburgh steel industry only to be left without friends, lovers, or fortune. Broken and desperate, Pittsburgh regains his innocence by taking a manual labor job back in the mine in order to fuel the war effort.

After the difficult times of the Depression and World War II, Americans would begin to worry less about putting a chicken in every pot and focus instead on putting a car in every driveway.[133] In the 1950s, suburbia, car culture, fast-food joints and other aspects of American culture that have become hallmarks of globalization all found their way into the era's films. Soon after the war, memories of the Dust Bowl faded in to distant memory as the science and the military-industrial complex promised to protect America's economic growth and prosperity from ever again being threatened by external forces. The Green Revolution in agricultural science (as it came to be called in the 1960s) began increasing the yield of farmlands at an unprecedented rate and nation's emergence from the war as the world's economic and military leader enabled consumerism to flourish as never before.[134] Throughout the Cold War, however, the

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[132] Schatz, Thomas. "World War II and the Hollywood 'War Film.'" *Refiguring American Film Genres*. Ed. Nick Browne. Berkeley: U California Press, 1998: 89.

[133] A chicken in every pot and a car in every driveway were key campaign promises made by Herbert Hoover during his campaign for U.S. President in 1928.

[134] Ehrlich, Paul and Anne Ehrlich. *The Dominant Animal: Human Evolution and the Environment*. Washington, DC: Island Press, 2008.

looming threat of nuclear war between the United States and the Soviet Union presented the most immediate danger to global security. From the moment of President Truman's decision to drop atomic bombs on Hiroshima and Nagasaki, Japan in August, 1945 nuclear arms and energy have been among the most controversial and consequential socio-ecological issues on the planet.

The atomic bomb is perhaps history's greatest oxymoron as it simultaneously connotes the promise of global security and the threat of "mutually assured destruction." By 1946, as the U.S. began its first round of post-war atomic tests on the remote Bikini Islands in the Pacific Ocean, *Time* magazine reminded its readers that the world had changed forever now that it had "with the power of universal suicide at last within its grasp."[135] In his 1993 essay, "Surviving Armageddon: Beyond the Imagination of Disaster," Mick Broderick presents a comprehensive list of films set before, during, or after a nuclear holocaust to challenge Susan Sontag's claim that, "there is absolutely no social criticism, of even the most implicit kind, in science fiction films. No criticism, for example, of the conditions of our society which create the impersonality and dehumanization which science fiction fantasies displace onto the influence of an alien It."[136] *The Day the Earth Stood Still* (1951), which inspired a global warming-themed remake in 2008, stands in direct contrast to Sontag's argument. Responding directly to the conditions of post-war society, the alien Klaatu plans to destroy the earth before it can destroy itself only to lose his alien otherness by anthropomorphically (and emotionally) changing his mind. *Thing from Another World* (1951), *Them!* (1954), *Godzilla* (1954),

[135] "Science: Crossroads." *Time* (July 1, 1946): <http://www.time.com/time/magazine/article/0,9171,803775,00.html>.

[136] Sontag, Susan. Qtd. in Broderick, Mick. "Surviving Armageddon: Beyond the Imagination of Disaster." *Science Fiction Studies* 61/3 (1993): <http://depauw.edu/SFs/backissues/61/broderick61art.htm>

and other monster films of the era exploited audiences' growing concerns about the ecological risks posed by atomic warfare and testing, and as Broderick notes these disaster films are ultimately as much about survival as they are the apocalyptic events themselves. Rather than creating a space of complete escape from the concerns of the Cold War, watching atomic radiation create oversized monster ants and lizards gave audiences a space (albeit a hyperbolized one) to imagine how the environmental impacts of atomic detonations on the remote islands might impact their daily urban lives. And the 1959 adaptation of *On the Beach* reminded viewers that even those living in remote landscapes would feel the effects of radiation, providing a chilling reminder of the global environmental risks posed by a full scale nuclear war in the northern hemisphere. Speaking to the heightened sense of fear generated by the 1962 Cuban Missile Crisis, Stanley Kubrick's *Dr. Strangelove, or How I Stopped Worrying and Learned to Love the Bomb* (1964) turned the logic of mutually assured destruction on its head.

In March 1979 the risks associated with nuclear power were demonstrated by a partial core meltdown at the Three-Mile Island nuclear plant near Harrisburg, Pennsylvania. Released just twelve days prior to the incident, and stoking public fears about nuclear power, *The China Syndrome*, stars Jane Fonda as a reporter who uncovers code violations at a nuclear plant that undergoes partial meltdown eerily similar to the real one. Four years later, *The Day After* (1983) aired without commercial interruption on ABC television to more than 100 million viewers. The film depicts a full-scale nuclear war and its aftermath and was followed by a *Nightline* special with Carl Sagan and other panelists discussing the potential impacts of nuclear winter on civilization and the environment. As a result of the incident and the film's reception, continued media

attention has been paid to nuclear risk in such films as *Atomic Café* (1982), *The Day After* (1983), *Nausicca of the Valley of the Wind* (1984), *Superman IV* (1987), *When the Wind Blows* (1987), and television shows as *The Simpsons* (1989 -). Since the end of the Cold War with the fall of the Berlin Wall in 1989 and collapse of the Soviet Union in 1991, however, a new generation of children has grown up in the United States without the threat of nuclear war haunting their dreams. Especially for "Millennials," children born in between 1982 and 2001, global ecological collapse and terrorism (including localized "dirty" nuclear bombs) are perceived as greater threats than full-scale nuclear apocalypse.[137]

While fears of nuclear holocaust dominated the second-half of the twentieth century, the rhetoric of apocalypse also lent itself to a growing environmental movement. Modern environmentalism begins with Rachel Carson's best-selling *Silent Spring* in 1962, which is widely credited with leading to a federal ban on the pesticide DDT in 1972. As Greg Garrard points out in his book *Ecocriticism* (2004), "The 'silent spring' of the title alludes, on one level to [the] loss of birdsong, [and] also comes to function as a synecdoche for a more general environmental apocalypse."[138] Along with posing as severe threat to wildlife, DDT and other compounds developed as part the Green Revolution, along with rapid advances in medicine (such as the mass production of penicillin in 1945 and Jonas Salk's polio vaccine in 1955), contributed to rapid

[137] A 2007 survey conducted by the education company BrainPop found that fears of global warming had surpassed even those of terrorism, car crashes, and cancer among school aged children. "Kids Fear Global Warming More than Terrorism, Car Crashes, and Cancer, According to National Earth Day Survey." *PR Newswire*. (April 22, 2007): <http://www.prnewswire.com/news-releases/kids-fear-global-warming-more-than-terrorism-car-crashes-and-cancer-according-to-national-earth-day-survey-58684647.html>; and Strauss, William and Neil Howe. *Millennials Rising*. New York: Random House, 2005.

[138] Garrard, Greg. *Ecocriticism*. London: Routledge, 2004: 6.

population growth around the globe, primarily in developing nations. In 1968, biologist Paul Ehrlich made headlines around the world when he predicted in his best-selling *The Population Bomb* that unchecked population growth would lead to mass starvation and global food shortages by the end of the century. Repeating the same basic argument made by Thomas Malthus in 1789 that unchecked population growth would eventually outstrip food production, Ehrlich went so far as to call for sterilization of men in over populated (i.e. non-Western) countries and has since been roundly criticized for his alarmist and Eurocentric positions.[139] However, as the world's population heads toward an estimated nine billion by 2050, concerns are again being raised by scholars and such prominent environmental journalists as Andrew Revkin of the *New York Times* that such growth will be unsustainable in a world run primarily on non-renewable forms of energy.[140] Ehrlich, who remains well regarded among scientists, argued in a 2009 keynote address a joint meeting of the Association for Environmental Journalists and the Association for Environmental Studies and Sciences that increasing populations and temperatures will pose unprecedented threats social and environmental stability in the coming decades.

During the 1970s, environmentalist perspectives found their way into popular film through a new generation of filmmakers who began to consciously conceive of landscape and setting not only as a reflection of the internal psychology of the film's characters, as was typical of Classical Hollywood Cinema style, but also to evoke the socio-ecological conditions of the extra-filmic world as in Italian Neorealism and direct documentary

[139] Ibid., 93-95.

[140] Revkin currently writes the *New York Times* environment blog: *DotEarth*.

cinema. In addition to feminism, civil rights, disillusioned youth, and political violence the era also witnessed the first images of the Earth from space returned by the Apollo missions, the establishment of Greenpeace, Friends of the Earth, and other environmental activist groups, highly visible environmental catastrophes such as the 1969 Santa Barbara Channel oil spill and the Cuyahoga River fires, the first Earth Day in 1970, passage of the Clean Air, Water, and Endangered Species Acts, and the Mid-East oil embargo from 1973-74. Charleton Heston, whose career arc had taken him from such epics as *The Ten Commandments* (1956) and *Ben-Hur* (1959) to the more modestly budgeted post-nuclear-apocalypse science fiction film *Planet of the Apes* (1968), starred in two films that exploited audience interest in environmental concerns: *Omega Man* (1971) and *Soylent Green* (1973). While *Soylent Green* is set in a future beset by overpopulation and global warming, *Omega Man* is set in 1977 Los Angeles, two years after germ warfare has annihilated the earth's population and features Heston as Colonel Robert Neville, who must sit through a screening of *Woodstock* (1970) to nostalgically recall a brief glimpse of human's finding harmony with each other by embracing their natural surroundings.

In *Silent Running* (1972) Bruce Dern's character Freeman Lowell works aboard a space station carrying the last forests saved from Earth before humans had to leave. Lowell rebels against the military-industrial corporation that runs the station when forests are scheduled for nuclear detonation. *Deliverance* (1972) depicts the rape of an urban man at the hands of rural hillbillies and its narrative conflates this actual rape with the 'rape' of the rural environment in the form of a dam project that will displace local inhabitants and engineer the river to suit the urban energy needs of major Southern cities.

In response to the Mid-East oil embargo, the ever-timely James Bond (Roger Moore) takes on a villain (Christopher Lee) with advanced solar energy and weaponry technology in *The Man With the Golden Gun* (1973). Yet in a sign of just how politicized environmental reform had become by the end of the 1970s, Ronald Regan promised to secure a steady supply of cheap oil and gas in his campaign for president and upon taking office immediately removed the solar panels that had been installed on the roof of the White House by President Jimmy Carter. Reagan's policies, which included the easing of regulations on the oil and gas industry and elimination of funding for renewable energy projects, flew in the face the post-oil apocalypse envisioned in such films as George Miller's *Mad Max* (1979).[141]

During the post-war period, global warming began to gain increasing attention in the scientific community. As Anthony Leiserowitz explains in his 2003 University of Oregon Environmental Science dissertation, "Global Warming in the American Mind," scientific understandings of anthropogenic climate change began to shift during the 1960s. This shift was signaled by the publication of a 1956 paper by Roger Revelle and Hans Seuss of the Scripps Institute of Oceanography, who argued, "Human beings are now carrying out a large-scale geophysical experiment of kind that could not have happened in the past nor be reproduced in the future."[142] A year later, the first version of what became known as the Keeling Curve (a graphic representation of atmospheric

[141] Further evidencing the impact of neoliberal policies on energy consumption, R. Milton reports in a 1982 newsletter article for the conservative Heritage Foundation, "It is small wonder that President Reagan and the new Senate were welcomed by many of those convinced that the nation's major energy problem was government interference in, and distortion of, the energy marketplace." Milton, R. "Reagan's Fading Energy Agenda." *The Heritage Foundation Newsletter* (Aug. 17, 1982): <http://www.heritage.org/research/reports/1982/08/reagans-fading-energy-agenda>.

[142] Leiserowitz, "Global Warming," 6.

carbon levels from 1958 to the present) was published. Keeling successfully disproved current scientific assumptions that the oceans were absorbing the excess carbon emitted by the burning of fossil fuels and proved instead that "human emissions of carbon dioxide were substantially enhancing the greenhouse effect."[143]

The first film with a narrative explicitly set amidst the phenomenon of global warming is *Soylent Green* (Richard Fleisher, 1973). Starring Heston and Edward G. Robinson, the film is loosely based on Harry Harrison's 1966 science fiction novel, *Make Room! Make Room!* References to the greenhouse effect and the motif of cannibalism, however, are original to the film. *Soylent Green* is set in New York and shifts Harrison's setting from 1999 to 2022, to a time when its forty-one million inhabitants are enduring a permanent heat wave, when the earth's animal and plant life have been decimated, and when a single corporation controls half of the world's food supply, allowing the rich elites to eat fresh food and deluding the masses into eating Soylent Green (a cracker made out of people) by hiding the extinction of the ocean's plankton. Exploiting the success of the Academy Award winning eco-apocalyptic documentary *The Hellstrom Chronicle* (Walon Green, 1971) and the environmentally-themed narrative films mentioned above, *Soylent* was produced and distributed by MGM. The film's juxtapositions of sound, image, and editing (including a montage opening using still photographs to narrate the history of industrialization), morally ambiguous hero, stark thematic opposition between city and country, unfixed ending, and niche audience mark it as belonging to the brief period between roughly 1967 and 1980 commonly referred to

[143] Ibid., 7.

as the "New Hollywood" during which the studios sought to recover from falling attendance and a series of big budget flops.

Soylent Green became a cult classic and remained in print on VHS throughout the 1980s and 1990s. Released on DVD by Warner Brothers in 2003, the original film is expected to become available on Blu-Ray in anticipation of a forthcoming remake, which is being produced by Baseline Studio Systems for release in 2012.[144] With its uncanny foreshadowing of present concerns, unique place in Heston's oeuvre, and timely attention to such Vietnam era concerns as increasing environmental awareness in American culture, capitalism's exploitation of the "Green Revolution" in agriculture, and increasing poverty countries with rapidly rising populations, the film has become a central text for green film criticism.

In *Green Screen*, David Ingram discusses *Soylent Green* at the end of his chapter, "Country and City," a title borrowed from Raymond Williams' 1973 book of that name (a seminal precursor to literary ecocriticism). Borrowing Williams' phrase "counter-pastoral," Ingram reads the film as an articulation of the recurrent science fiction myth of the "the total city and the end of nature."[145] Coupled with a melodramatic ending that invokes nostalgia at the expense of political action, Heston's character Thorn's upraised finger dissolves into a field of tulips as the credits roll, accompanied by a reprise of Beethoven's *Symphony No. 6* ("Pastoral"). The ending leads Ingram to argue that film's "formulation of ecological crisis as already total, and of corporate and state power as monolithic, leaves little space for the formulation of a convincing politics of

[144] "Soylent Green (Remake)." *New York Times* (Apr. 2, 2010): <http://movies.nytimes.com/movie/444298/Soylent-Green-remake-/overview>.

[145] Ingram, *Green Screen,* 143, 154.

resistance."[146] In response to Ingram, Murray and Heumann contend that if the film is situated within its socio-historical milieu, Heston's tragic eco-hero and the narrative's nostalgic/melodramatic conclusion successfully reflect the radical environmental rhetoric emanating at that time from both ends of the political spectrum, reminding readers that "right-wing politicians (including Nixon) supported Earth Day and the establishment of the EPA . . . because environmental politics served a powerful cross section of the electorate."[147] If the film's ending portrays the environmental crisis as totalizing, as Ingram suggests, perhaps it is because the film was produced at a historical moment when the protest movement in the United States had lost steam as well after National Guard troops shot and killed student protests in 1970 in separate incidents at Kent State and Jackson State universities. Although pastoral images of flowers and fields accompany the film's closing credits, the final image of film's hero – his fist raised in protest as he takes his dying breath – remains the most poignant reminder of the challenges facing the environmental movement in the mid-1970s as the era of mass public demonstration was coming to an end. Instead of criticizing the film for failing to articulate a "convincing politics of resistance," as Ingram suggests, it seems more reasonable to read the film's ending as a necessary and thoughtful reaction to the era's shifting political climate. Given the progress that has been made in scientific understandings of global warming in the ensuing decades, film's depiction of a society imploding over a lack of food and resources, which at the time may have felt like futuristic science fiction, feels even more immediate today. Although it is highly unlikely

[146] Ibid., 155.

[147] Murray and Heumann do not discuss Ingram's reading of *Soylent Green* in their chapter on the film. Murray and Heumann, Ibid. 106.

that the Unites States will experience food shortages as severe as those depicted in, *Soylent Green*, global health experts predict that as many as 50 million environmental refugees may need to find new places to live and work by as soon as 2020.[148]

While the global warming research migrated toward the center of the scientific establishment during the 1970s, one scientist in particular began to put a new public face on the scientific community through his regular appearances on the *Tonight Show* with Johnny Carson. At the height of his popularity, Carl Sagan would play a key role in bringing critical attention to climate science by writing and starring in *Cosmos*, the first and one of the very few science documentaries to achieve blockbuster status. *Cosmos*, which consists of thirteen one-hour episodes, first aired in the United States in September 1980 on Public Television. Reviewers at the time noted that Sagan (performing the role of a skeptical yet thoroughly Romantic scientist) succeeded more than anyone else of his generation in giving science a human face and rebuilding public trust in scientific ethos. In October, 1980 Sagan graced the cover of *Time* magazine because, as Frederic Golden explains in his cover article, "In a turnabout as sudden as some of the scene shifts in *Cosmos*, has ennui has turned into enthusiasm. Public curiosity about science, if not financial support of it, seems to be rocketing upward."[149] *Cosmos* is a touchstone climate documentary because it represents a shift in the non-fiction science documentary away from telling monolithic scientific Truths toward an attention to the nuances of science and what they can tell us about relationships between human society and the natural

[148] The figure of 50 million environmental refugees was cited by University of California, Los Angeles professor of Global and Immigrant Health Cristina Tirado at the 2011 meeting of the American Association for the Advancement of Science. Zelman, Joanna. "50 Million Environmental Refugees by 2020, Experts Predict." *Huffington Post* (Feb. 22, 2011): <http://www.huffingtonpost.com/2011/02/22/environmental-refugees-50_n_826488.html>.

[149] Golden, Frederick. "The Cosmic Explainer." *Time* (Oct. 20, 1980).

world. Combining Sagan's star persona with location cinematography, and visual effects, and an emotive soundtrack by Vangelis, *Cosmos* deftly intertwines science with personal, popular, and political discourse in an effort to shift the cultural logic of ecology. Three interrelated themes structure the program's environmental discourse - the individual, the public, and connectedness - and offer a framework through which to examine how *Cosmos* constructs its ecological vision.

As a performer, Sagan transforms the image of the traditional scientist (whether quirky and out of touch or puffed-up and clinical) from the lab coat clad representative of the establishment to hipster populist (who just happens to have access to all corners of the world and heavens). Sagan's crisp prose is combined with elaborately built sets, computer models, and video footage from NASA work to convince the viewer on a number of levels of the accuracy of his claims. Sagan negotiated the line between scientist and star, education and entertainment, throughout his career. As a result he often angered scientists who felt he was oversimplifying their work. Yet by engaging millions of viewers, his rhetorical and visual strategies continue to influence such theatrically released science documentaries as, Gore's *An Inconvenient Truth* (2006), DiCaprio's *The 11th Hour* (2007), Josh Tickell's *Fuel* (2008), and Michael Pollan's *Food Inc* (2009). Like Emmerich and Gore, Sagan believed that science had caused our planetary problems and therefore has a moral obligation to attempt to solve them.

The moral force behind scientific achievement is captured in the image of the raptured individual, a motif crafted by Sagan's performance and the historical reenactments of the lives of individual scientists. In Episode 3, "The Harmony of the Worlds," Sagan turns his attention to Johannes Kepler, the 17th century German

astronomer/astrologer. Kepler is depicted as working against the grain of his time. Setting Kepler within a Catholic cloister implies that the individual scientist was forced to reach his own understanding of the divine by balancing his longing for scientific truth with the power of religious doctrine and authority. As a beam of light from heaven pours in through a church window, a young Kepler turns his eyes to heaven and is graced with the revelation that geometry reveals the mind of God at work in the world. Visually foreshadowing the narration, a slow camera pan highlights the geometric patterns in the church. The shot of Kepler walking into the light symbolizes the melodramatic individual, stepping out from the shadow of the medieval ideology to make his own way in the world – a rapture of the secular soul.

Positioning scientific and environmental rapture as an individual prerogative, *Cosmos* also provides a timely illustration of the ascendancy of globalization. As Ulrich Beck and Elisabeth Beck-Gersheim explain, the widespread adoption of neoliberal market reforms in Western culture has coincided with a marked shift in the significance of the individual. During 1980s and 1990s, Beck and Beck-Gersheim contend, the ethic of individual self-fulfillment and achievement became "the most powerful current in modern society. . . . Any attempt to create a new sense of social cohesion has to start from the recognition that individualism, diversity and skepticism are written into Western culture."[150] *Cosmos* aired at a transitional moment in American society, in which the drive for self-identity rather than community now, more than ever, provided the basis of social cohesion. If the increased atomization of the individual is a hallmark of the late modern era, *Cosmo*s responds to this cultural shift by recognizing that under a neoliberal

[150] Beck and Beck-Gernsheim, 22-23.

paradigm, influencing collective societal decision-making on economic, political, and environmental policy questions relies more keenly than ever on rhetorical and media strategies designed to speak directly to the individual member of society.

More than 400 million viewers worldwide tuned in to watch the original broadcast of *Cosmos*.[151] Seeing the education of individual citizens as a vital aspect of future policy change Sagan anticipates such works as Alan Irwin's 1995 book *Citizen Science*, which argues that because citizens today are barraged with competing information and ideologies about science and technology the need for an informed public is more critical than ever. In order to visualize the possibility of global warming on occurring on Earth, the episode "Heaven or Hell," employs actual footage from Venus shot by Soviet space to visualize Sagan's scholarly research from the early 1960s on the greenhouse effect the planet Venus. In the episode's second half Sagan uses Venus to explain the potential consequences of fossil fuel consumption on the Earth's atmosphere, yet is careful to point out that scientists had not yet determined whether enhancing the earth's greenhouse effect would lead to global warming or global cooling. Anticipating that in the Energy-Climate Era, unchecked global warming would become "for many children and young adults . . . the atomic bomb of today," *Cosmos* argues that the key to a preventing catastrophe is to understand the interrelated nature of the universe and that humanity's collective actions present us as individuals with real global consequences to which we must respond.[152]

Cosmos marks a key moment in the cultural logic of ecology when global warming entered the scientific mainstream and slowly began to take shape as an issue of

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[151] Achenbach, Joel. "Carl Sagan's Vision Knew No Bounds." *Washington Post* (Dec. 21, 1996): B01.

[152] Johnson, Darragh. "Climate Change Scenarios Scare, and Motivate, Kids." *Washington Post* (April. 16, 2007): <http://www.washingtonpost.com/wp-dyn/content/article/2007/04/15/AR2007041501164.html>.

concern in popular culture. According to Leiserowitz, by the late 1980s and early 1990s "a majority of scientists became convinced that global warming was occurring."[153] Between World War II and 1992 - when the UN held its first major climate conference, Earth Summit in Rio de Janeiro - the economic output of industrialized countries had increased over forty times. In just forty years of global industrial activity, humanity, according to Revkin, transformed "hundreds of billions of tons of ancient, buried carbon into a great burst of carbon dioxide gas."[154]

As science solidified, however, global warming continued to be framed in the majority of mainstream media accounts as a theoretical rather than practical concern, as Alison Anderson documents in her 1997 book *Media, Culture, and Environment* and Andrew Jones in his 2006 University of Oregon sociology dissertation, "How the Media Frame Global Warming."[155] Passing references to the issue in such films as Spike Lee's *Do the Right Thing* (1989) and Tim Burton's *Batman Returns* (1992), demonstrate a slowly growing awareness of the issue while also reflecting a culture in which the issue was generally believed to lack immediate relevance to the concerns of social life. In *Do the Right Thing* the one character to reference global warming is laughed off as making it up and in *Batman Returns*, the Penguin decides to run for office on a platform of 'global cooling'. In their article, "The Polls—Trends: Twenty Years of Public Opinion about Global Warming," Mathew Nisbet and Teresa Meyers explain that the percentage of people who had heard about global warming increased dramatically over the period, from

[153] Leiserowitz, "Global Warming," 8-9.

[154] Revkin, Andrew. *Global Warming: Understanding the Forecast*. New York: Abbeville, 1992.

[155] Anderson, Alison. *Media, Culture, and Environment*. New Brunswick, NJ: Rutgers, UP, 1997; and Jones, Andrew R. "How the Media Frame Global Warming: A Harbinger of Human Extinction or Endless Summer Fun." Sociology Dissertation. University of Oregon (Aug. 2006).

39 percent in 1986 to 58 percent in late l988 and upwards of 80 percent by the early-1990s.[156] Whereas in 1992, 68 percent of those polled expressed belief in the greenhouse effect or global warming, by 1994 the number had dropped to 58 percent, "a trend likely promoted by the strategic communication efforts of conservative think tanks to boost skepticism about the problem."[157] While Americans have consistently demonstrated awareness of and belief in global warming since the 1990s, action on the issue has remained stymied by political rhetoric.

Released the summer after the culture wars propelled Republicans back into majority control of Congress in 1994, Kevin Reynolds post-apocalyptic *Waterworld*, which visualizes the polar ice caps melting and the hero (Kevin Costner) drinking his own urine in its opening scenes, (1995), is considered one of the 1990s biggest flops. Steven Spielberg's highly anticipated dystopia *A.I.* (2001), set in a wired and warming world, also performed below expectations.[158] And while the success or failure of any film depends on many factors, it is clear that at the beginning of the twenty-first century climate change had yet to emerge as a rival to nuclear war and terrorism in the cultural imagination.[159] In perhaps the broadest measure of public awareness of global warming, polls conducted by ABC News and Ohio State University in 1997, 1998, 2006, and 2007 asked respondents "whether they believed that the world's temperatures have been going

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[156] Nisbet, Mathew C. and Teresa Myers. "The Polls—Trends: Twenty Years of Public Opinion about Global Warming." *Public Opinion Quarterly* 71/3 (Fall 2007): 450.

[157] Ibid., 450.

[158] *Waterworld* was the most expensive film produced to date at an estimated cost of $175 million but took in only $88 million at the US box-office and struggled to break even worldwide. *A.I.* (Kubrick/Spielberg) was produced for $100 million. It faired well internationally but was widely panned by critics in the U.S. where it earned only $75 million. Bishop, Tim. "What Makes a Film Flop?" *BBC News Online* (April 13, 2004): <http://news.bbc.co.uk/2/hi/entertainment/3621859.stm>.

[159] Beck, Ulrick. *World at Risk*. London: Polity, 2008.

up slowly over the past century. The surveys found that "76 percent, 80 percent, 85 percent, and 84 percent answered in the affirmative."[160] However, "the percentage of the public answering that 'most scientists believe that global warming is occurring' increased from 28 percent in 1994 to 46 percent in 1997 to 61 percent in 2001 and then to 65 percent in 2006."[161] Thus by the time *The Day After Tomorrow* and *An Inconvenient Truth* were released, the efforts of scientists, journalists, and teachers to educate the public on the urgency of the issue were beginning to pay off.

The Day After Tomorrow (2004) follows the exploits of climate scientist Jack Hall (played by Dennis Quaid) as he suffers to balance work and family while convincing the United States administration that a long-term climate shift is happening around them. Jack's struggle intensifies with the film's introduction of a climate 'tipping point,' satisfying the generic demands of the disaster genre by having global warming trigger a killer storm that sends North America into an ice age over the course of a few days. Recalling the music of the "revenge of nature" film cycle that began with *Jaws* in the mid-1970s, the film employs a two-note leitmotif that serves the narrative by creating a character out of the storm. In their essay, "Narrative Music, Visual and Meaning in Film," music scholars Johnny Wingstedt, Sture Brändström, and Jan Berg explain that leitmotifs such as the one use in *Jaws* work according to a "symbolic attributive process."[162] By means of repeatedly editing images of the storm to match the rhythm and tone of the music, the leitmotif becomes symbolically associated with the storm. In this

[160] Ibid., 451.

[161] Ibid., 452.

[162] Wingstedt, Johnny, Sture Brändström, and Jan Berg. "Narrative Music, Visuals, and Meaning in Film." *Visual Communication* 9/2 (2010): 196.

case, as in *Jaws,* "the low register of the motif [which is accented by downbeat of the second note] suggests large size and power" and imbues the storm (like the shark) with agency and menace.

After the storm strikes, Jack finally convinces the administration that its only remaining option is to evacuate the lower United States. So quickly and fiercely has the storm descended and so cold are temperatures, Jack tells the President, that those in the northern states will not have time to evacuate. Ignoring his own advice, however, Jack sets off in a van and then on foot to save Sam who is stuck in New York busy battling teen angst, subzero temperatures, and hungry wolves. In their recent book *Ecology and Popular Film,* Robin Murray and Joseph Heumann describe Jack as a new eco-hero (a precursor to the protagonists in *Children of Men* and *The Road*), positioned not a tragic pioneer or bumbling comic but a father seeking to save his own family from an environment made toxic by humanity.[163] Despite saving his own son, Jack cannot stop the presumed deaths of tens of millions of people and the emigration of millions more to Mexico. The film displaces this apocalyptic scenario by concluding with a heartfelt mea culpa delivered by no less than a Dick Cheney look alike and the restoration of the white male eco-hero's fractured nuclear family, a trope Murray and Heumman identify as characteristic of the character-type and which Braudy identifies as characteristic to the genre of nature film.[164]

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[163] Murray, Robin L. and Joseph K. Heumann. *Ecology and Popular Film: Cinema on the Edge*. Albany: SUNY Press, 2009: 5-7.

[164] Braudy, Leo. "The Genre of Nature: Ceremonies of Innocence." *Refiguring American Film Genres: History and Theory*. Ed. Nick Browne. Berkeley: U California, 1998. 278-310; and Jameson, Frederic. *Postmodernism, or, the Cultural Logic of Late Capitalism*. Durham, NC: Duke UP, 1991.

Like many disaster genre films, *The Day After Tomorrow* utilizes realist spectacle at the narrative service of melodrama as it articulates the zeitgeist of a society grappling with climate change. As sociologist Anthony Giddens explains in his 2009 book *The Politics of Climate Change*, "since the dangers posed by global warming aren't tangible, immediate or visible in the course of day-to-day life . . . many will sit on their hands and do nothing of a concrete nature about them."[165] The disaster film makes an appropriate venue for expressing Giddens's Paradox because the genre employs dramatic irony by having the characters sit on their hands while the audience recognizes the need to act. Amidst the spectacular digital visual effects of *The Day After Tomorrow* the "huge, horrific, terrifying nightmare" that is global warming becomes something (in this case a funnel cloud) that audiences can point to and wonder if perhaps this is what climate change might actually look like in the not-to-distant future.

In her 1965 essay "The Imagination of Disaster," Susan Sontag explained that the science fiction disaster films released at the dawn of the post-World War II nuclear age can best be understood as useful indicators of a society compelled into "thinking about the unthinkable."[166] An allusion to *The Day After*, which depicts full scale nuclear exchange between the United States and Soviet Union and its domestic aftermath, *The Day After Tomorrow* adds a historically specific ecological twist to the disaster film, intensifying the emotional trauma related to our collective perceptions of environmental risk and serving as reminder that the global environmental risks we share are of our own making. In her discussion of 1950s and early 1960s disaster film, Sontag writes:

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[165] Giddens, Anthony. *The Politics of Climate Change*. Cambridge, UK: Polity, 2009: 2.

[166] Sontag, Susan. "The Imagination of Disaster." *Commentary* (Oct. 1965): 42-65.

> The imagination of disaster in science fiction films is above all the emblem of an *inadequate response*. I do not mean to bear down on the films for this. They themselves are only a sampling, stripped of sophistication, of the inadequacy of most people's response to the unassimilable terrors that infect their consciousness.[167]

However, a nuanced reading of *The Day After Tomorrow* reveals something more at work in the film than a direct reflection of our inadequacy to respond to collective threats of our own making. The film (and all those chosen for this project) cannot be reduced to modernist (structuralist) emblem of people's inadequate response to such unassimilable terrors as nuclear war or global warming. Instead *The Day After Tomorrow* can be described as a flexible cinematic space with the potential to engage viewers in problematizing and explicating our inadequate but alterable individual and collective response to global environmental risk. Unfolding before audiences within the digital and melodramatic space of a "popcorn flick," the film articulates the convergence of globalization and environmental risk in the contemporary mediascape and highlights the possibility for films to participate in shifting the cultural logic of ecology by engaging audiences as critical spectators.

In a unique reception study completed the year the film was first released, researchers coordinated a global research survey of the *The Day After Tomorrow*'s audiences. In his report on the film's American reception, the author, Leiserowitz concludes:

> *The Day After Tomorrow* had a significant impact on the climate change risk perceptions, conceptual models, behavioral intentions, and even voting intentions of moviegoers. . . . These results demonstrate that the representation of

[167] Ibid., 45.

> environmental risks in popular culture can influence public attitudes and behaviors.[168]

Leiserowitz further notes that the film's impact on perceptions of climate change were felt more keenly in the United States than in Europe and Japan where the public was not so skeptical of climate science. Based on the results of a survey conducted three weeks after the film opened, researchers determined that, "across the board, the movie appears to have had a strong influence on watchers' risk perceptions of global warming" yet also concluded that the film's reception had not (in and of itself) produced a major shift in the culture.[169] On the one hand, Leiserowitz notes, "Some commentators had predicted that the film would bring more public attention to the issue of global warming than the publication of most scientific articles, reports, or congressional testimonies, and this prediction appears to have been correct."[170] On the other hand, however, the media attention the film garnered, "paled in comparison to either *Fahrenheit 9/11* or *The Passion of the Christ*." On its own *The Day After Tomorrow* may not have produced a significant shift in the cultural logic of ecology but its impact did set the stage for this shift, most prominently by inspiring the production of *An Inconvenient Truth.*

Intended by the studio not to educate but to produce profits, the film's formal use of realism in the service of melodrama nevertheless turned out to provide audiences with valuable information to consider as they left the air-conditioned theater and hopped in their cars to drive home. In his book *Hollywood Science*, physicist Sidney Perkowitz argues that "despite its imperfections [the film] deserves credit for displaying some of the

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[168] Leiserowitz, Anthony A. "Before and After *The Day After Tomorrow*: A U.S. Study of Climate Change Risk Perception." *Environment* 46/9 (Nov. 2004): 36.

[169] Ibid., 31.

[170] Ibid, 34.

real science [of climate change] and for illustrating the conflict that can and does occur when scientific findings clash with government policies or agendas."[171] Most importantly, *The Day After Tomorrow* kept one of the world's most important ecological issues in the headlines for a few key months in 2004 and continues to be mentioned alongside *An Inconvenient Truth* as a touchstone moment in the cultural discourse of climate change, opening the doors to changes in the perceptions and coverage of environmental concerns in the media and influencing the production of subsequent blockbusters that continued the exploration of complex social and political aspects of the cultural logic of ecology through storytelling and spectacle.[172] *The Day After Tomorrow* may not have been first commercial film to portray global warming but it was the first to draw sustained media attention to the issue.

As hyperbolic as a film like *The Day After Tomorrow* may appear in its rendering of a serious issue like anthropogenic climate change into mass entertainment, key moments in the film, like the exchange between Hall and Becker, have the potential to prompt viewers into a conceptual/sensual consideration of the relationships between human culture and the global environment. Such moments as those described at the beginning of this chapter reflect the film's "enviromentality," a term Lawrence Buell employs in his 2005 book, *The Future of Environmental Criticism,* to describe the diverse means by which literary and audiovisual artworks engage explicitly and implicitly with

[171] Perkowitz, Sidney. *Hollywood Science: Movies, Science, and the End of the World*. New York: Columbia, 2007: 208.

[172] Among many places, the two films are mentioned together for their cultural impact on climate change awareness by American and Comparative and Environmental Policy Series Editors Sheldon Kamienski and Michael E. Kraft in their forward to *Climate Change: What It Means for Us, Our Children, and Our Grandchildren*. Ed. Joseph F.C. DiMento and Pamela Doughman. Cambridge, MA: MIT Press, 2007: vi-x.

environmental and ecological concerns.[173] In the scene described on the first page of this dissertation, the repeating visual motif of the Fox News logo calls attention on one level to globalization's impact on the media industry, namely the 90 percent market share enjoyed by the Big Six media corporations and "the diversified and franchised entertainment economy in which films circulate," which political economist Paul Grainge examines in his 2008 book *Brand Hollywood*.[174] Additionally, by referencing audiences' contextual knowledge of Fox News as pervasively skeptical of global warming science this particular scene resonates with environmentality. Emmerich implicates News Corporation by vividly depicting a Fox reporter being killed by in a storm directly resulting from global warming. Such sequences prompt Roger Ebert to describe the film as "ridiculous, yes, but sublimely ridiculous," and demonstrate that *The Day After Tomorrow* reaches for something a little beyond the "lowest common denominator," a pejorative film critics commonly attach to Hollywood's audiences. In the following section, I situate the production and reception of *The Day After Tomorrow* and *An Inconvenient Truth* within the rise of conglomerate Hollywood.

Climate Change and Conglomerate Hollywood

While *The Day After Tomorrow* demonstrates a certain degree of conspicuous environmentality, 20th Century Fox did not finance Emmerich's picture in order to promote social responsibility, change the global warming debate, or stir audiences to

[173] Buell, Lawrence. *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination*. Malden, MA: Blackwell, 2006: 11-28.

[174] Grainge, Paul. *Brand Hollywood: Selling Entertainment in a Global Media Age*. London: Routledge, 2008: 9.

action. The contemporary motion-picture industry is operated by transnational conglomerate corporations beholden to shareholders who invest in film for its potential to return sizable profits on investment.[175] Douglas Gomery and other industry historians point out that Steven Spielberg's *Jaws* marks the arrival the New Hollywood era, which is dominated by films with production and advertising budgets reaching into the hundreds of millions of dollars. With its 20-foot Great White shark terrorizing beachgoers, *Jaws* earned more than $100 million in six months, smashing the all-time box office record on the strength of Universal producer Lew Wasserman's marketing strategy for TV and print advertising combined with saturation booking in more than 400 theaters.[176] *Star Wars* (George Lucas, 1977) *added* merchandising into the mix and outpaced *Jaws* at the box-office by targeting a broader audience demographic. With its various sequels, prequels, and transmedia spin-offs, *Star Wars* set the template for the contemporary blockbuster by synthesizing such elements as: a) a multimillion dollar advertising and promotional blitz; b) saturation booking in hundreds (now thousands) of theaters targeted for holiday weekend release; c) multimillion dollar merchandizing or "ancillary rights" deals for toys, etc.; and d) multimillion dollar production budgets to produce special and visual effect driven spectacles.[177] Inspired largely by the individual success of Spielberg and Lucas, the industry widely embraced the blockbuster model. In the first decade of the twenty-first century, as Gomery argues, blockbuster films have "taken the six major

[175] Schatz, Thomas. "The Studio System and Conglomerate Hollywood." *The Contemporary Hollywood Film Industry*. Ed. Paul Macdonald and Janet Wasko. Malden, MA: Blackwell, 2008: 13-42.

[176] Gomery, Douglas, "The Hollywood Blockbuster: Industrial Analysis and Practice." *Movie Blockbusters*. Julian Stringer, Ed. London: Routledge, 2003: 72-74.

[177] Schatz, Thomas. "The New Hollywood." *Movie Blockbusters*. Julian Stringer, Ed. London: Routledge, 2003: 24-26.

Hollywood studios into a Golden Age of profitability far greater than ever before in movie industry history. We have entered a business world which can only grow bigger and more powerful."[178]

Film critic Tom Shone regards Roland Emmerich's 1998 remake of *Godzilla* as a primary example of everything wrong with the current Hollywood system. Although it opened in more than 3,000 theaters and made $74 million its opening weekend, word of mouth quickly caught up with the $50 million marketing campaign and the film dropped to $17 million in its second week, and things just got worse from there. *Variety* commented, "You're the first filmmakers ever to experience a $74 million opening week and still be called losers."[179] Of course, it is a strange paradoxical truth about the expected profits in Hollywood that a movie that netting over $100 million in profit for the studio could be called a flop. For Shone, the fact that the film could be so bad and do so well makes *Godzilla* a fitting symbol of the blockbuster's hold over the Hollywood and filmgoers imaginations:

> When the causes of the decline of popular film come to be writ, the fact that *Godzilla* made $375 million will surely be some kind of inverted bizarro-world landmark. When movies that critics hate make money, you just put it down to grumpy critics, or the madness of crowds . . . But when movies that nobody likes—not even its creators—make $375 million, then something is seriously wrong with the art of popular moviemaking.[180]

Shone's comments highlight the predominant concern most academics have with Hollywood, namely that as subsidiary holdings of multinational film studios are run by corporate executives with little incentive to care about the quality of their products, only

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[178] Gomery, 81.

[179] Qtd. In Shone, Tom. *Blockbuster: How Hollywood Learned to Stop Worrying and Love the Summer*. New York: Free Press, 2004: 272.

[180] Ibid., 273.

about the bottom line. Since the 1970s, however, in a business as inherently financially risky as movie-making, the global media conglomerates have proven generally effective at minimizing risk and increasing shareholder profits.

The first modern blockbuster, *Jaws* demonstrates the critical role that society's relationship to natural world has played in the development of both the technological and thematic trajectory of contemporary commercial cinema. In the years since *Jaws* persuaded many people not to go back in the water, sharks have continued to be portrayed in popular film and television primarily as aggressive killing machines. Such portrayals, argues Rob Stewart in his 2006 documentary *Sharkwater*, invite audiences to overlook the fact that sharks are complex creatures who rarely attack humans. Stewart further points out that the total population of sharks worldwide – thanks largely to growing Chinese market for shark fin soup – has declined by 90 percent since the 1970s. *Finding Nemo* (Andrew Stanton, 2003), which grossed $864 million worldwide, and depicts Bruce the Great White as a sympathetic character for whom "fish are friends, not food" clearly signals a shifting perception of sharks among certain audiences, who have become increasingly bombarded with images of the negative efficiencies of globalization. Like *The Life Aquatic with Steve Zissou* (2004), *Happy Feet*, *The Cove* (2009), and *Oceans* (2010), *Finding Nemo* articulates a growing awareness across the cultural imagination that, as Stewart puts it, "Life on land depends on life in the ocean. I finally realize it isn't just about saving sharks; it's about saving ourselves."[181]

Hollywood's uses of environmental images have adapted to advances in technology that are offering creative means for filmmakers to share new insights on the

[181] *Sharkwater*. Dir. Rob Stewart, 2006.

world around them. Here, *Microcosmos* (1996), *A Bug's Life* (1998), and *Antz* (1998) provide useful examples. The macro clarity of *Microcosmos*'s images of bugs, slugs, and spiders are accompanied by equally clear audio recordings of these creatures. The ability of the latest photographic technology to provide such a detailed visual look into the lives of these creatures is as much on display in the film as the creatures themselves. Setting a new standard for documentary photorealism and earning $1.4 million at U.S. arthouse cinemas, *Microcosmos* provided a visual template for animators working to create animated digital-realism. Pixar's *A Bug's Life* ($363 million worldwide) and Dreamworks' *Antz* ($172 million) exemplify the competition between digital animation studios to achieve increasing levels of ecorealism in their melodramatic texts.

As Nick Browne asserts, the explosive moments of spectacular destruction offered up for consumption by films like *The Day After Tomorrow* and *2012* (Emmerich, 2009), "literally reference the large scale mobilizations and economics of war as well as its techniques of production. We are meant to be aware of the expense and take pleasure in the simulation of destruction."[182] Hollywood films, like sport utility vehicles, are marketed and exhibited to make us feel like they are worth the expense (both economic and environmental) because we are getting 'more bang for our buck,' which, of course, we are. That said, according to Mark Jancovich and Lucy Faire, "While those opposed to the multiplex see it as a place of undifferentiated consumption, the audiences that identify with the place can be seen as arm or diverse and differentiated, and may even be fractured and opposed to one another."[183] Among the most widely consumed "texts" in

[182] Browne, Nick. "'The Big Bang': The Spectacular Explosion in Contemporary Hollywood Film." *Strobe* (1995): <www.cinema.ucla.edu/strobe/bigbang/bang3.html>

circulation, Hollywood films articulate contemporary concerns in ways that are far more complex than they are typically given credit for and thus demand critical attention.

By the end of 2001, in the wake of national tragedy, anyone wondering if the motion picture industry would become a relic of the past could put aside their fears. As Sony Corp. USA's CEO and Chairman Howard Stringer explained in 2001, "The market for movies is going to grow and grow."[184] After a dismal summer box-office, audiences flocked in droves to *Harry Potter and the Sorcerer's Stone* (released in November 2001 and grossing just under $187 million in its first two weeks) and *Lord of the Rings: The Fellowship of the Ring* (released in December 2001 and grossing just over $174 million in its first two weeks).[185] In February 2004, the Oscars for best director and best picture went to Peter Jackson and *Lord of the Rings: The Return of the King* (2003), firmly cementing the notion that popular films are worthy of both financial and critical acclaim and serious evaluation.

Just as these films seek to sweep audiences away into worlds of fantasy and spectacle, as melodramatic genre films they also provided a reflexive space for audiences to displace and confront and their thoughts and feelings about the real world. As Tom Schatz argues, "In its animation and resolution of basic cultural conflicts, the genre film celebrates our collective sensibilities, providing an array of ideological strategies for

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[183] Jancovich, Mark and Lucy Faire. "The Best Place to See a Film: The Blockbuster, the Multiplex, and the Contexts of Consumption." *Movie Blockbusters*. Ed. Julian Stringer. London: Routledge, 2003: 199.

[184] Interview in "The Monster That Ate Hollywood." *Frontline*. Public Broadcasting Home Video, 2001.

[185] While box office numbers do not count for everything, a film's opening weekends remains a strong indicator of its long term profitability, especially given that as Philip Drake notes in his article, "Distribution and Marketing in Contemporary Hollywood," "by the early 2000s as much as 50 percent of the theatrical box office was generated in the first week of release, compared to only around 20 percent in 1990." Drake, Philip. "Distributing and Marketing in Contemporary Hollywood." *The Contemporary Hollywood Film Industry*. Ed. Paul McDonald and Janet Wasko. Oxford: Blackwell, 2008: 64.

negotiating social conflicts."[186] While both films are overtly conservative in their justification of martial violence as a necessary response to overwhelming evil, they also, like the films discussed at length in the project, trouble these surface concerns by depicting their heroes seeming return to innocence as always-already corrupted, raising questions about exactly what 'collective sensibilities' are being celebrated in contemporary cinema's ceremonies of innocence. The first film the Warner Bros. Harry Potter movie franchise (which in 2007 became the most lucrative theatrical franchise to date – topping even *James Bond* and *Star Wars*) opens its narrative by introducing an infant who viewers learn has been scarred (both literally and figuratively) for life by dark Lord Voldemort.[187] The film concludes with the audience made fully aware that the dark lord will return, effectively advertising the next film troubling the film's seeming closure in a space of pastoral innocence. Indeed, many fans seeing the film during its theatrical run would have already been anticipating the darker themes & misé en scene of later films' in the franchise having just read the fourth installment in J.K. Rowling's bestselling seven-book series released concurrent with the initial film. And even as Frodo Baggins skips joyfully into the frame in *The Fellowship of the Ring* the many fans in attendance who would have read J.R.R. Tolkein's bestselling novels or seen a cartoon version of the story would have already known that Frodo's nature is corrupted the moment he picks up the dark Lord Sauron's ring. Jackson's trilogy in particular signaled that the "myths, metaphors, and motifs" of nature would remain a dominant trope of contemporary cinema. By the end of 2001 then, it can be said that although the airwaves

[186] Schatz, Thomas. "Film Genre and the Genre Film." *Film Theory and Criticism.* 6th Edition. Eds. Leo Brady and Marshall Cohen, (New York: Oxford University Press, 2004), 699.

[187] "'Harry Potter' Movies become Most Successful Film Franchise Worldwide." Warner Brothers Press Release. (Sept. 10, 2007): <http://www.hpana.com/news.20190.76.html>

were dominated by terrorism and patriotism, audiences and the film industry were already signaling their unconscious anticipation of the dramatic changes that would take place in American culture over the next decade in response to the convergence of globalization and environmental risk, an awareness articulated in the opening voice-over of the film delivered by Cate Blanchett, "*The world is changed. I feel it in the water. I feel it in the earth. I smell it in the air. Much that once was is lost."*

In early 2004 global warming policy was notably absent from the agendas of the White House and the mainstream media. This lack of attention, coupled with the lackluster performance of Emmerich's 1998 blockbuster *Godzilla* (1998) led several critics to argue that executives at 20th Century Fox had reason to worry whether the studio would recoup *The Day After Tomorrow*'s film's estimated $125 million budget.[188] Yet in a strange twist of corporate synergy – enabled by the horizontal integration of Rupert Murdoch's News Corporation, which began in earnest in 1985 when it purchased controlling interest in 20th Century Fox – Fox News launched an aggressive television and internet campaign attacking the accuracy of the film's depiction of abrupt climate change.[189] Although evidence does not suggest that this ironic synergism was planned by News Corp, the story quickly spread across television, print, and internet news sources, bringing attention to the film and renewing the public debate on the broader issue of global warming. The hype generated by the endorsement of the film by former Vice

[188] See, for example, Clark, Mike. "'The Day After Tomorrow': Cloudy, Chance of Frosty Reception." *USA Today* (May 27, 2004): Accessed April 2009: < http://www.usatoday.com/life/movies/reviews/2004-05-27-day-after-tomorrow_x.htm>; and Julliette Jowit and Robin McKie. "Cool Reception for Ice-Age Movie." *The Observer* (April 25, 2004). Accessed Sept. 2009: <http://www.guardian.co.uk/enviroment/2004/apr/25/film.theobserver>.

[189] Milloy, Steven. "Global Warming: The Movie." *Fox News* (Mar. 26, 2004). Accessed Sept. 2009: <http://www.foxnews.com/story/0,2933,115203,00.html>

President Al Gore and environmental advocates like Robert F. Kennedy, Jr. sparked a controversy over the film's "science" Media outlets such as *CNN, MSNBC,* and *ABC News* quickly responded to Fox as the story spread through the mediascape.[190] Along with the studio's massive television, print, and online advertising campaign, saturation booking in 3,435 domestic movie theaters, and Emmerich's cultural cache as the director of the smash hit *Independence Day* (1996), helped *The Day After Tomorrow* open to a $85 million Memorial Day opening weekend in the U.S. eventually taking in $544 million worldwide box office by the end of its twenty-three week theatrical run.[191] Like *Godzilla*, attendance for *The Day After Tomorrow* dropped off dramatically after its opening weekend. However, although the film's revenues dropped more than 58% during second weekend the film is considered a blockbuster because it went on to make more than $400 globally. By mid-summer millions around the world had seen the film and tens of millions more would have heard about it as news of its success and the debates it raised over global warming traveled through the mediascape.[192] The movie's reception set the stage for a renewed engagement with environmental themes in subsequent Hollywood films and media representations of its production practices called attention to an industry characterized by excess and waste.

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[190] The film's reception is documented in the documentary film *Everything's Cool* (2007). See also, "Hollywood Flick Generates Political Interest." *CNN* (May 25, 2004)' and Tapperland, Jake and Toni L. Wilson. "Are the Latest Political Movies Propaganda?" *ABC News* (June 17, 2004): <http://abcnews.go.com/WNT/story?id=131720>.

[191] Box-office data for all films gathered at Internet Movie Database, BoxOfficeMojo.com, and Variety.com.

[192] *Variety* and *The Hollywood Reporter* showed increased their coverage of environmental issues between 2003 and 2004 (from a total of eight stories to fourteen) due primarily to the *The Day After Tomorrow* Corbett, Charles and Richard Turco. *Sustainability in the Motion Picture Industry*. UCLA Institute of the Environement. (Nov 2006): 10.

Producing the hundreds of films each year that sustain Hollywood's hegemony over the global marketplace requires extensive exploitation of the earth's natural resources. What *Business Week* has called the industry's "monster-sized carbon footprint" is a reality Hollywood has so far managed to successfully avoid due to a lack of sufficient scrutiny.[193] In their 2006 report, *Sustainability in the Motion Picture Industry*, commissioned by the State of California and completed at the UCLA Institute of the Environment, researchers Charles J. Corbett and Richard P. Turco point out that "the public at large does not think of the motion picture industry as polluting . . . so any publicity related to environmental initiatives within the industry" carries the unintended risk of producing the unintended effect of drawing attention to the industry's considerable environmental impact, an issue that is not yet visible on consumer's radar.[194] The increased use of digital technology in the film industry and by media consumers more broadly is also raising important concerns about the combined impact of electronic waste being generated by the industry and its consumers. In their 2008 *FlowTV* article, "E-Waste: Elephant in the Living Room," Richard Maxwell and Toby Miller explain:

> Pollution from today's electronic media includes such highly toxic contaminants as trichloroethylene, a probable carcinogen that can enter groundwater, pass into soil, then return to waterways, and heavy-metal sources like lead, zinc, copper, cobalt, mercury and cadmium. About 70 percent of heavy metals in the world's landfills are e-waste. In 2004, the Political Economy Research Institute's report, Misfortune 100: Top Corporate Air Polluters in the United States, had media owners at numbers 1, 3, 16, 22, and 39.[195]

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[193] Grover, Ronald, Tom Lowry and Frederick Balfour, "Hollywood's Monster-Sized Carbon Footprint." *Business Week* (Jan. 15,2009). Accessed Apr. 9,2009: <wwww.businessweek.com/print/magazine/content/09_04?b117019285162.htm>

[194] Corbett, Charles J. and Richard P. Turco. *Sustainability in the Motion Picture Industry*. UCLA Institute of the Environment. Sacramento: California Integrated Waste Management Board, Jan. 2006: 3.

[195] Maxwell, Richard and Toby Miller. "E-Waste: Elephant in the Living Room." *FlowTV* (Dec. 2, 2008): <http://flowtv.org/?p=2194>.

The 2009 switch to digital television broadcasting meant that millions of analog televisions would also need to be recycled. Maxwell and Miller frame the issue of sustainable production and recycling as an environmental justice concern, pointing out that "over 80 percent of electronic scrap is being exported to the poorest quarters of the world."[196] At a time when there are so many signals that society is in the midst of rethinking its relationship with the natural world the blockbuster demonstrates that the problems of global environmental justice may only continue to deepen under globalization.

The process of extracting, manufacturing, distributing, and recycling the natural resources required in the production and distribution of Hollywood films is masked by their status as textual commodities. Corbett and Turco explain that the decentralized studio system with its constantly shifting production teams and short term, high profit, low risk cost/benefit business model structurally "mitigates against environmental improvement."[197] Recognizing that a film about climate change would draw increased scrutiny from the press and public, and inspired by "his personal commitment to environmental conservation," Roland Emmerich insisted on a carbon neutral production.[198] *The Day After Tomorrow* received special recognition as an Environmental Best Practices case study in Corbett and Turco's report. Without the involvement of 20th Century Fox, Emmerich personally spent $200,000 to purchase carbon offsets from the firm Future Forests, a company that offsets the CO2 emissions of companies and

[196] Ibid.

[197] Ibid., 3.

[198] Ibid., 36.

individuals by planting forests. Addressing the concerns raised by critics of offsets, Corbett and Turco argue:

> Some might argue that simply purchasing carbon offsets is not the ultimate objective: rather, it is more desirable to reduce greenhouse emmistions in the first place. One could also view Future Forests as an attempt to harness the collective concern of the disenfranchised by offering the means for companies and consumers to take positive environmental action.[199]

In this case, green publicity paid off for the film and led to increased industry interest in sustainable production. Beginning in 2008, films began routinely including environmental disclaimers in their credits similar to the ubiquitous "no animals were harmed in the making of this film". Emmerich's $200,000 investment may not serve as the exemplary model for future efforts by Hollywood to mitigate climate change but the move arguably helped signal a shift in environmental attitudes among key players in the entertainment industry.

At a New York City premiere party for *The Day After Tomorrow* organized by the liberal political action and media organization MoveOn.org, media producer and National Resources Defense Council trustee Laurie David recognized the potential for Hollywood to precipitated a tidal wave in public awareness of climate change, quipping, "We all know one disaster film is worth 1,000 environmental speeches."[200] Also sensing the buzz building around the release of *The Day After Tomorrow* was Al Gore, who had spent the past four years delivering his well-traveled global warming slide show, spoke to the audience gathered in New York. While Gore spoke about the issue and praised Emmerich's movie as "extremely enjoyable and exciting" and "honest fiction," David

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[199] Ibid., 38.

[200] Jensen, Elizabeth. "Activists Take 'The Day After Tomorrow' For a Spin." *Los Angeles Times* (May 26, 2004). (Accessed August, 2009): <www.lauriedavid.com/press/LAtimes5_26_04.html>.

claims she devised the idea of turning Gore's presentation into a feature-length documentary film.[201] Director Davis Guggenheim was brought on board to craft Gore into an image of intellectual and ethical authority on global warming. Videos, photographs, scientific graphs, satellite images, computer climate models, a scissor-lift, and Simpsons-style animation were all incorporated into the film's production. These techniques were used to heighten the film's emotional impact on audience. Gore's apocalyptic seriousness is both heighted by documentary images of melting glaciers and tempered like a preacher's with moments of humor, nostalgia, and an emotive soundtrack composed by Michael Brook. While the project moved through preproduction, Gore simultaneously worked on the companion book (which would itself become a bestseller). The film's reception was also bolstered by the unprecedented box office success of Michael Moore's *Fahrenheit 9/11* (2004) and Luc Jacquet's *March of the Penguins* (2005), which set new theatrical earnings records for documentary films, $119 and $77 million respectively, and demonstrated the form's viability in the market.

As the development and production context of *An Inconvenient Truth* demonstrates, by the end of 2005 publicity and media interest generated by *The Day After Tomorrow* had clearly played a tangible role in the reframing the coverage of climate change in the media. In a press release dated May 12, 2004, in order to promote itself as the "weather authority" for *The Day After Tomorrow,* The Weather Channel formally acknowledged that global warming is real, that human activities are contributing to it, and that it had recently hired climatologist Dr. Heidi Cullen in order to inform the public

[201] David repeats her claim that the idea for a film version of *An Inconvenient Truth* came at the premier party on the film's DVD audio commentary track.

about the impacts of climate change on weather patterns.[202] Dr. Cullen starred in her first leading role in the half-hour special *Extreme Weather Theories* which aired May 27, 2004 as part of "Extreme Weather Week," to coincide with the premier of *The Day After Tomorrow*. When Hurricane Katrina struck New Orleans in August, 2005, resulting in massive flooding, billions of dollars in damage, and more than 1,800 deaths – the storm became bound up in the media with concerns about the looming effects of global warming. When Hurricane Katrina struck Louisiana in August, 2005 pundits and scientific authorities on CNN, MSNBC, Fox News, and the Weather Channel devoted considerable airtime to discussions of whether or not the storm's devastating fury was a sign of the increasingly tangible effects of global warming.[203] In the 2007 global warming documentary *Everything's Cool*, Cullen explains that the unusually powerful series of hurricanes that hit the coast that year were consistently linked to climate change in coverage of the event in print media, television, and the internet, resulting in a significant increase in her own airtime during the second half of 2005.[204] In November 2005, CBS television capitalized on the storm by airing a four-hour miniseries *Category 7: At the End of the World*. Patterned after *The Day After Tomorrow* (including a tidal wave that wipes out New York), *Category* 7 stars Shannon Doherty as scientist Faith Clavel. Faith figures out that global warming has caused two category five hurricanes to merge into an unprecedented category seven storm. Faith also realizes that God, not humans, may be

[202] "Nation's Weather Provider Hires Leading Climate Expert, Presents New Climate Programming, Serves as Weather Authority for Upcoming Twentieth Century Fox Movie 'Day After Tomorrow'." The Weather Channel. Press Release. (May 12, 2004). Accessed November 2009: <http://www.heatisonline.org/contentserver/objecthandlers/index.cfm?id=4567&method=full>.

[203] See *Everything's Cool*. Dir. Daniel Gold and Judith Helfand. (2007).

[204] Cullen discusses her hiring and coverage of Katrina in the documentary *Everything's Cool* (Daniel B. Gold and Judith Helfand, 2007).

the ultimate cause of global warming and that the storm may signal the apocalypse. *Category 7* highlights the fact that while Americans were becoming increasingly aware of global warming during this period, many refused to acknowledge climate change as a risk internally manufactured by human industrial activities and instead interpreted the science of climate change as proof an external risk manufactured by divine influence. This disconnect, which I explore at greater length in my next chapter, may help to explain why increasing awareness of climate change over this period did not lead to collective action.

Coverage of Katrina and television shows like *Category 7* demonstrate the broader impact of *The Day After Tomorrow* and in turn helped Laurie David generate buzz for *An Inconvenient Truth*, which was picked up for distribution by Paramount after it received a standing ovation at its premier at the 2006 Sundance Film Festival.[205] Paramount opted to open the film on four screens to heavy promotion. It made over $300,000 and a new record for the highest Memorial Day Weekend per screen box office take. It has since been rented, downloaded, purchased, and viewed millions of times, caused debates over its screening in thousands of public schools and universities around the world, helping to transform an erstwhile American politician into a global media superstar.[206] Clearly influenced by Gore's success, during the second half of 2007 alone,

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[205] Booth, William. "Al Gore, Sundance's Leading Man." *The Washington Post* (Jan. 26, 2006). Accessed Nov. 2009: <http://www.washingtonpost.com/wp-dyn/content/article/2006/01/25/AR2006012502230.html>.

[206] See, for example, Libin, Kevin. "Gore's Inconvenient Truth Required Classroom Viewing?" (May 19, 2007). *National Post*. Canada. Accessed June 2009: <http://www.canada.com/nationalpost/story.html?id=27a24986-008e-4a55-a18c-fb3fb7acf0e9&k=0>; McClure, Robert and Lisa Stiffler. "Federal Way Schools Restrict Gore Film." *Seattle Post-Intelligencer*. (Jan. 11, 2007): <www.seattlepi.com/local/299253_ inconvenient11.html>; Leask, David. "All Secondary Schools to See Gore Climate Film." *The Herald*. Scotland (Jan. 17, 2007): <http://www.heraldscotland.com/all-secondary-schools-to-see-gore-climate-film-1.838142>; and "German Government Defends Gore: 'Inconvenient Truth' to Continue Airing in Schools." *Spiegel Online*. Germany (Oct. 13, 2007): <http://www.spiegel.de/international/germany/0,1518,511325,00.html>.

at least six political documentaries played in American arthouse and multiplex theaters, including the climate change-themed *The 11th Hour*, funded and narrated by Hollywood star Leonardo DiCaprio.[207] Al Gore has since appeared in political cartoons with penguins and polar bears, had his documentary adapted as an opera, made guest appearances on popular sit-coms and talk shows, had his personal carbon footprint and investments in carbon offsets come under close scrutiny, continued traveling the world to deliver his slide show, launched a green media empire, sponsored sustainable technology contests, addressed international gatherings of the scientific community, testified to the U.S. Congress on climate change, hosted *Live Earth* (2007), the largest "concert for a cause" ever held, shared the 2007 Nobel Peace Prize with the several thousand scientists serving on the United Nations Intergovermental Panel on Climate Change, and written another book, *Our Choice: A Plan to Solve the Climate Crisis* (2009).[208]

Like its fictional precursor, *An Inconvenient Truth* employs melodramatic affect to present a persuasive argument on the science of global warming. Winning at Sundance, film was released in multiplex theaters by Paramount and won the Academy

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[207] Schechner, Sam. "March of the Inconvenient Truths." *The Wall Street Journal*. (Aug. 17, 2007): W2. My own library includes more than thirty television, independent, and studio documentary and feature films released between 2006 and 2008 that explicitly reference global warming, including such diverse films as: *Planet in Peril* (CNN, 2007), *Encounters at the End of the World* (Werner Herzog, 2007), *Flow: For the Love of Water* (Irena Salina, 2008), and *Whatever Else* (Woody Allen, 2009).

[208] See: Tierney, John. "The Aria of Prince Algorino." *New York Times*. (June 17, 2008). Accessed June 2009: <http://www.nytimes.com/2008/06/17/science/earth/17tier.html>; Elgin, Ben. "Another Inconvenient Truth: Behind the Feel-Good Hype of Carbon Offsets, Some Deals Don't Deliver." *Business Week*. (Mar. 26, 2007): http://www.businessweek.com/magazine/content/07_13/b4027057.htm ; Harkinson, Josh. "Turning Carbon into Gold." *Mother Jones*. 33/4 (Jul/Aug 2008): <www.motherjones.com/environment/2008/07/turning-carbon-gold>; Leibovich, Mark and Patrick Healy. "Star in New Role, Gore Revisits Old Stage." *New York Times*. (Mar. 20, 2007): <http://www.nytimes.com/2007/03/21/us/politics/21gore.html>; Grimm, David. "Al Gore to Scientists: 'We Need You.' AAAS Annual Meeting Brief. Science. 323 (Feb. 20, 2009): 998; Kerr, Richard A. and Eli Kintisch. "Nobel Peace Prize Won by Host of Scientists and One Crusader." *Science* 318 (Oct. 19, 2007): 372-73; and Gore, Al. "Rethinking Energy: Ideas for the Future." *The Costco Connection* 24/11 (Nov. 2009): cover and 24-26.

Award for Best Documentary at the first "green" Oscar ceremony in 2007. The film opens with images of a river as Gore speaks in voiceover about his feelings of renewal through nature. His suffering over the 2000 presidential election and his son's automobile accident invite viewers to suture themselves to Gore's point of view as a heroic figure reemerging to fight another day. As Gore's explanations of climate science and political wrangling build toward a plea for why we must act now, affective vignettes situate him visiting his parents' farm and building a case for climate change as a moral/familial issue. These moments, including animated images of drowning polar bears, frame the issue melodramatically. The film exemplifies the mode's ability to inhabit the logic of neoliberal capitalism, to speak directly to the hyperindividualized film consumer and instill in us the sense that we each have the power and obligation to act. As Linda Williams explains, "melodrama offers the hope that it may not be too late . . . that virtue and truth can be achieved in private individuals and individual heroic acts rather than, as Eisenstein wanted, in revolution."[209] Gore concludes in the space of hope, where the "too bigness" of climate change is reframed in terms the individual's power to enact changes that matter to the entire planet: recycling, driving less, planting a tree, turning down the thermostat. As with the disaster film, it is not just that emotion is being used to convey science, but that scientific realism is being used to enhance the weight of the film's moral charge. While climatologists are generally skeptical of popular media, they rank this film as the most accurate mainstream representation of their research.[210]

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[209] Williams, Linda. Ibid., 77.

[210] Lichter, S. Robert. "Climate Scientists Agree on Warming, Disagree on Dangers, and Don't Trust the Media's Coverage of Climate Change." Statistical Assessment Service. George Mason University. (April 24, 208): <http://stats.org/stories/2008/global_warming_survey_apr23_08.html>.

Despite numerous critics on the left and right, both *The Day After Tomorrow* and *An Inconvenient Truth* continue to be regarded by scientists and media scholars as the most important texts in the popular representation of climate change. The films are constantly alluded to in popular media and, as noted previously, *An Inconvenient Truth* has even been staged as an opera.[211] Just as Grierson first defined documentary as a "creative treatment of actuality," the 'inconvenient truth' uncovered by each film revolves around the feeling the emotional and moral affects of global warming, not their representation of specific scientific data.[212]

In an interview with David and Gore about *An Inconvenient Truth* on May 31, 2006 National Public Radio interviewer Robert Siegel asked, "What would be evidence of the American public taking on board the message of this film, that you could point to and say, 'That's what I hoped would happen.'?" They responded in turn:

> *Laurie David*: My focus is media and how do you permeate popular culture with this issue. So right now I'm seeing morning shows around the country talking about global warming, I'm seeing thousands of articles being written and columns and editorials about global warming; so I'm already thinking that this is a huge success. . .
> *Al Gore*: I have a single objective, and that is to move the United States of America past a tipping point . . . beyond which the overwhelming majority of the American people demand that their political leaders and their business leaders put this climate crisis in the number one priority position.[213]

[211] Television shows such as *South Park*, *The Simpsons*, and *Saturday Night Live* have parodied both films. See also, Ponham, John. "La Scala to Stage Opera of 'An Inconvenient Truth'." *The Independent*. (May 30, 2008): <http://www.independent.co.uk/news/world/europe/la-scala-to-stage-opera-of-an-inconvenient-truth-836767.html>.

[212] Grierson, John. *Grierson on Documentary*. Ed. Forsyth Hardy. Berkeley: UC Press, 1966: 11.

[213] "Al Gore Sounds Global Warming Alert." *All Things Considered*. National Public Radio (May 31, 2006): <www.npr.org/templates/story/story.php?storyId=5441976>.

Clearly distinct from the other films examined in this project, which collectively but less explicitly articulate the intangible convergence of global warming and globalization, the *The Day After Tomorrow* directly confront the scale on which Giddens's paradox operates. Exploiting the technologies of cinema to explicitly depict the immediate environmental impacts of global warming, the films offered audiences graphic visual representations of the science around which to form an individual moral response. And while a case cannot yet be made that American society has yet reached the cultural tipping point Gore describes, it can be said with certainty that *The Day After Tomorrow* played a major role in inspiring media producers to permeate the media with images of global warming. Commenting on the impact of Al Gore's efforts alone, Gallup pollster Frank Newport argues that, the increasing number of Americans who came to perceive that the effects of global warming would begin to occur within their lifetime (from 56% in 2004 to 65% in 2008) would have effects on during the film's run (2006-08) is "in line with what one might have expected given the high level of publicity on the topic."[214] Of course the closer American society has come to enacting a sustained shift in the cultural logic of ecology in the years since 2008, the more daunting the task has become. Despite increasing public awareness of climate change and its demonstrable impact on the private and public sectors in the United States since 2004, Hollywood's continued reliance on wasteful production practices and massive energy consumption remains all too typical the

[214] Newport contends that Gore's efforts had an impact on global warming polling until 2008, but that public concerns over the issue began to slowly decline during the Great Recession (2008-09) according to Gallup. As discussed in my introduction, however, a 2009 Yale research survey demonstrated that high levels of public support for environmental protection despite the economic costs. The sustained shift in the business community's attitudes toward global is another long-term indicator of a paradigm shift in the cultural logic of ecology in United States following the period covered by this project. See my concluding chapter for a further discussion of these trends. Newport, Frank. "Americans Global Warming Concerns Continue to Drop." Gallup (March 11, 2010): <http://www.gallup.com/poll/126560/americans-global-warming-concerns-continue-drop.aspx>.

slow movement toward action across society. As globalization continued unabated and unchecked more greenhouse gases (carbon dioxide, nitrous oxide, and methane) were released into the atmosphere between 2004 and 2009 than in any five-year period in the history of human civilization.[215]

The significance of *The Day After Tomorrow* and *An Inconvenient Truth* are undeniable; these films helped keep the world's most important ecological concern in the headlines and participated in shifting the conversation on climate change in the period following its release from questions of *if* and *why* to *when* and *how*. This shift in public attitudes has depended on a corresponding shift in the tone of mainstream environmental rhetoric over the past half-decade toward a renewed investment in the pastoral images of renewal and hope; a shift influenced by the framing of environmental risk through the melodramatic imagination. And crucial to Hollywood's role in the shift now occurring across the culture has been the use of melodrama in blockbuster film to frame climate change as a moral issue directly linking the individual viewer to the global environment.

[215] The National Oceanic and Atmospheric Administration Annual Greenhouse Gas Index. (Sept. 4, 2009): <http://www.esrl.noaa.gov/gmd/aggi/>.

CHAPTER III

PENGUINS, POLITICS, AND PERFORMANCE:

MARCH OF THE PENGUINS (2005) AND *HAPPY FEET* (2006)

"Species are going extinct en masse. Every 20 minutes we lose an animal species. If this rate continues, by century's end, 50% of all living species will be gone."
~ Jeff Corwin, "The Sixth Extinction," *L.A. Times*, November 30, 2009[216]

In late March 2007, *Time* magazine released a special double issue titled, "The Global Warming Survival Guide." Below the headline, a lone penguin, photographed by Suzi Eszterhas, stands on an iceberg off Paulet Island, Antarctica. *Time*'s cover highlights the crucial role that penguins played as media mascots of global warming during a period when the issue was becoming increasingly prominent in American culture. It is no coincidence that *Time*'s editors would choose a penguin to draw prospective readers to an issue on global warming. A month earlier the connection between penguins and climate change had been cemented in the popular imagination by as *An Inconvenient Truth* (2006) received the Oscar for Best Documentary Feature and *Happy Feet* (2006) won for Best Animated Feature at the 2007 Academy Awards ceremony.[217] Paramount had also encouraged this connection when the studio incorporated images of penguins 'marching' across a desert landscape into one of the

[216] Corwin, Jeff. "The Sixth Extinction." *Los Angeles Times*. Nov. 30, 2009: <http://articles.latimes.com/2009/nov/30/opinion/la-oe-corwin30-2009nov30>.

[217] Although the Oscar statue for *An Inconvenient Truth* was awarded to director Davis Guggenheim and producers Lawrence Bender, Laurie David and Scott Burns, Gore was the guest of honor and delivered a speech on climate change. The Academy purchased carbon offsets, stars arrived at the theater in gas/electric hybrid cars instead of limousines, and the traditional red carpet was replaced by a green carpet made from recycled material. "'Inconvenient Truth' a Double Winner at Green Academy Awards." *Environmental News Network* (February 26, 2007): <http://www.ens-newswire.com/ens/feb2007/2007-02-26-01.html>.

posters used to advertise *An Inconvenient Truth*.[218] Although relatively few Americans have ever traveled to Antarctica, cultural awareness of Antarctic penguins has grown over the past few decades thanks to zoo attractions, television shows, movies, the internet, and other mediated interactions enabled by globalization. Globalization, however, is also intensifying several environmental pressures that put the future of penguins at risk. By 2001, ten of the world's seventeen penguins species had already been listed as threatened or endangered. And global warming is escalating the problem. A study published in the *Proceedings of the National Academy of Sciences* in 2009 predicts that Emperor penguins, already stressed by industrial marine harvesting and pollution in the Southern Ocean, face "quasi-extinction" (95% population decline) by 2100 due to changes in sea ice caused by climate change.[219] Given that scientists have come to recognize Antarctic penguins as unique ecological indicators of global warming, it is hardly surprising that penguins would captivate the public's interest as attitudes toward global warming shifted between 2004 and 2008.

It is common scientific knowledge that *Homo sapiens* evolved in Africa from a common hominid ancestor roughly 200,000-300,000 years ago.[220] Many Americans, though, continue to believe otherwise. Between 1982 and 2008, according to the polling firm Gallup, 45% of Americans consistently agreed with the statement, "God created

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[218] The poster depicts a group of penguins marching along a desert landscape with the caption "We're all on thin ice." Finke, Nikke. "Controversy: An Inconvenient Al Gore?" *DeadlineHollywood.com* (June 7, 2006): < http://www.deadline.com/2006/06/new-controversy-an-inconvenient-al-gore/>.

[219] Jenouvrier, Stéphanie, et al, "Demographic Models and IPCC Climate Projections Predict the Decline of an Emperor Penguin Population." *PNSA*. 106/6 (2009): 1844-1847; and Yoon, Carol Kaesuk. "Penguins in Trouble Worldwide." *New York Times*. (June 26, 2001): <http://www.nytimes.com/2001/06/26/science/penguins-in-trouble-worldwide.html>.

[220] Ehrlich, Paul R. and Anne H. Ehrlich. *The Dominant Animal: Human Evolution and the Environment.* Washington, DC: Island Press, 2008: 67.

human beings pretty much in their present form at one time within the last 10,000 years or so."[221] Discussing the relationship between creationism and climate change in his October 2005 keynote address to the Society for Environmental Journalists, "Question for Journalists: How do We Cover Penguins and the Politics of Denial?" Bill Moyers put it bluntly:

> I don't think it is a coincidence that in a nation where nearly half our people believe in creationism, much of the populace also doubts the certainty of climate change science. Contrast that to other industrial nations where climate change science is overwhelmingly accepted as truth; in Britain, for example, where 8l% of the populace wants the government to implement the Kyoto Treat. What's going on here? Simply that millions of American Christians accept the literal story of Genesis, and they either dismiss or distrust a lot of science - not only evolution, but paleontology, archeology, geology, genetics, even biology and botany.[222]

At the time of Moyers's speech, Gallup had recently reported that only 42% of Americans wanted the Bush administration to abide by the Kyoto Treaty to reduce greenhouse gas emissions.[223] Although the Bush administration never signed the Kyoto

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[221] Gallup began polling the question in 1982. "Evolution, Creationism, Intelligent Design." Gallup. (Accessed August 15, 2010): <http://www.gallup.com/poll/21814/evolution-creationism-intelligent-design.aspx>.

[222] Moyers, Bill. "Question for Journalists: How do We Cover Penguins and the Politics of Denial?" Keynote Address. Society for Environmental Journalists. Austin, TX, October 1, 2005: <http://www.commondreams.org/views05/1007-21.htm>.

[223] Fundamentalists in the United States have been particularly adamant in their political opposition to climate change. However, it should be noted that in the poll referenced by Moyers Gallup found that only 23% of Americans in 2005 thought the government should not abide by the Kyoto Treaty while 35% simply had no opinion on the question. In Britain, which registered 81% support for Kyoto in 2005, a 2008 poll showed that 33% of the public believed that "God created the world within the last 10,000 years" and 51% agreed that "evolution alone is not enough to explain the complex structures of some living things." In Canada, which registered 73% support for Kyoto in 2005, a 2007 poll 41% of the public believed in creationism and 42% also agreed that dinosaurs and humans co-existed on earth. See Saad, Lydia. "Are Americans Cool to Kyoto?" Gallup (June 21, 2005): <http://www.gallup.com/poll/16999/americans-cool-kyoto.aspx>. Wynne-Jones, Jonathan. "Poll Reveals Public Doubts Over Charles Darwin's Theory of Evolution." *The Telegraph*. London. (January 31, 2009): <http://www.telegraph.co.uk/news/religion/4410927/Poll-reveals-public-doubts-over-Charles-Darwins-theory-of-evolution.html>; and "Most Canadians Pick Evolution over Creationism." Angus Reid Strategies Public Opinion (June 19, 2007): <http://www.angus-reid.com/polls/1931/most_canadians_pick_evolution_over_creationism/>.

Protocol, by 2007, as I explained in my introduction, research surveyors at Yale University were able to report that a "sea change" in both public and business attitudes toward global warming had occurred.[224] During the period examined in this project, 2004-08, Gallup recorded no significant shift (from 45% to 44%) in American's views on creationism.[225] How then can we account for the shift that occurred in perceptions of climate change in the years immediately following Moyers's speech when there was not a related shift in perceptions of evolution?

This question is answerable in part by the fact that the connection between creationism and climate change may be more complicated than Moyers gives it credit. Moyers duly notes the influence of white evangelical protestants on President Bush's election and policies.[226] However, by emphasizing this connection, Moyers overlooks the fact that people's perceptions of climate change, like their voting habits, are shaped by a number of factors, only one of which is religion. By the time of Moyers's speech, global warming seemed (once again) to have quickly passed into and out of the media spotlight following the reception of *The Day After Tomorrow* (2004). In 2004 John Kerry chose not to make global warming a priority during his unsuccessful bid for the presidency; government scientists came under increasing pressure to edit their public reports on the

[224] "Sea Change in Public Attitudes Toward Global Warming Emerge: Climate Change Seen as Big a Threat as Terrorism." Press Release. Yale Center for Environmental Law and Policy. (March 20, 2007): <http://opac.yale.edu/news/article.aspx?id=4787>.

[225] Between 1982 and 2008 and average of 38% of Americans agreed that "human beings evolved over millions of years without God being involved" and an average of 11% agreed that "humans have evolved over millions of years but God guided this process." "Evolution, Creationism, Intelligent Design." Ibid.

[226] As I mentioned in my previous chapter, the Brookings Institute has found political affiliation (which was measured against age, gender, and education) to be the most significant indicator of people's views on climate change. Borik, Christopher, Erik Lachapelle, and Barry Rabe. "Climate Compared: Public Opinion on Climate Change in the United States and Canada." *Issues in Governance Studies* 39 (April 2011): <http://www.brookings.edu/papers/2011/04_climate_change_opinion.aspx>.

issue; and in early 2005 Michael Crichton's *State of Fear*, a novel in which global warming is explained away as a hoax perpetrated by scientists and environmental terrorists, climbed to second place on the *New York Times* bestseller list. Although global warming received considerable mention during media coverage of Katrina, prominent evangelical pastors were also grabbing headlines by claiming that the storm had descended upon New Orleans in order to prevent homosexuals from gathering at an annual festival held in the French Quarter dubbed "Southern Decadence." To his credit, Moyers could not foresee that *An Inconvenient Truth* (2006) would spark an unprecedented level of political, social, and economic interest in climate change. And as the title of his speech suggests, Moyers's he could not yet forsee that more two movies about penguins would play a role in cultural conversations about climate change.

In this chapter, I continue to examine the ways in which melodramatic blockbuster films reflect and respond to the cultural logic of ecology by analyzing the industrial and textual connections between the two films that catapulted penguins into the media spotlight during an important turning point in the cultural logic of ecology, *March of the Penguins* (2005) and *Happy Feet* (2006). *Happy Feet* deconstructs the portrayal of penguins in *March of the Penguins* as animals living in a timeless natural world by using the animated form to interrogate the politics of denial. Upon its release in 2005, *March of the Penguins* drew record theatrical audiences for a wildlife film and became a significant site of "conflict over the cultural authority to interpret animal images" after Christian reviewers encouraged audiences to accept the film as proof for the theory of intelligent

design.[227] Although scientifically accurate, the film structurally accommodates intelligent design theory by avoiding ideologically charged aspects of penguin ecology like evolution and global warming. The only allusion in the film to evolution comes in a line near the beginning: "For millions of years they have made their home on the darkest, driest, windiest and coldest continent on earth. And they've done so pretty much alone." Warner Brothers, which distributed both films, facilitated *March of the Penguins*'s unique reception in the United States by altering the original French version of the film and marketing it as both a documentary and "family film."[228] By 2007, however, *Happy Feet* had participated in shifting the media conversation about penguins from concerns about where they came from to worries about how long they have left. *Happy Feet* tells a politically progressive story of "humankind's deliberate exploitation of and abuse of the oceans" and critiques "the ways in which fundamentalist rhetoric is employed to blame liberal thinkers."[229] Employing digital realism to heighten its emotional and moral appeals, *Happy Feet* illustrates that penguins and people have become, in Donna Haraway's terms, "companion species" in the Energy-Climate Era.

[227] Intelligent design is an updated version of creationism which makes claims to scientific and theological validity. Intelligent design was widely adopted in the US during the late 1990s and early 2000s "in response to US legal pressures concerning educational policies" that have promoted the teaching of evolution in public schools. Wexler, Rebecca. "Onward Christian Penguins: Wildlife Film and the Image of Scientific Authority." *Studies in History and Philosophy of Biological and Biomedical Sciences* 39 (2008): 273-279.

[228] I have placed quotes around the phrase family film because media producers frequently use the term "family" to market to conservative American viewers. Disney, for example decided after September 11, 2001 that "The Family Channel" would air Pat Robertson's nightly Christian Broadcasting News program, *Newswatch*, which also airs on several national and regional evangelical channels. Blake, Mariah. "Stations of the Cross." *Columbia Journalism Review* (May/June 2005): 32-39.

[229] Wells, Paul. *The Animated Bestiary: Animals, Cartoons, and Culture*. New Brunswick, NJ: Rutgers UP, 2009: 25.

Why Look at Penguins?

Animated films like *Happy Feet* demonstrate that human understandings of nature are the product of both myth and reality because animation questions the promise of other cinematic modes (particularly documentary) to provide viewers an objective view of the extra-textual world.[230] As animation scholar Paul Wells explains in his 2009 book *The Animated Bestiary: Animals, Cartoons and Culture*, "Whenever an audience is confronted with an animated film, it recognizes that it is different from live action—its very aesthetic and illusionism enunciates difference and potentially prompts alternative ways of seeing and understanding what is being represented."[231] Animated worlds are fluid; animators can heighten detail and blur boundaries to an even greater degree than cinematographers, who zoom, pan, tilt, and pull their cameras in and out of focus to enhance meaning in the mise-en-scène. In the melodramatic mode of such animated children's films as *Bambi, The Lion King,* and *Babe, Happy Feet* blends techniques of wildlife documentaries and live action films in its animation of the animal hero's narrative adventure. *Variety*'s Todd McCarthy claims, "in terms of composition, camera movement, and editing, the pic is conceived as a 'real' movie, and emerges as one of the very best directed animated films on record."[232] *Happy Feet*'s photorealistic animation reflects and critiques the cultural logic of ecology perpetuated by wildlife films like

[230] In her 1989 book *Primate Visions*, Haraway explains, "In the wake of post-World War II decolonization, local and global feminist and anti-racist movements, nuclear and environmental threats, and broad consciousness of the fragility of earth's webs of life, nature remains a crucially important and deeply contested myth and reality." Haraway, *Primate Visions*: 1.

[231] Wells, 5.

[232] McCarthy, Todd. "Happy Feet." *Variety*. (Nov. 10, 2006): <http://www.variety.com/review/VE1117932092?refcatid=31>.

March of the Penguins by placing a discourse about the lives of actual wild animals at the center of its melodramatic fantasy. As Wells explains, "by recalling the reality of the animal discourse in the film … the surreal and playful idioms of the 'animated feature for children' may be addressed as a more engaged text speaking to significant issues."[233] Animation and melodrama afford the film's hero, a young emperor penguin named Mumble, a level of agency not typically afforded to non-human species. Banished from his colony because he refuses to stop dancing, which as his father explains, "just ain't penguin," Mumble leaves Antarctica on a quest to find humans (whom he refers to as aliens) in order to ask them why they are talking all of the penguins' fish. By replacing a human viewpoint of penguins with, however, imperfectly, a penguin's perspective of humans, *Happy Feet* can be read as an attempt at the type of "animalcentric anthropomorphism" primatologist Frans de Waal describes as "not only acceptable but of great value in science."[234]

Neither a real penguin nor mere a projection of human fantasy, Mumble should be considered a cyborg. In her influential essay, "The Cyborg Manifesto," which has "become part of the undergraduate curriculum at countless universities," Haraway argues that human technologies and animal bodies have become utterly inseparable during the age of globalization.[235] According to Haraway:

> Cyborgs are post-Second World War hybrid entities made of, first, ourselves and other organic creatures in our unchosen 'high-technological guise' as information

[233] Wells, Ibid., 25.

[234] De Waal, Frans. *The Ape and the Sushi Master: Cultural Reflections of a Primatologist*. New York: Perseus, 2001: 49.

[235] Kunzru, Hari. "You Are Cyborg." *Wired* 5/2 (Feb. 1997): <http://www.wired.com/wired/archive//5.02/ffharaway.html>.

> systems, texts, and ergonomically controlled labouring, desiring, and reproducing systems. The second essential ingredient in cyborgs is machines in their guise, also, as communications systems, texts, and self-acting, ergonomically designed apparatuses.[236]

Cinematic animals can be usefully defined as cyborgs because cinematic images exist as phenomena in the world (or in hyperspace) through the blending of organic (human/animal) and synthetic (technological) elements. Just as Haraway claims of anthropology, sociology, and philosophy, media studies has historically undervalued the ways in which "animal societies have been extensively employed in the rationalization and naturalization of the oppressive orders of domination in the human body politic" such as systemic patriarchy.[237] Digitally animated animals are a particularly useful means of reinvigorating discussions of Haraway's ideas among media scholars because digitally animated animals are cyborg phenomena whose existence defies the animal/human/machine gap, a philosophical divide that has contributed to climate change by enabling Western culture to prioritize the desires of individuals and corporations over the need for biodiversity and environmental protection.

In *When Species Meets* (2008), Haraway argues that a cultural shift in humanity's relationships with other animals is critical if society is to move toward "alter-globalisation" (or "autre-mondilisation"), a practical model based on the assumption that the most constructive challenges to "militarized neoliberal models of world building are not about anti-globalization but about nurturing a more just and peaceful other-

[236] Haraway, Donna. *Simians, Cyborgs, and Women: The Reinvention of Nature*. New York: Routledge, 1991: 1.

[237] Ibid., 11-12.

globalization."[238] Haraway's central term, "companion species" is a richly allusive phrase that builds upon and refigures her earlier image of the cyborg. Describing companion species as a marker for the complex web of relationships between historically situated animals and humans, Haraway explains that "the category 'companion species' . . . is less a category than a pointer to an ongoing 'becoming with."[239] Haraway's reading of relationship between humans and other animals extends Jacques Derrida's deconstruction of the Western philosophical tradition's insistence on human exclusivity (which Derrida developed during in a series of 1997 lectures published posthumously as *The Animal That Therefore I Am*).[240]

Reflecting on his life's work, Derrida realized that one of the central projects of his career had been to uproot the nostalgic notion rooted in Western philosophy that *Homo sapiens* are fundamentally distinct from the animal. Derrida's thinking on these matters are useful for understanding the connections between society's perceptions of animals and the issue of climate change. According to the doctrine of creationism, which continues to inform much of American legal and political policy, God created the world, and men, in his image some time within the last 10,000 years. A key biblical passage, Genesis 1:28, is among those that is often cited as moral justification for treating Earth's animals as economic commodities rather than companion species. "And God said to them, 'Be fruitful and multiply; fill the earth and subdue it; have dominion over the fish

[238] Haraway, Donna. *When Species Meet*. Minneapolis: University of Minnesota Press, 2008: 3.

[239] Ibid., 16.

[240] Haraway also critiques the rhetorical model of "becoming animal" conceived by Gilles Deleuze and Felix Guattari in *A Thousand Plateaus* (1980), as an extension of Cartesian dualism.

of the sea, over the birds of the air, and over everything that moves on the earth.'"[241] In American culture this literalist theology impacts everything from environmental legislation and land use polices to eating practices and the treatment of domestic pets. Derrida recognized that the religious divide between animals and humans underwrites the entire tradition of Western philosophy. Derrida looked at his cat one morning and recognized that humans are not the only animals capable of expressing agency: "Passing across borders or the ends of man I come or surrender to the animal, to the animal in itself, to the animal in me."[242] Haraway praises Derrida's efforts but chides philosophers for failing to catch up sooner with the fact that modern science has long since dismissed the notion of an unbridgeable divide between humans and other animals.

To illustrate her claims, Haraway examines the National Geographic series Crittercam (2004-) as a typical twenty-first-century composition of "nonhuman marine animals, human marine scientists, a series of cameras, a motley of associated equipment, the National Geographic Society, a popular television show, its associated Web site, and sober publications in ocean science journals."[243] Haraway focuses an episode of the program about penguins to argue that despite an obvious power imbalance between the agency of human and penguin filmmakers, "the animals make demands on the humans and their technologies to precisely the same degree that humans make demands on the animals."[244] I have referenced Haraway here because her theory of companion species and reading of Crittercam informs my claim that the act of producing and viewing

[241] *Holy Bible: The New King James Version* (Nashville: Thomas Nelson, 1982).

[242] Derrida, Jacques. *The Animal That Therefore I Am*. New York: Fordham UP, 2008: 3.

[243] Haraway. *When Species Meet*, 250.

[244] Ibid., 263.

animated texts inherently invites the opportunity for both filmmakers and viewers to engage in complex and culturally specific "becoming with" other animals. And while Haraway's recent work places more emphasis on the material interaction (rather than perceptual/conceptual interactions) between humans and other species, her analysis holds opens the door for considering the ways in which media texts provide a unique space for viewers to reframe their conceptual understandings of the ecology. This view of cinematic animals resonates with the observations of Jonathan Burt, who argues in his book *Animals in Film* that "rather than seeing animals purely as semiotic devices it makes more sense to see them as dynamic and fluid agents that are integral to passages of change." However, while Burt, Cynthia Chris, Scott Macdonald and other scholars have looked primarily to live-action films as sites with the potential to facilitate "dynamic and fluid" interaction between humans and other species, animation deserves credit as well because *Happy Feet* invites a more complex and ecocentric "becoming with" penguins than *March of the Penguins* by environmental change as long-term material threats to penguins for which humans society is responsible.

In a 2007 article in *Human Ecology*, David L. Stokes describes a study he conducted on the importance of animal aesthetics to wildlife protection efforts. According to Stokes, "the appeal of penguins—and other popular animals such as tigers, pandas, etc.—has clearly benefited conservation efforts for those species and others that occur in their habitats."[245] Like earlier depictions of penguins in such films as *Mr. Forbush and the Penguins* (1971), both *March of the Penguins* and *Happy Feet* make use cinematic techniques to elicit sympathy from the viewer, yet *Happy Feet* makes political

[245] Stokes, David L. "Things We Like: Human Preferences among Similar Organisms and Implications for Conservation." *Human Ecology* 35 (2007): 368.

discourse central to its narrative while *March of the Penguins* offers a more ambiguous politics of beauty in the service of the same goal – drawing to the public's gaze to the penguin in a time of crisis. In both cases, cinematic form is wedded to political meaning. Scott Macdonald argues in his essay, "Toward an Eco-Cinema," that beautiful imagery can be "a confrontation of the status quo, and particularly of the media status quo; it can model fundamental changes in perceptions not only in terms of what we see in movie theaters, on television, or on-line, but how we function in the 'real world.'"[246] Since the early years of the modern environmental movement, films about penguins have emerged in response to cultural conversations about environmental protection.

"During the last three decades of the twentieth century," according to historian Stephen Martin, "significant changes in technology, tourism, and social beliefs fostered new forms of penguin."[247] An important historical antecedent of *March of the Penguins* and *Happy Feet* is the 1971 British Lion fiction film *Mr. Forbush and the Penguins* (Arne Sucksdorff, Alfred Viola and Roy Boultin). The film's general theme, that humans can better themselves as a result of appreciating nature, reflects the era's cultural response to environmental concerns and efforts to offer legal protection to bald eagles and other wildlife impacted by DDT, deforestation, and pollution. In one of the foundational texts of modern environmental law, *People or Penguins: the Case for Optimal Pollution* (1974) Stanford law professor William F. Baxter drew on Western culture's increasing awareness of penguins to argue:

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[246] Macdonald's essay is one of the first on the topic of cinema to be published in the leading ecocritical journal *ISLE*. Macdonald, Scott. "Toward an Eco-Cinema." *Interdisciplinary Studies in Literature and Environment*. 11/2 (Summer 2004): 112-113.

[247] Martin, Stephen. *Penguin*. London: Reaktion, 2009: 140.

> Penguins are important because people enjoy seeing them walk about rocks; and furthermore, the well-being of people would be less impaired by halting use of DDT than by giving up penguins. . . . [N]o other position corresponds to the way most people really think and act—i.e., corresponds to reality.[248]

Released a year after the first Earth Day and tapping into popular awareness that DDT had been discovered in the shells of Antarctic penguins, *Mr. Forbush* (or *Cry of the Penguins* as it was titled in the US) stars John Hurt as Richard Forbush, a biologist sent to Antarctica to study penguins. *Mr. Forbush* frames the penguins as psychological foils for the human protagonist. As he writes love letters home to his environmentally-conscious girlfriend Tara (Haley Mills), Forbush gains increasing respect for the struggles endured by his penguin companions. As in the 1966 wildlife film *Born Free*, which is widely considered a precursor to the genre, *Mr. Forbush* situates human/animal relationships within a classical Hollywood narrative, in which the natural world is representative of the actions and psychology of the human protagonists.[249] As the film concludes, Forbush writes his final letter, "And what have I learned from it all? That every living creature depends in some way on every other. Humans too. I'm not the same to myself anymore Tara. Will I seem the same to you, and you to me?" The melodramatic love affair between the two human protagonists is well served by Forbush's interactions with his penguin companions; however, the viewer is left with no clear sense of whether or not the penguins have actually benefited from the situation.

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[248] Baxter, William F. *People or Penguins: The Case for Optimal Pollution*. New York: Columbia UP, 1974: 5.

[249] Bordwell, Staiger, and Thompson point out: "Character-centered – i.e., personal or psychological – causality is the armature of the classical story. . . . A storm may maroon a group of characters, but then psychological causality takes over." Bordwell, David, Janet Staiger, and Kristen Thompson. *The Classical Hollywood Cinema: Film Style & Mode of Production to 1960*. New York: Columbia UP, 1985: 13.

The same cognitive and physical abilities that have given humans the ability to create and appreciate media texts have also enabled us to industrialize, militarize, and globalize, a process that is rapidly escalating the demise of Earth's wildlife. In a 2009 *Los Angeles Times* article, "The Sixth Extinction," wildlife biologist and filmmaker Jeff Corwin (host Animal Planet's *The Jeff Corwin Experience* since 2000 and a correspondent for CNN and NBC News), contents that if the current rate of extinction continues "by century's end, 50% of all living species will be gone. It is a phenomenon known as the sixth extinction. The fifth extinction took place 65 million years ago when a meteor smashed into the Earth, killing off the dinosaurs."[250] As Corwin notes, "The causes of this mass die-off are many: overpopulation, loss of habitat, global warming, species exploitation (the black market for rare animal parts is the third-largest illegal trade in the world, outranked only by weapons and drugs). The list goes on, but it all points to us."[251] Climate change alone, according to a 2004 article in *Nature* co-authored by fourteen ecological scientists, is predicted to result in the extinction of between 15 and 37 percent of the world's fauna by 2050.[252] As humans we are not the only animals with agency, but we are the only animals with the agency to carry out species extinction on a planetary scale.

Once among the species threatened by DDT, penguins now face the threat of habitat loss and, like humans, severe changes in their food supply as a result of global

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[250] Corwin, ibid. See also Wilcove, David S. *No Way Home: The Decline of the World's Great Animal Migrations*. Washington, DC: Island, 2008.

[251] Corwin, ibid.

[252] Thomas, Chris D. Alison Cameron, Rhys E. Green, et al. "Extinction Risk from Climate Change." *Nature* 427 (January 8, 2004): 145-148.

warming and industrialized marine harvesting.[253] Penguins (order *Sphenisciformes*) evolved from a common avian ancestor roughly 60-70 million years ago on the continent of Gondwanaland (which consisted of Antarctica, Africa, Australia, and South America).[254] In a 2010 interview with National Public Radio, seabird ecologist Bill Fraser predicted that Adiele penguins would become extinct in several regions of Antarctica in as little as five to seven years.[255] Marine ornithologists now recognize Antarctic penguins as a "beacon bird of climate change."[256] A canary in a global coal mine, penguins may provide the best indicator of the effects of human activity on the planetary ecosystem because of unique Antarctica's geographical position. According to glacial geologist Olafur Ingolfsson, "what happens in Antarctica will spread like ripples throughout the global system."[257] In the July 2008 issue of the journal *BioScience*, however, P. Dee Boersma reports in the article "Penguins as Marine Sentinals" that increases in precipitation and reductions in sea ice associated with climate warming are already affecting penguins.[258] The most telling example is that penguins in Patagonia, Argentina are now "swimming 60 km farther north from their nests during incubation than they did

[253] "Climate Change Leading to Shrinking Fish Stocks, UN Says." United Nations News Centre (Feb. 22, 2008): <http://www.un.org/apps/news/story.asp?NewsID=25716>.

[254] Baker, Allan J., et al. "Multiple Gene Evidence for Expansion of Extent Penguins Out of Antarctica Due to Global Cooling." *Proceedings of the. Royal Society for Biology - Canada* 273 (2006): 11-17.

[255] "A Visit to Antarctica." *Talk of the Nation*. National Public Radio (Dec. 31, 2010): <http://www.npr.org/2010/12/31/132523407/A-Visit-To-Antarctica>.

[256] Glausiusz, Josie. "The Beacon Bird of Climate Change." *Discover*. 28/4 (April, 2007): 14; Croxall, J.P., P.N. Trathan, and E.J. Murphy. "Environmental Change and Antarctic Seabird Populations." *Science*. 297/5586 (Aug. 30, 2002): 4; and Roach, John "Penguin Decline in Antarctica Linked with Climate Change." *National Geographic News*. (May 9, 2001): <http://newsnationalgeographic.com/news/2001/05/0509_penguindecline_2.html>.

[257] Qtd. in Glausiusz, 14.

[258] Boersma, P. Dee, "Penguins as Marine Sentinals." *BioScience* 58/7 (July 2008): 597-607.

a decade ago, very likely reflecting shifts in prey in response to climate change and reductions in prey abundance caused by commercial fishing."[259] Although industrialized marine harvesting continues largely unabated following the film's release, these films did contribute to public awareness of the issue and served as a reminder that climate change will become an even more pressing concern for American society as penguins continue to swim north in search of food. What the critical and financial success of these films points to, I argue, is that the trope of "the penguin" is capable of telling a number of complex and often contradictory stories: about ourselves, about penguins, and about our relationship with them as humanity's impact on the planet threatens to overwhelm both species. Released during the period when Americans were beginning to face the reality of climate change, *March of the Penguins* and *Happy Feet* illustrate that even the most remote of the planet's wildlife species are directly impacted by the choices made by individual viewers as consumers of fish and contributors to global warming.

The possibility for critical interaction, or "becoming-with", between humans and other species is triggered in both *March of the Penguins* and *Happy Feet* as the viewer is asked to experience the world from the perspective of the nonhuman protagonists. Melodramatic narratives typically revolve around the protagonist's ability (or inability) to express a sense of individual agency. Always contingent, agency can be described as an assemblage of free will, cognitive and physical ability, socially-defined morality, and the ability to act as an agent of change. As Ryan Hediger puts it in an essay on the work of autistic animal behaviorist Temple Grandin, "nonhuman forms of agency can appear when we adjust our ways of perceiving it to particular scenarios—contexts—and to

[259] Ibid., 597.

different forms of life."[260] As viewers project their individual ideologies about animal agency onto cinematic texts, these ideologies may be reified or subverted (or a combination of both) as the text variously expresses and/or critiques dominant cultural attitudes about the animals being represented.[261] As cyborgs, cinematic animals invite human viewers to interact critically with narrative events and environments in which nonhuman figures are active participants. *March of the Penguins* performed exceptionally well at the box-office in part because viewers of all political stripes were able to read their own ideologies onto the film's animal subjects without the film seeking to actively subvert those ideologies. In other words, believers in both creationism and evolution could find their beliefs justified by the film's combination of audio and visual narration. *Happy Feet* does not directly make a case for evolution; however, the film actively confronts fundamentalist religious attitudes toward ecology. *Happy Feet* employs its penguins to argue that fundamentalism performs a disservice society by allowing those with influence to deny the scientific truth about the planet's current ecological condition in order to maintain their grip on power.

[260] Hediger, Ryan. "Crossing Over: (Dis)Ability, Contingent Agency, and Death." *Animals and Agency: An Interdisciplinary Exploration.* Boston: Brill, 2009: 322.

[261] Stuart Hall describes the process of media production and consumption as one of "encoding" and "decoding". Because the production of media texts inherently involves ideological choices by the filmmakers, it can be said that producers encode texts with meaning. As viewers actively decode (or more accurately re-encode) meaning from the text, they can a) accept the dominant/intended meaning of the text, b) negotiate between the text's message and their ideological position, or c) actively read against the text from a subversive/oppositional position. Hall, Stuart. "Encoding/Decoding." *The Cultural Studies Reader*. [Ed.] Simon During. New York: Routledge, 1993: 90-103.

Penguins and Performance

Australian director/producer George Miller, whose films include *Mad Max* (1979), *The Witches of Eastwick* (1987), and *Babe* (1995), became interested in telling a story with penguins after screening the BBC documentary *Life in the Freezer* (1993), written narrated by David Attenborough.[262] Employing cameras that were specially designed to withstand the Antarctic winter, Attenborough's 30-minute segment on Emperor penguins documents how the birds mate, migrate, and feed their chicks in the planet's coldest and most desolate landscape. Inspired by the penguins' ability to flourish despite the harsh conditions, Miller began to develop his concept for an animated film about penguins that would take on the look of a live action film. It is also worth mentioning that in 2008, the Canadian Broadcasting news program *The Fifth Estate* documented the abuse of several chimpanzee actors by trainers on the set of *Babe: Pig in the City* (1998), a practice which reportedly led Miller to see animation as a more humane method of telling the stories of non-human animals than live-action film.[263]

Warner Brothers offered Miller the chance to make *Happy Feet* after production folded on a fourth Mad Max film in early 2003 due to "the looming Iraq war" and "problems with Mel Gibson's deal."[264] Over the next two years, Miller worked with digital effects company Animal Logic "marshalling the technology to combine computer

[262] Hellard, Paul. "Animal Logic's Happy Feet: CG Society Production Focus." *CG Society*. Society for Digital Artists. (2007): <http://features.cgsociety.org/story_custom.php?story_id=3900&page=1>.

[263] "Cruel Camera." *The Fifth Estate*. Canadian Broadcasting Corporation. Aired November 26, 2008: <http://www.cbc.ca/fifth/cruelcamera/>.

[264] It is unknown whether Gibson had issues with the script of the Mad Max film that would conflict with his political views or public image following the release of *The Passion of Christ* (2004). Maddox, Gary. "The Penguins Suite." *The Sydney Morning Herald* (Dec. 2, 2006): 1, 8-9: <http://www.smh.com.au/news/film/the-penguin-suite/2006/11/30/1164777710443.html>.

animation with motion-capture photography and digital effects to create photo-realistic animals and landscapes."[265] After seeing early footage of *Happy Feet*, Warner Brothers was impressed and decided to distribute the film globally, which meant increasing Miller's production budget to an estimated $100 million, purchasing the rights to a bevy of popular songs for the film's soundtrack, initiating a multimillion dollar marketing campaign, and recruiting the voice talents of A-list actors Elijah Wood, Robin Williams, Nicole Kidman, and Hugh Jackman.[266] Inspired by one penguin documentary, *Happy Feet*'s timely reception, which added momentum to the shifting tone of cultural conversations about climate change sparked by *The Day After Tomorrow* and *An Inconvenient Truth*, had even more to do with the success of another penguin documentary, *March of the Penguins*.

Around the time Warner Brothers executives were talking to Miller, Steven Friedlander, distribution president at Warner Independent Pictures, made the decision to purchase the French wildlife film *La Marche de L'empereur* (March of the Emperor) at the 2005 Sundance Film Festival.[267] Produced by the French company Bonne Pinnoche, *La Marche de L'empereur* was written and directed by ecologist Luc Jacquet. Working with cinematographer Jérôme Maison and sound technician Laurent Chalet, Jacquet shot the film during a 13-month trip (from 2002-03) to research station at Dumont d'Urville

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[265] Animal Logic is a visual effects company which worked on such films as The Matrix. After Miller invested in the company, *Happy Feet* became the company's first feature-length project. The company's website does not provide any information on the company's ideological viewer toward non-human animals. Maddox, Ibid.

[266] Maddox, Ibid.

[267] Unfortunately, sources do not clarify whether Warner Brothers decided to bestow blockbuster status on Miller's film Freidlander purchased Jacquet's film or the other way around. Pandya, Gitesh. "Oscar Spotlight: Warner Independent Pictures." *Box Office Guru* (Feb. 17, 2006): <http://www.boxofficeguru.com/oscarspotlight2006e.htm>.

Antarctica. Jacquet was particularly motivated to make the film after "B15A" (an iceberg the size of Rhode Island calved by warming ocean currents) smashed into the Ross Ice Shelf in 2001 and decimated a large colony of emperor penguins.[268] *La Marche de L'empereur* was still in its original form when it played at Sundance and at least one early reviewer as unsure whether it would be subtitled or re-dubbed for release in the United States.[269] Like *Life in the Freezer*, *La Marche de L'empereur* follows the emperor penguins on their annual migration to the Southern Ocean.[270] At Sundance, however, lines from the original film like "The dance, the dance, the dance of love, the dance that will go on all night," were deemed questionable by industry executives.[271] With *Happy Feet* already in development, Warner Brothers decided to purchase the film, rename it *March of the Penguins*, and make significant alterations to make it "more suitable to an American audience."[272] Although both versions follow the same storyline, Jacquet's original is told through the perspective of a mother, father, and baby bird voiced in first-person by human actors. Warner Brothers hired professional screenwriter Jordan Roberts to pen a new script, composer Alex Wurman to rescore the film, and actor Morgan

[268] Koyyman, Gerald L., et al. "Effects of Giant Icebergs on Two Emperor Penguins Colonies in the Ross Sea, Antarctica." *Antarctic Science* 19/1 (2007): 31-38.

[269] Bertreau, Susan. "FYI: La marche de l'empereur = The Emperor's Journey (New Documenary)." (Jan. 31, 2005): <http://listproc.ucdavis.edu/archivesiamslic/log0501/0078.html>.

[270] Although a fuller examination of the various international versions of *March of the Penguins* may seem warranted here, these differences are not directly related to this project's focus on climate change because while the two versions differ in their narrative of the lifecycle of penguins neither version mentions global warming, marine harvesting, iceberg B-15A, or other risks to penguins posed by humans. Ibid.

[271] Blair, Elizabeth. "March of the Penguins a Box Office Surprise." National Public Radio (October 31, 2005): <http://www.npr.org/templates/story/story.php?storyID=4982232>.

[272] Pandya, Ibid.

Freeman to replace the penguin dialogue with voice-over narration.[273] Warner Brothers and National Geographic, both subsidiaries of Time Warner, partnered to distribute *March of the Penguins*. National Graphic's traditional association with the scientific community thus invested the film's exhibition with a sense of scientific authority.

The alterations employed by Warner Brothers to *March of the Penguins* for American release situate it as a film that borrows from different traditions of wildlife filmmaking as it crossed national and cultural boundaries to achieve unique box office success. With its artistic cinematography and mise-en-scène (characterized by extreme close-ups, long takes, and slow camera movements), *March of the Penguins* owes an aesthetic debt to the critically acclaimed French wildlife films *Microcosmos* (Claude Nuridsany and Marie Pérennou, 1996) and *Winged Migration* (Jacques Perrin, 2003), which achieved limited theatrical release and DVD distribution in the United States. The French films, like those of Disney and the BBC, are part of a documentary film genre tradition that has long focused on portraying the lifestyles of animal species without direct interaction with human society. Historically, *March of the Penguins* also owes a debt to work of the French filmmaker Jean Painlevé, who directed a series of short films between 1928 and 1972 that focus on the lives of individual animal species. Scott Macdonald argues that Disney and Painlevé both used creatures ideologically, but for different purposes:

> While the Disney nature films focus on animals whose activities can be seen as analogous to, or sentimentally reminiscent of, the activities of the largely middle-class families who were their primary audience, Painlevé's choices often seem, at

[273] In a July 2005 interview with London's *Guardian* newspaper, Jacquet explained, "Of course I prefer my version, but we kept the same story and I think it works. The film is doing very well now, so maybe it was a good idea." McArthur, Roshan. "Super Fluffy Animals." *Guardian* (July 15, 2005): <http://www.guardian.co.uk/film/2005/jul/15/2>.

> least in part, a function of the ways in which particular organisms offer a challenge to conventional societal assumptions and values.[274]

March of the Penguins incorporates both Painleve and Disney characteristics by focusing extensively on the role of nurturing fathers within nuclear families yet only making passing reference to the fact that these fathers sire a child with a different female penguin each season, a fact of evolution that does not neatly fit into traditional notions of the American family.

In a featured essay on the nature film in the Spring 2006 volume of *Film Quarterly*, Macdonald contends, "At its best, the evolution of the nature film—and here there can be no better example than *March of the Penguins* (2005)—reveals an astonishing level of filmmaking courage and persistence . . . and an interest in ways of living other than ours that may have things to teach us."[275] *March of the Penguins* sets its animal subjects in a timeless world ruled only by nature. Yet depictions of nature are never free from the cultural ideologies embedded in cinema. Only recently, however, have scholars focused their attention on the ways in which the specifically *cinematic* constructions of wildlife films undercut their claims to scientific objectivity. According to Macdonald, "the moment a nature filmmaker begins to construct a particular film, there is no escaping point of view: filmmakers must choose what to show us and determine a filmic structure that exhibits a particular set of [ideological] conclusions."[276] As Macdonald's observations suggest, while documentary films have long been recognized

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[274] Macdonald, Scott. "Up Close and Political: Three Short Ruminations on Ideology in the Nature Film." *Film Quarterly* 59/3 (Spring, 2006): 10.

[275] Ibid., 4-5.

[276] Ibid., 4.

as ideological constructions from early on (a notion which informed the development of cinema verité and direct cinema in the 1960s), this recognition has only recently been applied to wildlife filmmaking. Ideological motivations are operating in the American version of *March of the Penguins* on at least three levels: in the choices made by the original production team as evidenced in the film's narrative arc, visual framing, and editing choices; in Warner Brothers' alterations to and marketing of the film; and in the ideological motivations particular viewers brought with them to the theater.

In his 2003 article, "False Intimacy: Close-Ups and Viewer Involvement in Wildlife Films" and (a follow-up to his 2000 book *Wildlife Films*) Derek Bousé describes at length how "intensely *cinematic*" techniques promote "feelings of emotional involvement and intimacy with the characters."[277] Wildlife films are primarily character-focused "*narrative adventures*, and have adopted the codes and conventions of mainstream film and television . . . for narrative and character construction, which have become so dominant that any film not employing them can appear technically amateurish."[278] A wildlife film that fails to succeed in enhancing the viewer's emotional attachment with the subject may fail to stir its viewers' emotions enough to care about the animals' fate. Yet deciding how to visually frame the penguins, how to edit their narrative together, and which music to use in order to create an emotional appeal are steps in the filmmaking process that makes the viewer's experience of penguin culture an inherently anthropomorphized and subjective one. In a 2008 article in the journal *ISLE*, Ladino builds on Bousé's work to explain how *March of the Penguin*'s scientific

[277] Bousé, Derek. "False Intimacy: Close-Ups and Viewer Involvement in Wildlife Film. *Visual Studies* 18/2 (2003): 123.

[278] Ibid., 123-124.

ambivalence can largely be attributed to the fact that cinema's inherently anthropocentric apparatus enables audiences to read their personal political agendas onto the birds while also suggesting the possibility of "an alternate response, in which emperor penguins are seen as an independently valuable species."[279]

March of the Penguins focuses on emperor penguins' struggle to survive in the coldest place on earth. Throughout the film the landscape is framed as a character at time soothing at times brutal; the ice is an actor that has the agency to both punish and reward the birds. In the opening sequence, a series of establishing shots and close-ups are edited together into a montage of color and music which presents the viewer with artisticly composed images of a sublime and timeless landscape. Soon a group of dark figures appears on the horizon in the background of a long establishing shot. Even before these figures emerge into the foreground and are recognizable as emperor penguins, the narration initially characterizes them as a tribe that stubbornly refused to move north when Antarctica's climate shifted millions of years ago. The film incorporates extreme close ups of beaks and feathers and sets the bird off against their landscape to highlight their aesthetic beauty. The film immediately moves beyond indexical representations of the land and its inhabitants by anthropomorphizing the penguins, which reflects authorial intent through the use of artistic compositions to engage the audience. As in most wildlife films, the animals' environment is characterized as an antagonist. The viewer is invited to become emotionally invested in the survival of the penguins rather than to see them as one actor in a complex ecological web. For example, when a female penguin is eaten by a leopard seal, the narration tugs at the viewer's emotions by pointing out that that the

[279] Jennifer K. Ladino, "For the Love of Nature: Documenting Life, Death, and Animality in *Grizzly Man* and *March of the Penguins*." *ISLE* (Winter 2009): 69.

seal has actually taken two lives, both the mother's and that of the chick she will not be able to feed.[280] Casting the environment (including predators) as antagonist heightens the film's emotional appeal to viewers while masking the ecological interdependence between all of the animals and their environment.

Surviving cold and predators is only part of the penguins' story. Love is deemed essential to their survival during the winter months. *March of the Penguins* develops this theme by confining its narrative events to a single year in the life of a penguin colony as a representation of the constant struggle to mate, survive and love. As in many wildlife films, the penguin's struggle is framed through a nuclear family. The annual cycle of migration, courtship, child rearing, and migration is related through the lens of a single penguin family. Though penguins practice serial monogamy, mating with a new partner annually, Jacquet limits the film's focus to a single year, simultaneously maintaining scientific accuracy and appealing to conservative family values. Though Freeman (star of *Driving Miss Daisy*, *The Shawshank Redemption*, *Bruce Almighty* and other films) mentions that "every year all bets are off," the generic conventions of the wildlife film ensure that viewers will not be offended by having to watch 'mom' and 'dad' take on new sexual partners from year to year.

Freeman's narration incorporates not only anthropomorphism (the sense that animals are like humans) but also zoomorphism (the sense that humans are like animals).[281] In her 2006 book *Watching Wildlife*, Cynthia Chris argues that that a zoomorphic framework entered the wildlife film genre in the 1980s, when television

[280] It is telling that the film does not include footage of seal pups waiting to nurse from their mother.

[281] Wolfe, Carey. "Introduction." *Zoontologies: The Question of the Animal*. Minneapolis: University of Minnesota Press, 2003: 1-30.

wildlife films began to focus more intensely on mate selection and sexual behaviors as metaphors for human sexuality.[282] As the birds begin their courtship ritual, Freeman explains, "They're not all that different from us really. They pout. They bellow. They strut." The combination of such techniques as continuity editing and close-ups along with Freeman's narration humanizes the emperor penguins.[283] Like the Disney True-Life Adventures, the film combines expository ("voice-of-God") narration with comedic and melodramatic overtones.[284] Editing and narration create a plot trajectory that invites viewers to believe that they have been watching the same penguin couple throughout the film. Rather than creating individual, named characters *March of the Penguins* seeks to inspire a more sophisticated emotional attachment between the viewer and the subject. The birds are referred to as "the father" and "the mother". Although we are told the birds are "like us" the film that also emphasizes that we also have something to learn from them about parenting, community, and survival. Cutting between long and medium shots as the penguins march to their wintering grounds, the film makes use of close-ups and long takes during the courtship ritual. Human characteristics are mapped onto the animal subjects. As an animal becomes a character, the viewer's emotional investment in their story is heightened. As in most wildlife films *March of the Penguins* frames its animal subjects as melodramatic heroes.

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[282] Chris, Cynthia. *Watching Wildlife*. Minneapolis: University of Minnesota Press, ix-x, 280.

[283] Freeman also marks an interesting choice as narrator because he has become associated through his films with the stereotype of the magical negro. The magical negro is a supporting character who by use of special insight or powers helps (but remains secondary in importance to) the white protagonist. See, Kempley, Rita. "Movies' 'Magic Negro' Saves the Day – But at the Cost of His Soul." *The Black Commentator* 49 (July 3, 2003): <http://www.blackcommentator.com/49/49_magic.html>.

[284] "Usually adopting a 'voice of God' commentary, edificatory subtitles, or the presence of an authoritative presenter, expository films include much of the work of those under John Greierson's aegis, most wildlife documentaries and films on historical events." Saunders, Dave. *Documentary*. London: Routledge, 2010: 27.

The film's development of character is heightened by emotional attachment to the newborn chicks, which hatch in the darkest part of the winter while their fathers endure the blistering cold and wind. Soon after the chicks are born, their mothers return (or fail to return) from a feeding trip to the sea. The parents then take turns caring for the chick and marching to the ocean for food. Relationships between the animals are created through editing by cutting from one bird to the next and letting the narration explicate the connection. In the sequence in which the mother birds return from feeding to meet their chicks, for example, the mother child bond is created and severed in just a few cuts. First we see an adult killed by a leopard seal then a straight cut to a frozen chick back at the rookery. These juxtaposed images are connected by Freeman's narration explaining that the seal has taken two lives at once. As a group of the adult penguins march back toward the main group, the film cuts to a close-up of a chick calling for food. When the film then cuts back to an adult bird the viewer is invited to assume that the adult bird is the chick's mother. The use of shot/reverse shot editing to create an impression of characters allows the filmmakers to use footage from multiple animals to represent a single character because audiences have generally been so well trained in narrative film conventions. This particular close-up is designed to elicit viewer sympathy in its framing of the fragile chick and in reference to the mother's point of view. The sound mix in this sequence raises the volume of Wurman's piano score and sonically covers the diagetic sounds of the mother regurgitating her food. The total result is that she appears to be responding to the chick with tender emotion to rather than simply performing a behavior.

After the mother feeds the chick, the small bird looks back up at and Jacquet cuts to a three-shot. Mother and father are shown in a seemingly loving penguin embrace,

nuzzling beaks. The chick sits between them as Freeman explains that that the busy family is trying to spend a little time together. Framing the penguin family as a busy working couple trying to find time together, as the scene described above does, conveys the anthropomorphic idea that any human two income working family today is struggling to survive just like these penguins. The penguin's ability to feel 'love' (portrayed in human terms) is anthropomorphic. Portraying the penguins as being like us heightens our emotional attachment and blurs the line between scientific and popular cultural understandings of non-human species. However, the film also calls upon viewers to think zoomorphically by asking us to consider how humans can become more like penguins. Adam Leipzig, president of National Geographic Feature Films, has said of *March of the Penguins*, "These penguins are model parents."[285] If the penguins can find a mate and spend some time together as a family in the harshest environment on earth, then certainly we can find time for our families as well, the film suggests.

Marketing *March of the Penguins* as first a documentary and then a family film proved to be a savvy business move. Audiences from across the political spectrum could read their own agendas onto the text, sparking a buzz that took the film from the Imax to the Cineplex. Conservatives praised the film for its family values and proof of intelligent design, as Jonathan Miller explains in his *New York Times* article "March of the Conservatives: Penguin Film as Political Fodder." Jacquet told Miller, "My intention was to tell the story in the most simple and profound way and leave it open to any reading."[286]

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[285] "Smith, David. "How the Penguins' Life Story Inspired the U.S. Religious Right." *Observer* (Sept. 18, 2005): <http://www.guardian.co.uk/2005/sep/18/usa.filmnews>.

[286] Miller, Jonathan. "March of the Conservatives: Penguin Film as Political Fodder." *New York Times* (Sept. 13, 2005): <http://www.nytimes.com/2005/09/13/science/13peng.html?_r=1>.

It worked. Thanks in part to conservative talk show host and film critic Michael Medved's endorsement of the film as "the motion picture this summer that most passionately affirms traditional norms like monogamy, sacrifice and child rearing," Christian church groups in the United States block-booked theaters for group screenings, a practice previously employed for *The Passion of the Christ* (Mel Gibson, 2004).[287] These viewers were expected to read the penguins as examples of intelligent design, a reading made possible by the text if one neglects to consider that there is one mention in the film of the fact that penguins have been on earth for millions of years. Other viewers, however, read the film as proof of evolution. Roger Ebert, argues in his June 2005 review that the penguins, "are Darwinism embodied."[288] Darwinists and creationists each found a way to make radically different meanings from the same text. As David Attenborough succinctly explains "The camera is the most convincing of all liars. But in the end, it's the motive of the film-maker that is crucial."[289] Asked by an interviewer why he chose not to include any reference to global warming's impact on Antarctica, Luc Jacquet answered:

> In my opinion, the best way to protect the planet is to get people to like it. One protects what one loves. It's obvious that global warming has an impact on the reproduction of the penguins. But much of public opinion appears insensitive to the dangers of global warming. We have to find other ways to communicate to people about it, not just lecture them.[290]

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[287] Medved, an orthodox Jew, promoted the film but did not coordinate the bookings. Smith, Ibid.

[288] Ebert, Roger. "March of the Penguins: Darwinian Tale of Family on Ice." (June 8, 2005): www.rogerebert.com.

[289] Attenborough, David. "How Unnatural is TV Natural History?" *The Listener*. (May 7, 1987): 64.

[290] Lovgren, Stefan. "Interview: March of the Penguins Director Luc Jacquet." *National Geographic News*. (June 24, 2005): < http://news.nationalgeographic.com/news/2005/06/0624_050624_marchpenguin.html >.

By avoiding the issue of global warming and focusing on the timeless world of the penguins' perspective, the American version of the film, like Jacquet's original film, does not tell the penguins' entire story. Wildlife documentaries have traditionally asked the audience to fall in love with the creature in order to inspire political action, however, political rhetoric is rarely evident in the text. Documentaries that are explicit about their politics are often viewed as lecturing the audience.[291] *March of the Penguins* balances its science with the moral sensibilities and emotional demands of American viewers.

By employing stunning visual composition and intentionally avoiding a lecture on impacts of marine harvesting and climate change on penguins, the film reached a larger theatrical audience that any other wildlife film had ever reached. The film was initially released in July 2005 on only four screens but at its peak was playing across the country on more than 2,500 screens. Freidlander explains that each week Warner added "more and upscale commercial and then mall theaters." After noticing that a sizable percentage of its ticket sales were to children, the studio targeted its "advertising more to a younger demographic until it became a family film."[292] Financially successful beyond all expectations, it is the first theatrically released wildlife film to inspire a video game (released by Nintendo for its Gameboy DS platform in 2005).[293] By the end of its theatrical run the film had earned more than $77 million in the US and $50 million

[291] *Arctic Tale* (2007) features narration by Queen Latifah that is similar to Freeman's, however, the film places blame for the loss of arctic wildlife directly on humanity. Though it was widely advertised on television and in Starbucks coffee shops, the film made only $833,000 at the box office." Enberger, Daniel. "March of the Lesbian Walruses." *Slate*. (July 26, 2007: < http://www.slate.com/id/2171212/>.

[292] As mentioned above, Warner Bros. planned cross-promote the film from the early on. Ibid.

[293] In the Gameboy game players are required to solve puzzles and navigate mazes in order to help the penguins migrate inland, find food, and care for their chicks. As the penguins march from one end of the level to the other the player must plant objects along their path to help the birds navigate various hills and reach the end without falling into the water.

internationally, making it the second highest-grossing documentary film in history behind *Fahrenheit 9/11* (Michael Moore, 2004).

Capitalizing on the success of *March of the Penguins*, Warner Brothers had a year from the film's DVD release in November 2005 to generate interest in its animated penguin film. A trailer for *Happy Feet* was included on the *March* DVD. According to Village Roadshow CEO Bruce Berman, "No one anticipated this when we greenlit the movie four years ago. . . . There is no way of measuring the impact, but 'March of the Penguins' prepped the culture to view penguins as entertaining animals."[294] In his Oscar speech, Jacquet made no mention of the changes Warner Bros. made to the film. Instead he sought to reclaim the film's environmental meaning, "I'd like to dedicate this statuette to all the children in the world who saw that movie. In 2041 they will decide to ruin or not, the treaty that protects Antarctica. I will, maybe the *March of the Penguins* will, inspire them." At Jacquet's request, the studio included an episode of the National Geographic program "Crittercam" on the film's DVD. The "Crittercam" episode discusses the threat facing penguins due to global warming.

Happy Feet enjoyed all the resources of a blockbuster marketing campaign, including a massive television and print marketing campaign, character toys, a restaurant tie-in, video games, and clothing. According to *Variety*, "In plotting the marketing campaign, Warners treated "Happy Feet" as an event movie instead of an animated

[294] Village Roadshow is an Australian production company that partnered with Animal Logic and Warner Brothers on *Happy Feet*. McClintock, Pamela and Ben Fritz. "The Happy Feet Feat." Variety (Dec. 27, 2006): <http://www.variety.com/article/VR1117956343>.

family pic."[295] As evidence that Warner Brothers also noticed the public's increasing interest in global warming, the studio launched an environmental initiatives website in early 2006 to promote *Happy Feet* as an environmental film. Not only did the website call attention to the studio's recycling and sustainability efforts, on a cross-promotional page for *March of the Penguins*, Warner conceded that "Ultimately, however, it seems the biggest threat to their survival is not leopard seals or ice storms, but global warming."[296] Primed for success by *March of the Penguins* and *An Inconvenient Truth*, *Happy Feet* performed particularly well in the U.S., where it knocked the James Bond film *Casino Royale* from atop the box-office charts and earned more than 50% of its $386 million global box-office take.

Happy Feet was still in production when Warner Brothers purchased *March of the Penguins* and it is difficult not to read *Happy Feet*'s portrayal of penguins as a cinematic response to the wildlife film. Love inundates both films but Miller uses love in part to critique fundamentalism and nostalgia for the nuclear family by inviting identification with an individual who must break away from his family and community in order to achieve both global and self-realization. *Happy Feet* follows the adventures of the film's eco-cosmopolitan hero, Mumble (voiced by Elijah Wood and danced by Savion Glover), as he attempts to simultaneously solve the mystery of the penguins' dwindling fish

[295] *Variety* reports, "The heavyweight list of marketing partners included Comcast, Blockbuster, Taubman Malls (operator of the Beverly Center), Doubletree Hotels and General Mills.And in a first, pharmaceutical giant Roche used "Happy Feet" as the centerpiece of its multimillion-dollar flu vaccine campaign." Ibid.

[296] "Movie Cross-Promotions: March of the Penguins (Global Warming)." Warner Bros. Studios Environmental Initiatives. (Accessed June 14, 2007): <www.wbenvironmental.warnerbros.com/>. This website has subsequently been removed and replaced by Warner Bros. corporate responsibility website: http://www.wbcitizenship.com.

supply and win the heart of Gloria, the girl of his dreams.[297] Mumble accomplishes both missions when he returns to Antarctica accompanied by a crew of scientists, whose images of the dancing birds lead the United Nations to ban all marine harvesting (over the protests of the American ambassador).

Troubling *March of Penguin*'s definition of love, *Happy Feet* makes a frontal assault on fundamentalist perceptions of environmental catastrophe. Early in the film, using sweeping camera work more aligned with a Hollywood epic than a wildlife film, the narrative portrays the huddled males chanting under the direction of their leader, a William Bradford-like puritan elder named Noah (Hugo Weaving). As the penguins chant, an image of their penguin god materializes on screen. This sequence serves to anthropomorphize the penguins as monotheistic Judeo-Christians who perceive that god (aka the Great 'Guin) has created them in his own image. According to the dominant ideology of the conservative penguin elders, all things, including the survival of the flock during the winter and such problems as the disappearing fish are the work of the "Great 'Guin". The male penguins' religious chant thus serves to keep the group focused on their collective survival while convincing the Great 'Guin to fill their bellies fills with fish. This scene foreshadows Noah's later claim that the depleted fish supplies are evidence that the "Great 'Guin" is displeased with the penguins for acts of immoral behavior such as Mumble's dancing. This sequence operates as a visual metaphor of the conservative ideology that ecological problems such as plummeting fish stocks and global warming

[297] Heise, Ursula. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. (Oxford: Oxford UP, 2008).

are all part of natural cycles rather than human induced. As Mumble will later prove, however, humans, not a god are soley responsible for the loss of fish.

Formally, *Happy Feet* draws heavily upon the traditions of Disney and Warner animation and a subgenre of environmental animation which is described by Nicole Starosielski in her paper "Animating the Environment." According to Starosielski, animated films seeking to represent environmental perspectives for a mass audience must "compromise between, on the one hand, traditional narratives grounded in racial and national [to which I would add gender] distinctions and on the other, experimental representation that emphasizes elasticity and solicits an engaged viewer."[298] Viewer identification with Mumble and sympathy for his plight are thus crucial to the film's ostensible aim of encouraging political action on behalf of penguins. An allusion to H.a.l. in Stanley Kubrick's *2001* (1968), the mad cyborgian penguin Mumble first encounters in the aquarium is unwilling to meet Mumbles' gaze and unable to comprehend the unreality of zoo life. The camera's perspective stays with the hero as he attempts to walk into the landscape painted on the enclosure's walls. Lines indicating where two sections of wall are bolted together appear only as they become apparent to the character. Jumping into the "really real" water and swimming to the glass, Mumble encounters humans for the first time. A later shot in this sequence portrays Mumble's enclosure from the perceptive of other aquarium visitors. As the camera pulls back to reveal Mumble looking desperately through the glass while a young boy sits in the foreground with his back to the exhibit glass. The boy ignores the penguins his parents brought him

[298] Nicole Starolieski, "Animating the Environment: Media Technologies and Environmental Messages in FernGully: The Last Rainforest," Society for Cinema and Media Studies Conference (March 6, 2008).

to the zoo too see, choosing instead to play his handheld videogame. This is a moment of zoomorphism because the viewer is invited to reflect on experience through the layering of the penguin's perspective with the viewer's prior experience and perceptions of real aquariums.

Similar to *Bambi*, which is considered the earliest example of environmental animation, *Happy Feet* portrays the disruption of nature by humans and their machines. In *Bambi*, Disney artists combined heightened realism and emotional engagement. The effect on the viewer, as we watch the scene in which Bambi's mother is shot and killed, explains Whitley, is that:

> [W]e are aware throughout of how the animal's attention is directed towards the world around them and how this, in turn, shapes our empathetic engagement. At each stage it is the animals' gaze that directs us. . . . 'Facts' may be distorted but the process of engagement and the sensitivity to nature that the film encourages have a capacity to connect with viewers in a more fundamental way. [299]

As he jumps into the water and swims to the glass, Mumble has a similar encounter with humans. No moment in the film is so telling as when a CGI woman who seems to have made eye contact with Mumbles turns out to be gazing only at her own reflection in the glass. We go to the aquarium and see ourselves, our own culture, not nature, Miller's film argues. Mumbles' salvation comes in the form of an innocent little girl, the first person to really *see* Mumbles and his attempts to communicate through dance. Do we have to wait until penguins dance for us, the film asks, before we recognize them as companion species?

In her essay, "Dancing Penguins and a Pretentious Raccoon: Animated Animals and Twenty-First Century Environmentalism," Sarah E. McFarland concludes that

[299] Ibid., 77.

because films like *Happy Feet* and *Over the Hedge* (2006) end happily and do not cause viewers to leave audiences with an sense of urgency and plan of action that they are not genuinely ecocinema. Instead, she argues, "these films exploit current concerns about the environment and animal rights while simultaneously sanctioning our inaction in both cases."[300] From a strictly bio-centric environmentalist perspective *Happy Feet* may have failed to provoke the mass demonstrations it depicts in its dénouement, but such ideologically charged narratives rarely perform so well with critics and at the box office. Animation and melodrama combine to invite viewers to shift the perceptual and moral frames through which they typically look at penguins.

Again, both of these films use cinematic techniques to exploit viewers' emotional and moral engagement, yet *Happy Feet* makes political discourse central to its narrative while *March of the Penguins* offers beauty in service of the same goal – drawing the public's gaze to penguins in a time of crisis. What conclusions one can draw about the ethical and political implications of these approaches is debatable. In both cases, cinematic form is wedded to political meaning. I contend that *Happy Feet* may have more to teach us than the "real" wildlife film because in some key ways it is a more accurate account of the risks facing penguins in the late modern world. According to Bill Nichols in fiction film, "there is a centrifugal pull on elements of authenticity away from their historical referent and toward their relevance to plot and story. Documentary, on the other hand, takes up and uses an *indexical* relation to the historical world."[301] *Happy Feet* participated in shifting the cultural logic of ecology by troubling viewers' notions of what

[300] McFarland, Sarah. "Dancing Penguins and a Pretentious Raccoon: Animated Animals and 21st Century Environmentalism." *Animals & Agency: An Interdisciplinary Exploration* (Boston: Brill, 2009): 89-105.

[301] Nichols, Bill. *Representing Reality: Issues and Concepts in Documentary* (Bloomington: Indiana UP, 1991): 116.

counts as documentary and what we can only regard as convenient fiction. *Happy Feet* accomplishes this feat by using the animated form and a melodramatic storyline to direct foregrounding connections between animals, people, and environments in its narrative and themes.

CHAPTER IV

SOMETHING HORRIBLY EFFICIENT: *THERE WILL BE BLOOD* (2007)

"Realism in art can only be achieved in one way—through artifice."[302]
~ André Bazin, What is Cinema? *(1971)*

With immense cultural and carbon footprints, contemporary Hollywood films offer important reference points for a society struggling to grasp the scope of a social and environmental problem as elusive and seemingly intangible as climate change. As my introduction argues, during the first decade of the twenty-first century the cultural logic of ecology in the United States began to shift in response to the inescapable reality that human industrial activities are having a measurable and sustained warming effect on the earth's atmosphere and oceans.[303] If Roland Emmerich's 2004 summer popcorn blockbuster, *The Day After Tomorrow*, the first film to directly portray an abrupt climate shift caused by global warming, marks an appropriate jumping off point for examining what I describe as a transitional period in the cultural logic of ecology, then P.T. Anderson's prestige hit, *There Will Be Blood*, released in December 2007, marks an appropriate conclusion.

There Will Be Blood's critical reception contrasts sharply with that of *The Day After Tomorrow*, which was widely panned by professional film reviewers like Moira Macdonald of the *Seattle Times* as a "silly disaster flick," which "gets a failing grade for

[302] Bazin elaborates, "[T]he 'art' of cinema lives off this contradiction. It gets the most out of the potential for abstraction and symbolism provided by the present limits of the screen, but . . . it can magnify or neutralize the effectiveness of the elements of reality that the camera captures." Bazin, André. "An Aesthetic of Reality." *What is Cinema?* Vol. II. Berkeley: University of California Press, 1971: 26.

[303] The United States Environmental Protection Agency and the American Petroleum Institute are two of the many thousands of private and government organizations now responding to climate change. The EPA website is available at <http://www.epa.gov/climatechange/>. Although the API does not openly accept the scientific consensus on climate change, the organization does claim on its web site that the major petroleum firms have begun taking steps to reduce greenhouse gas emissions: <http://www.api.org/ehs/climate/>.

science – and entertainment."[304] Anderson's film not only won Oscars for Best Actor (Daniel-Day Lewis) and Best Cinematography (Robert Elswit), it was also selected as the best film of 2007 by more than twenty professional film reviewers, including Manohla Dargis of the *New York Times,* Lisa Schwarbaum of *Entertainment Weekly,* and Scott Foundas of *LA Weekly*.[305] In addition to praising the film's aesthetic qualities, nearly all of these critics read the film's historical setting in relationship to contemporary political events in the United States. *Time Out New York,* for example, claimed, "As an oblique critique of Bush II's self-made power brokers and winner-take-all capitalism, *There Will Be Blood* cuts to the bone. As the work of a visionary artist, it's truly *sui generic*."[306] Over the following year the film's reputation continued to grow. In his analysis of thirty-seven film critics' "top ten films of the decade" lists, Jason Dietz of *Metacritic* finds that *There Will be Blood* emerged as the most critically acclaimed film of the decade.[307]

In this chapter, I provide a close textual reading of *There Will Be Blood* in order to consider why the film resonated so deeply with reviewers and to situate the film's role in the American cultural logic of ecology. *There Will Be Blood* performed particularly well in the U.S., where it earned more than fifty-two percent of its $76 million global box office take. The film's critique of oil, capitalism, and patriarchy were read by many

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[304] Macdonald, Moira. "The Day After Tomorrow Gets a Failing Grade for Science—and Entertainment." *The Seattle Times* (June 1, 2004): <http://seattletimes.nwsource.com/html/movies/2001940445_day28.html>.

[305] The film was listed on the top ten lists of at least a dozen other professional reviewers. Information about the film's critical reception and links to original reviews are available online at Wikipedia: <http://en.wikipedia.org/wiki/There_Will_Be_Blood>.

[306] "The TONY Top 50 Movies of the Decade." TimeOut.com (Nov. 25, 2009): <http://newyork.timeout.com/arts-culture/film/56542/the-tony-top-50-movies-of-the-decade>.

[307] Dietz, Jason. "Film Critics Pick the Best Movies of the Decade." *Metacritic* (Jan. 3, 2010): <http://www.metacritic.com/feature/film-critics-pick-the-best-movies-of-the-decade>.

professional film reviewers as telling indicators of American's growing concern over the policies of President George W. Bush and the relationship between fossil fuel consumption and global warming. As I discuss in the conclusion to this chapter, however, the fact all of the film's reviewers neglected to mention that Anderson's production methods stand in direct contrast to the critique of oil and excess made in his film. This fact too is a telling indicator that although American's awareness of climate change had reached a tipping point by 2008, this awareness had only barely begun to translate into meaningful actions like the adoption of sustainable production methods within the film industry.

Fracturing Patriarchy's 'Grand Narrative'

In her 1995 essay "Reinventing Eden," Carolyn Merchant examines what she calls the grand narrative driving the development of Western civilization, the cultivation of wilderness and the exploitation of natural resources in the service of recreating the biblical Garden of Eden as described in Genesis. Industrial modernity's catastrophic impact on the planet has depended, according to Merchant, on the cooperation of modern science, Christian religion, and capitalism.[308] Over the course of American literary and cinematic history, a significant number of critiques of Western industrialization have sought to explain how capitalism, religion, and science cooperate to fill the coffers of the elites at the expense of the environment and the general public. *There Will Be Blood* eschews the social realism of Sinclair's 1927 novel *Oil!* (which critiques the California oil boom of the 1920s); however, in favor of a melodramatic allegory of capitalism

[308] Merchant, Carolyn. "Reinventing Eden: Western Culture as a Recovery Narrative." *Uncommon Ground: Toward Reinventing Nature*. [Ed.] William Cronon. New York: W.W. Norton, 1995: 133.

versus Christianity, a narrative developed through larger than life characters which serve as symbols for sociopolitical constructs.[309] Anderson's film employs melodrama to portray the relationship between capitalism and religion as one of competition, a move which situates the film as a unique critique of the grand narrative Merchant describes.

Although it is a melodrama, *There Will Be Blood* can be best be understood through the lens of Katherine Woodward work on "anti-melodrama," a term she coined in her examination of films by Godard, Truffaut, and Fassbinder. Unlike the other film melodramas discussed in this project, Anderson's film seeks to both block and invite viewers from becoming emotionally and psychologically sutured to the text by employing audio and visual techniques that call attention to the filmic construct.[310] Most significantly, Johnny Greenwood's atonal, avant-garde score is foregrounded throughout the film, a technique which at times pushes the viewer away from the emotional intensity of the frame and into a position that calls for reflection upon the narrative at a critical distance.[311] On one hand Anderson (as in his previous films as, *Boogie Nights, Magnolia*, and *Punch-Drunk Love*) invites the viewer to experience the narrative's emotional intensity by creating melodrama characters and plot elements. On the other hand, the film employs the aesthetic techniques of anti-melodrama (such as naturalistic

[309] In his 1927 novel *Oil!*, Upton Sinclair exposes the social and environmental costs the California oil boom through the story of Bunny Ross, the son of an independent oilman. In the film Bunny is depicted as H.W. Plainview. Bunny's father, James Arnold Ross (depicted in the film as Daniel Plainview), is a former mule driver who made his fortune in California. Ross educates his son about the tools and methods used for oil drilling in the 1920s. After witnessing the devious business strategies employed by oilmen, Bunny proves uninterested in continuing the family business.

[310] Woodward, Katherine S. "European Anti-Melodrama: Godard, Truffaut, and Fassbinder." *Imitations of Life: A Reader on Film & Television Melodrama*. Ed. Marcia Landy. Detroit: Wayne State UP, 586.

[311] Greenwood is guitarist and keyboard player for the popular rock band Radiohead.

acting, minimal camera movement, long takes, and musical counterpoint) to remind viewers of its sophisticated use of cinematic form.

There Will Be Blood complicates Merchant's notion of a "grand narrative" by employing the melodramatic mode to tell the fictional story of oilman Daniel Plainview's rise to wealth and corruption in the early twentieth century. Metaphorically, the film articulates the fractured relationship between capitalism and religion in the early twenty-first century. The film employs a self-aware style of melodrama yet cannot be described as fully giving itself over to anti-melodrama. Instead Anderson employs metaphors of power. The films characters are Manichean symbols of the Bush/Cheney era, an administration which employed religious rhetoric as a means of furthering American capitalist aims, particularly in its framing of such issues as global warming and the invasion of Iraq. The deep competition between capitalism and religion over the nation's moral center is depicted through the struggle between the film's two morally bankrupt anti-heroes, Daniel Plainview (Daniel Day-Lewis) and Eli Sunday (Paul Dano) and is made strikingly clear in the film's closing scene, in which Plainview clubs Sunday to death with a bowling pin. When religion no longer serves the interests of capitalism it can be dispatched. Like Plainview's son H.W. (whose name alludes to President George H.W. Bush), America, the film argues, has been baptized in oil.

There Will Be Blood problemitizes the grand narrative described by Merchant by arguing that capitalism and religion are engaged in deep competition for control over a society whose addiction to oil allows has enabled the ideology of capitalist consumption to flourish at the expense of environmental stewardship. In order to interrogate this claim, this chapter explores how gender serves a crucial role in the film's critique of

spiritual and natural resource exploitation. As in many Westerns, *There Will Be Blood* focuses its energies on constructing and critiquing notions of masculinity. Female characters play only minor roles, serving instead as symbolic terrain. Both women and the land serve as terrain to be colonized and exploited by men. This gender construction relies in part on a use of land to reflect and comment upon character psychology. Anderson's use of setting in combination with Greenwood's score exploits the physical environment to perform a vital role in the film's construction of meaning. As narrative unfolds, oil becomes part and parcel of Plainview's character.

There Will Be Blood employs techniques of realism and naturalism to heighten the emotional pull of its melodramatic narrative. The incorporation of realistic scenarios and settings into melodrama is a key aspect of the mode examined by Linda Williams in her essay "Melodrama Revised." In her study, Williams demonstrates that for the vast majority of Hollywood films:

> Supposedly realist cinematic *effects*—whether of setting, action or narrative motivation—most often operate in the service of melodramatic *affects*. . . . If emotional and moral registers are sounded, if a work invites us to feel sympathy for the virtues of beset victims, if the narrative trajectory is ultimately more concerned with a retrieval and staging of innocence than with the psychological causes of motives and actions, then the operative mode is melodrama. [312]

There will be Blood borrows from the conventions of realism in a number of ways: it relies on continuity editing and subtle camera movement to draw the viewer into narrative; it was shot on location in west Texas; Anderson and his production team researched and recreated the era's mining and oil production techniques in built sets, part of the film's painstaking attention to historical accuracy; cinematographer Robert Elswit

[312] Williams, Linda. "Melodrama Revised." *Refiguring American Film Genres*. Ed. Nick Browne. Berkeley: University of California Press, 1998: 67-68.

shot the film entirely on celluloid film stock; Anderson employed only minimal digital editing in post-production; and the film's star, Daniel Day-Lewis, immersed himself fully into his roles, remaining in character on and off set during production. In the space of the text, however, these realistic elements are put into the service of the melodramatic narrative and its revelation of moral truths. The film draws attention to itself as a cinematic construct to call viewers' attention to the world outside the cinema while maintaining its melodramatic trajectory to keep viewers interested in the story.

One example of a telling shot in the film that underscores how the film operates as a metaphor for contemporary issues comes when Plainview and H.W. head into the town of Little Boston to search the Sunday farm for oil. A locomotive is centered in the frame as it heads down the tracks toward town. As Leo Marx notes in *The Machine in the Garden* (1968), a study that anticipated the development of environmental criticism, by the second half of the nineteenth century, the railroad was the ultimate symbol of the American conquest of the great Western wilderness.[313] Centering the train in the frame evokes the dominant metaphor of humanity's intervention into wilderness in the nineteenth century. Slowly, however, the camera pans slightly to the right as the Plainviews emerge on the right hand side of the screen speeding past the train in an automobile. While at one level this shot serves as an establishing shot that introduces the characters as arriving in Little Boston, the framing also alludes to the importance of oil as the automobile began to surpass the train as American's primary form of transportation. Anderson's film looks ahead from 1902 to 2007 and reflects an American imagination in which the automobile serves simultaneously as a symbol of American progress and

[313] Marx, Leo. *The Machine in the Garden: Technology and the Pastoral Ideal in America*. New York: Oxford UP, 1964: 16-17.

reminder that gasoline prices outside the theater had reached $3 in 2006. The film's bleak message clearly resonated with reviewers as gasoline prices continued to rise during the film's theatrical run. Prices hit $4 per gallon by the summer of 2008 and crude oil futures hit a record high of $145 per barrel.[314] In her review, Manohla Dargis argued that the film "can certainly be viewed through the smeary window that looks onto the larger world. It's timeless and topical, general and specific."[315] While Anderson's previous films had already made him a favorite among reviewers and while he could not have predicted the sudden spike in gasoline prices, there is no doubt that oil was on the minds of viewers and critics during the period of the film's release and accounts at least in part for the film's success at the American box office.

The film sustains its critique of oil and patriarchy not least through Anderson's choice to substitute Sinclair Lewis's original protagonist (Bunny Ross, the son of a California oilman) with the allegorical figure of Daniel Plainview and adding preacher Eli Sunday to the narrative. Plainview is the film's anti-protagonist; in him the figure of the American capitalist meets the Western hero. Alone in the New Mexico desert during the film's opening scenes – fifteen minutes filled with intense music and barely a word of dialogue – Plainview battles the heat and suffocation of his mine shaft, drags himself into

[314] In comparison crude oil prices averaged approximately $20 in 2000 and $63 in 2006. University of San Diego economist James D. Hamilton argues that the spike in oil prices between 2007-08 – which subsequently dropped below $40 per gallon in December 2008 during the Great Recession – can be attributed to rising global demand for oil and a stagnation in global production from 2005-07 caused by the Gulf Hurricanes in 2005, the war in Iraq, and civil conflict in Nigeria. Hamilton, James D. "Causes and Consequences of the Oil Shock of 2007-08." *Brookings Papers on Economic Activity*. (Spring 2009): 215-259; Isidore, Chris. "New Worry for Drivers: BP Shuts Oilfield." CNN (Aug. 8, 2006): <http://money.cnn.com/2006/08/07/news/international/oil_alaska/index.htm>; and "Crude Oil Price History" New York Stock Exchange (Accessed: Jan. 15, 2010): <http://www.nyse.tv/crude-oil-price-history.htm>.

[315] Dargis, Manhola, "An American Primitive, Forged in a Crucible of Blood and Oil." *New York Times* (Dec. 26, 2007): <http://movies.nytimes.com/2007/12/26/movies/26bloo.html>.2

town with a broken leg he suffered during a fall into the mine, cashes in a nugget of silver for a few dollars, and invests the money in oil exploration which soon begins to pay him dividends. The film's two opening shots are crucial for identifying him as an American hero. The first shot of a stark New Mexico wilderness cuts to Plainview toiling alone in his silver mine with his pickaxe. The solitary white man exploiting nature for personal gain, Plainview embodies Ella Shohat and Robert Stam's figure of the American Adam. Alone in the desert, away from the temptations of the Eve represented by women and feminized urban culture, the American Adam appears as a "fundamentally innocent" figure through whom the discourses of colonization and patriarchy are woven together.[316] Plainview is the quintessential American hero, pulling himself up by the bootstraps and enduring virtuous suffering in order for his entrepreneurial spirit to be rewarded with the riches earned through his labor in the earth.

Plainview exploits this image when he speaks to a crowd of land owners gathered in Little Boston. He asks the crowd not to be insulted if he brings up the fact that the land is so dry the people cannot grow wheat for bread. As Plainview rattles off a list of such benefits as irrigation and education that will follow the oil drilling, Anderson cross-cuts between images of workers arriving in Little Boston and beginning the process of building up the town and church. In his *New Yorker* review, David Denby reads the film as "a kind of allegory of American development in which two overwhelming forces—entrepreneurial capitalism and evangelism—both operate on the boarder of fraudulence;

[316] Shohat, Ella and Robert Stam. *Unthinking Eurocentrism: Multiculturalism and the Media*. London: Routledge, 1994: 141.

together, they will build Southern California."[317] Thanks to industrial progress, Plainview implies, the desert can be cultivated and flourish as Eden. Adam, cast of out the garden can return his people to it by exploiting natural resources and introducing modern industrial civilization to the wilderness.

Similar to many of John Ford's westerns, *There Will Be Blood*'s opening shot of empty wilderness places the viewer in the position of identifying the hero in relationship to his conquering of the desolate landscape, playing into the typical American view of the wilderness as empty, a convenient position that masks the violent suppression of native people as well as the inevitable environmental problems that result from resource extraction. According to Shohat and Stamm:

> Central to the western is the land. . . . The land is regarded as both empty and virgin, and at the same time superinscribed with Biblical symbolism . . . . A binary division pits sinister wilderness against beautiful garden, with the former 'inevitably' giving way before the latter. The dry, desert terrain furnishes an empty stage for the play of expansionist fantasies.[318]

Yet if a typical Western valorizes the entrepreneur who penetrates the virgin land to extract its mineral treasures, here the film asks us to consider whether or not the violation of the land risks natural consequences. Greenwood's score in this initial scene consists of a single dissonant chord that slowly increases in pitch and volume over twenty seconds as a still shot of the desert remains on screen. As David Ingram notes in his influential examination of cinematic depictions of environment, *Green Screen*, "the meaning of a shot is context-dependent, being produced not only by that shot's relationship with other elements in the film, but also by the filmic spectator's prior knowledge which he or she

[317] Denby, David. "Hard Life." *The New Yorker*. (Dec. 12, 2007): <http://www.newyorker.com/arts/critics/cinema/2007/12/17/071217crci_cinema_denby>.

[318] Shohot and Stam, Ibid., 116.

brings to the viewing process."[319] What Ingram is getting at is that contrary to the argument maintained by such critics as Jane Tompkins that cinematography inherently reinforces an ideology of humanity's domination over nature, it is possible for a film to juxtapose cinematography and sound for more critical ends.[320] Here the film makes use of sound to encourage the viewer to read against the grain of the scenic landscapes evoked by Ford by foregoing the naturalistic orchestral score typical of Westerns and composing the opening scene with a note that could only be produced by synthesizer. In this way the score calls attention to the film's use of technology and thus deconstructs the "natural" landscape represented in the accompanying image.

There Will Be Blood invites critical spectatorship through its formal aspects. The opening bars of Greenwood's score, which accompany the opening shot of desert hills framed by unmoving clouds, recalls the score for the scene in Kubrick's *2001: A Space Odyssey* (1968) when the seemingly natural desert landscape is interrupted by the arrival of the black monolith. The film calls attention to its own construction from the opening bars of the scores and initial shots, immediately positioning the viewer at a critical distance from narrative. Greenwood's score, juxtaposed with the opening shot of the New Mexico desert, thus raises such questions as whether or not Plainview's labor in the earth is a violation of or progression of natural order. As Caryl Flinn notes in her examination of music in Fassbinder's films, the score can play a key role in setting the viewer at a

[319] Ingram, David. *Green Screen: Environmentalism and Hollywood Cinema*. Exeter: University of Exeter Press, 2000: 34.

[320] Tomkins, Jane. *West of Everything: The Inner Life of Westerns*. New York: Oxford UP, 1992: 10-12.

distance from the text.[321] Greenwood's score invites the viewer to step back from the images on the screen and recognize that Plainview's efforts in the mine as representing industrial progress as a disruption of nature.

This film is not, however, an avant-garde film. Similar to Sirkian melodrama its critique is produced without radically altering the conventions of Hollywood cinema. While highly stylized, like all of Anderson's films it attempts to engage mainstream audiences as well as arthouse viewers. Rather than constantly pushing back at the viewer the film often pulls the viewer in to its pathos, only to push back again at crucial moments in order maintain the rhetorical tension. Reviewers of the film have been nearly unanimous that despite its 158 minute runtime, the film never releases its emotional grip on the audience.

The film's use of melodrama to present a complex character study of Plainview is crucial to its broader aims of critiquing capitalism because melodrama displaces the anxieties of the public/business world into the affairs of the family. Thus it is important to consider how Plainview's concepts of family and gender identity are constructed because they simultaneously represent the broader workings of patriarchy (such as resource extraction). When Plainview begins to care for the infant son of an employee killed in a well accident early in the narrative, his tenderness toward the child demonstrates the film's awareness that viewers of melodrama come in to each film with an expectation that innocence must be represented as achievable before being lost. H.W. offers a key to the filmic construction of Plainview's masculinity. Literally baptized with the oil of

[321] "Fassbinder's scores, for example, often turn in on the sentimentalisation of musical excess, sometimes by denying it altogether." Flinn, Caryl. "Music and the Melodramatic Past of New German Cinema." *Melodrama: Stage, Picture, Screen*. Eds. Jacky Bratton, Jim Cook, and Christine Glendhill. New York: Palgrave, 1994: 109-110.

Plainview's first strike, H.W. embodies a space of innocence that remains seemingly incorruptible throughout the narrative. Dargis contends that it is precisely Plainview's "intense, needful bond with H.W. that raises the stakes and gives enormous emotional force to this expansively imagined period story with its pictorial and historical sweep."[322]

H.W.'s embodiment of innocence becomes increasingly important to the film's metaphoric themes as the narrative progresses. Plainview is shown to be taking advantage of the boy, raising him as his own son so that he can play on people's emotions by claiming that his wife died in childbirth and that he runs a family business. Claiming that H.W. is his son is also crucial to Plainview's construction of his hypermasculine gender identity. As a single man entirely uninterested in women and raising an orphan child, Plainview presents an atypical portrait of patriarchy. Yet the film's characters never reach the point of raising such questions; no one has reason to suspect that H.W. is not Plainview's son. Instead, Plainview is able to use H.W. to his advantage in business transactions. In his opening speech, which begins in voice-over as he sits aboard the train with the infant, Plainview tells the crowd that H.W. is his son and partner and that, "we offer you the bond of family." In the next scene, Plainview convinces an older couple to sell him their land. Looking askance at him the wife asks Plainview about his wife, to which he responds that she died in childbirth. He thus appears as a both a securely masculine businessman and caring father, comfortable in the homosocial world of the oil business as well as at the bargaining table where a little humanity goes a long way. His masculinity and notions of family are constructed to achieve the best possible business

[322] Dargis, ibid.

results. And as the narrative progresses, Plainview's exploitation of H.W. deepens and becomes more directly connected to the films critique of capitalism and religion.

In describing Plainview as a complex character, ambiguous in his relationship toward his son, the previous paragraphs may have seemed to be moving away from my central claim that Plainview serves primarily as symbolic metaphor for capitalism. But as Chuck Kleinhans articulates in his 1978 article, "Notes on the Family Melodrama under Capitalism," in the melodrama the personal becomes political as family struggles serve as metaphor for the individual's struggles under capitalism.[323] In the case of Daniel Plainview, his exploitation of his son as a business tool is crucial to his metaphoric positioning as an archetypal capitalist. Plainview crosses the line between family and capitalism and in doing so becomes villainous. In the tradition of such capitalist moguls as Charles Foster Kane and *Chinatown*'s Noah Cross, Plainview puts business before all else. This critique of his character is made clear in the sequence of events that follow an oil derrick accident that leaves H.W. deafened.

The film's most dramatic use of spectacle serves to both engross the viewer in the powerful display of an oil derrick fire while simultaneously marking a line Plainview crosses in his march to monstrosity. After rushing to H.W.'s rescue, carrying him to the mess hall and out of harm's way, Plainview turns his back on the boy to take care of the business at hand and contain the oil. At first, Plainview must look after the safety of his entire crew, and so his decision to leave H.W. in order to deal with the situation at hand appears justified. Yet as the sequence progresses it becomes increasingly clear that Plainview cares more for his business gains than his adopted son. As the oil ignites into

[323] Kleinhans, Chuck. "Notes on Melodrama and the Family under Capitalism." (1978). *Imitations of Life: A Reader on Film & Television Melodrama*. Ed. Marcia Landy. Detroit: Wayne State UP, 1991: 197-204.

an inferno, Anderson employs the flames in the service of emotional affect. The scenes serves less as a document of the dangers of oil drilling than primarily as a representation of the fire raging in the heart of the capitalist as he sees the potential of soaring profits in his future.

Plainview comes to embody the capitalist spirit, putting profit before family. His transition from individual to metaphor is completed in one of the film's most remarked upon shots. Anderson cuts between shots of the blaze and Plainview standing with his assistant Fletcher Hamilton (Ciarán Hinds). At one point Plainview asks Hamilton, "What are you looking so miserable about? There's a whole ocean of oil under our feet and nobody can get at it but me." As Hamilton inquires about H.W. and rushes off to take care of him, Plainview simply stands with his hands on his knees, his face smeared with oil as he smiles the full grin of a capitalist more pleased with his financial success than worried about his personal tragedy. The camera pulls in to a medium close-up of Plainview and the inferno's flames are reflected in his eyes. The shot unfolds effectively naturalizes the relationship between the character and his environment. Here, Greenwood's score works as melodramatic punctuation pulling the viewer into the heart of Plainview's darkness, pounding out its rhythm while the fire burns. The rhythmic beat of the music evokes a human heartbeat, a sound whose tempo and bass tones are thought to have a strong impact on listeners. As film music historian Kathryn Kalinak explains, "Film music short circuit's consciousness . . . 'bypassing the usual censors of preconscious,' facilitating the hypnotic power of film and encouraging us to regress to a place of complete psychic satisfaction."[324] The naturalism of the shot invites the viewer

[324] Kalinak, Kathryn. *Film Music*. Oxford: Oxford UP, 2010: 30.

further critique Plainview's psychological motivation in the narrative.[325] An ecocritical perspective, however, requires the viewer to further step back and examine how this moment of naturalism masks the environmental damage that resulted from the film's production.

Melodramatic and Material Excess

As I discussed my second chapter, images of fossil fuel consumption (and thus climate change) have been with us since beginning of cinema, first captured by cinematographer Kamill Serf in the 1896 Lumière single-reel film, "Oil Wells of Baku: Close View." While we cannot know with certainty how individual viewers at the time perceived the thirty-six second image of flames and smoke billowing from a burning oil well in Baku, Azerbaijan (where humans have been extracting oil for "some 3000 years"), it is likely that the film was generally regarded as an example of cinematic spectacle rather than evidence of an immediate environmental disaster. I am basing this assumption, of course, on Tom Gunning's seminal theorization of early film spectatorship as a "cinema of attractions". Gunning has demonstrated that "rather than mistaking the image for reality, the [nineteenth-century] spectator is astonished by its transformation through the new illusion of projected motion."[326] In other words, audiences would likely have been moved by their internal reaction to the Baku film's cinematic artifice rather than the external reality of ecological destruction represented in

[325] Although the histories of literary and cinematic naturalism are complex, they share an assumption that became common in the nineteenth century as "character and action were seen as affected or determined by environment." Williams, Raymond. *Keywords*. London: Oxford UP, 1976: 181-183.

[326] Gunning, Tom. "An Aesthetic of Astonishment: Early Film and the (In)Credulous Spectator." *Film Theory and Criticism*. Sixth Edition. Eds. Leo Braudy and Marshall Cohen. New York: Oxford UP, 2004: 863.

the film. Historical evidence suggests this reading as well. [327] Viewing the film from an ecocritical perspective, however, Robin L. Murray and Joseph K. Heumann argue instead that "more than just spectacle, these obfuscating clouds of smoke . . . signify humans' rape of the landscape for personal gain—oil at any price to the natural world."[328] Similarly, an ecocritical perspective compels the viewer to experience the burning oil well in *There Will Be Blood* both as an aspect of the film's narrative and an image of environmental disaster that escapes from and pushes back upon the cinematic narrative.

It becomes deeply problematic to read *There Will Be Blood* as ecocinema when one considers the environmental damage caused by the film's production. As noted above, digital effects were kept a bare minimum, and the set piece was shot on location so technicians could ignite an oil derrick built to scale by the production crew. The film's melodramatic excess reflects its production excess. In an interview on the show *Fresh Air*, Anderson explained to host Terry Gross that in order to film this sequence as realistically as possible the crew relocated to Texas in order to ignite the tens of thousands of gallons of diesel which burned during the shooting of the film's set piece. According to Anderson, "To be really honest with you it was kind of one of the benefits of shooting out in west Texas because they're a lot looser out there, you know. I don't

[327] Upon visiting Baku around 1910, historian V.W. Jackson, for example, compared such "gushers to monsters and geysers, but the description he provides emphasizes their sublime [timelessness] rather than their [immediate] destructive force." Qtd. in Murray, Robin L. and Joseph K. Heumann, *Ecology and Popular Film: Cinema on the Edge*. Albany: SUNY Press, 2009: 23.

[328] Ibid., 21.

think we could have done anything like that in California. They would've had a heart attack out there."[329]

Recognizing that the film is drenched in its own excess is significant for viewers given the lengths to which Anderson goes in making his critique of oil extraction. Anderson was clearly more concerned with the importance of this scene for developing Plainview's character and his critique of American oil culture than he was with environmental impact that his production methods might have. Dripping in oil by the end of the oil fire scene, Plainview becomes by the end of film a creature of oil, less a man than a monster. Following H.W.'s accident, the boy is no longer useful to Plainview. Plainview ships him off to a school for the deaf where he is out of sight and out of mind. When H.W. returns it is only after Plainview has become increasingly defensive about his decision to send the boy away. During a business meeting he threatens another oil executive with violence for seeming to question his parenting. Plainview is then publicly humiliated in church by Eli Sunday during the oilman's baptism. Wishing to secure access to a tract of land owned by a member of the congregation Plainview agrees to be baptized in the blood of Christ at a church service where Sunday calls upon him to publicly admit that he has abandoned his child.

If capitalism, represented by Daniel Plainview, is characterized as morally bankrupt then the same can be said of Christianity, represented by Eli Sunday. Importantly, because the viewer immediately identifies with Plainview as the film's protagonist, it is through the lens of Plainview's shrewd and conniving capitalist that the audience is asked to interrogate and see through Sunday's false piety. This

[329] Gross, Terry. "Interviews: 'There Will Be Blood' Director Paul Thomas Anderson." *Fresh Air*. National Public Radio (May 28, 2008): <http://www.npr.org/templates/story/story/php?storyID=89182388>.

characterization begins when Plainview and H.W. first travel to the Sunday ranch to prospect for oil. While Eli's father quickly falls prey to Plainview's claims that he has been sent by Providence, Eli is quicker to see through the oilman's façade, asking for a $10,000 bonus if oil is discovered. When Eli explains that he wants the money for his church, Plainview responds, "That's a good one," indicating that he sees in Eli something of his own nature. By "That's a good one," he recognizes preaching as a good way for Eli to succeed financially. Plainview immediately sees Eli as an opportunist and capitalist donning the mask of piety to serve his selfish interests.

Like Plainview, Sunday's motives are entirely self-serving. It is important that the viewer's relationship to Sunday is mediated through Plainview. When Sunday is shown preaching in the church the viewer is there only because the camera follows Plainview to the church when he goes to speak to Sunday about a worker killed the night before in a well accident. By following Plainview to the church the viewer is again asked to witness the proceedings through the lens of the capitalist. Dano's performance as a preacher exercising a devil spirit from a woman's arthritic hands resonates with the viewer's experience of watching televangelist charlatans. Seeing Sunday as Plainview does, it is difficult for the viewer not to agree with the oilman when he says to Sunday after the service, "That's one goddamn helluva show."

Sunday's effeminate masculinity provides a foil to Plainview's brutality. Sunday's power clearly derives from his ability to persuade his parishioners through elocution, not through any innate physical power. He holds power only when surrounded by his parishioners or at the home of his even weaker father. When the clergyman comes to collect on the $5000 debt owed the church, Plainview beats him to a pulp, repeatedly

slapping him to the ground. While Sunday squeaks out cries of pain and tries to crawl away on all fours, Plainview chases him down and rubs his face in the oil-soaked dirt. Unable to claim alpha-male status, Sunday takes his frustration out on his aging father. Sunday's weakness is further exploited in the scene in church in which Plainview is at the preacher's mercy. Crying out, "I have abandoned my child. I have abandoned my boy," for the first time Day-Lewis's own voice breaks through the façade of the John Huston like voice he has crafted for Plainview. Sensing that Plainview is at his weakest moment, Sunday begins slapping the devil out of him. Yet so pathetic is the preacher's physical power that Plainview immediately begins laughing, joyful that he has secured the lease to Bandy's land and can begin building his pipeline.

Sunday's feminized masculinity plays hand in hand with his snake-oil salesman approach to preaching. Framed through Plainview's capitalist lens, the film never contradicts Daniel's assertions that Sunday's preaching is inspired by greed rather than God. With the name Sunday referring to the Sabbath, Eli's hypocrisy serves as a metaphor for Christianity's own hypocritical relationship to the world of big business. This recognition of Sunday as standing in for the larger structure of religion is crucial to the film's performance of allegory, especially in the closing scene. Having cast off the one positive influence in his life, H.W., Plainview is shot sprawled out on the floor of a bowling alley he has had built into his sprawling mansion. Plainview here represents the decrepit capitalist near the end of his days. It is here that he most clearly recalls Kane, alone in his vast mansion, all traces of humanity laid waste in the quest for fortune. Plainview has one last task to complete before his story is complete. He and Sunday have traded blows throughout the story and their rivalry must come to a final head.

By the conclusion of Anderson's film, Plainview has become, as *Variety*'s Todd McCarthy describes him, a deeply disturbed sociopath "who determinedly destroys his ties to other human beings."[330] Between 1897 and 1927, the settings of the film's opening and closing sequences, Plainview builds an enormous fortune that allows him to live like an isolated plutocrat in his gothic mansion. When H.W. comes to tell his father that he is leaving to set up his own oil drilling business in Mexico, Plainview reveals the truth of his parentage, calling him a "bastard in a basket" and severing all ties with the young man he raised. As the film's title suggests, Anderson is not content to let his anti-hero wither into death nor to capture some endearing moment of revelation (such as that granted Kane). Instead there is a final blow against Christianity that the capitalist must strike in order for this film to resonate so strongly with the contemporary American political situation.

In the final scene Plainview's money once again places him in a position of dominance over Sunday, who has fallen on hard times and tries to weasel more money out of Plainview. But unlike the ealier 1911 settting, Plainview no longer needs Sunday. Capitalism has triumphed and Plainview is at the top of the heap. Christianity, which conveniently helped the oilman establish the townspeople's trust in the early stages of drilling, is no longer necessary. Plainview now has Sunday right where he wants him and springs to life as he makes a game of humiliating the preacher, telling him he will make a deal with him if Sunday declares, "I am a false prophet and God is a superstition." Sunday agrees, and again it is Dano's gesturing that hints strongly that the character is well aware of truth in what Plainview is asking him to declare. As I've tried to stress

[330] McCarthy, Todd. "There Will Be Blood." *Variety* (Nov. 1, 2007): <http://www.variety.com/index.asp?1= story&rVE1117935281&c=31>.

throughout, given the metaphorical tenor of the film, it is at this point as if Christianity itself is declaring its hypocrisy. This metaphor is punctuated by the camera zooming back and framing Sunday's body in the center of the screen as Plainview calls out, "I'm finished!"

The final scene of the film most strongly speaks to America's coming to terms with its addiction to oil and beginning to reflect on the legacy of the Bush/Cheney administration. It has been well documented in countless newspaper and magazine articles and film documentaries how the administration privileged fossil fuel industries in developing its energy and military policies. Writing for London's *Guardian*, Peter Bradshaw pays special attention to Day-Lewis's portrayal of Plainview in this final scene, as the oilman boasts about "how he can rapaciously consume everyone else's oil, like sucking up a milkshake. It is a post-apocalyptic scenario, and I couldn't help seeing in it our own exhausted future without oil."[331] What I have attempted to examine in this chapter are the ways in which Anderson's film leads the viewer to an inevitable recognition that, like Bradshaw, we can't help but see the film as speaking through melodrama to contemporary concerns. Through Day-Lewis and Dano's careful attention to gesture, Anderson and Elswit's framing of key moments, and as soundtrack that pushes the viewer in and out of the frame, *There Will Be Blood* calls attention to itself as an cinematic metaphor fitting for a time in which modernity has led us to a point at which we must thoroughly rethink our cultural logic of ecology, beginning with our relationship to oil, the lifeblood of a industrial/technical civilization seeming to creep toward environmental collapse.

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[331] Bradshaw, Peter. "There Will Be Blood." *Guardian* (Feb. 8, 2008): <http://www.guardian.co.uk/film/2008/feb/08/paulthomasanderson.drama>.

CHAPTER V

CONCLUSION: TIPPING POINTS

On April 20, 2010 the BP oil rig *Deepwater Horizon* exploded in the Gulf of Mexico 40 miles off the coast of Louisiana. The blast killed eleven workers and ruptured a major undersea pipeline. On June 15, after 2.4 million barrels (100 million gallons) of oil had spilled into the Atlantic Ocean, President Barack Obama addressed the nation from the Oval Office to defend his administration's response to "the worst environmental disaster America has ever faced."[332] Employing the rhetoric of a Hollywood blockbuster film, the President described the government's cleanup effort as a "battle we're waging against an oil spill that is assaulting our shores and our citizens." President Obama also used the speech to endorse passage of the comprehensive climate and energy bill then being debated in the Senate. "For decades, we've talked and talked about the need to end America's century-long addiction to fossil fuels," the President argued. "And today, as we look to the Gulf we seen an entire way of life threatened by a menacing cloud of black crude."

Calling to mind the computer generated storms that decimate New York and Los Angeles in the 2004 blockbuster film, *The Day After Tomorrow*, President Obama's phrase "menacing cloud" is a symbolic metaphor which juxtaposes the "cloud" of oil then spilling into the Gulf of Mexico and "menacing" Louisiana's fragile ecosystems and economy with the more diffuse "cloud" of greenhouse gases rapidly building in the

[332] All quotes in this paragraph taken from: Obama, President Barack. "Transcript: Obama's Remarks on the BP Oil Spill." CBS News (June 15, 2010): <http://www.cbsnews.com/8301-503544_162-20007839-503544.html?tag=cbsContent;cbsCarousel>.

earth's atmosphere as a result of modernization and globalization.[333] To put the 4.9 million barrel BP oil spill into perspective, drivers in the United States burn an average of 9 million barrels (378 million gallons) of petroleum per day.[334] Oil has allowed the United States to help lay the foundations of the modern world, one in which we can fly from Los Angeles to Mumbai in a day on an airplane, communicate instantly with friends and family from anywhere the world on a cellular phone, or download images of distant stars and planets taken by the Hubble space telescope onto our laptop computers and iPads using the internet.

Throughout our history, humans have been releasing carbon dioxide and other greenhouse gases into the atmosphere through the clearing of forests, the domestication of livestock, and burning of fossil fuels. For most of that history, peak levels of carbon dioxide averaged 280 parts per million, just as they had for the few million years of geological history.[335] During the second half of the twentieth century, however, the population of the planet tripled from approximately two billion to six billion people, the number of vehicles on the planet increased six-fold from approximately one hundred million to six hundred million, and industrial development and economic globalization

[333] The EPA's final report estimates the BP spill at 4.9 million barrels by the time it was capped in July 2010. Hoch, Maureen. "New Estimate Puts Gulf Oil Leak at 205 Million Gallons." PBS Newshour (Aug. 2, 2010): <http://www.pbs.org/newshour/rundown/2010/08/new-estimate-puts-oil-leak-at-49-million-barrels.html>.

[334] Total petroleum consumption in the U.S. peaked in 2005 at 20.8 million barrels per day. In 2009 consumption dipped to 18.8 million barrels but rose to 19.1 million barrels in 2010. The BP spill had no measurable impact on gasoline prices because the ruptured pipeline led to a deep sea exploratory well. "Petroleum Basic Statistics." U.S. Energy Information Administration. (Accessed June 15, 2011): <http://www.eia.doe.gov/basics/quickoil.html>.

[335] Bärbel Hönish, et al. "Atmostpheric Carbon Dioxide Across the Mid-Pleistocene Transition." *Science* 324/5934 (June 19, 2009): 1551-1554.

led to an unprecedented increase in the burning of oil, coal, and natural gas.[336] Between 1957 (when they were first measured) and 2010 (which is currently tied with 2005 as the warmest year on record), carbon dioxide levels in the Earth's atmosphere increased from 310ppm to more than 390ppm.[337] According to a 2010 National Climactic Data Center report, "the Earth's average temperature in 2010, as in 2005, was 58.12 degrees, which is 1.12 degrees above the 20th-century average of 57 degrees."[338] In response to these alarming trends, climate scientists at NASA's Goddard Institute for Space Study argue in a 2007 report that an increase of even one degree Celsius (1.8 degrees Fahrenheit) over 2000 levels, "would begin to push the climate into the 'dangerous' category."[339] Exactly what that category means, they admit, is difficult to predict because the possible effects of sea-level rise and shifting weather patterns are "outside the local range of experience."[340] Within a decade, NASA researchers told *The Christian Science Monitor*, the United States must lead by example and take major steps to reduce greenhouse gas emissions, such as requiring corporations to "take emissions-reduction needs into account

[336] China surpassed the United States in greenhouse gas emissions in 2007 and in total (not per capita) energy consumption in 2010. Swartz, Spencer and Shai Oster. "China Tops U.S. in Energy Use." *The Wall Street Journal* (July 18, 2010): <http://online.wsj.com/article/SB10001424052748703720504575376712353150310.html>.

[337] Tans, Pieter. "Atmospheric CO_2 at Mauna Loa Observatory." National Oceanic and Atmospheric Administration. (Accessed Dec. 2009): <http://www.esrl.noaa.gov/gmd/ccgg/trends/co2_data_mlo.html>.

[338] The NCDC is a department of the National Oceanic and Atmospheric Administration. Rice, Doyle. "2010 Tied for Earth's Warmest Year on Record." *USA Today* (Jan. 13, 2011): <http://www.usatoday.com/weather/climate/globalwarming/2011-01-12-2010-warmest-year-climate-change_N.htm>.

[339] Spotts, Peter S. "Earth Nears Tipping Point on Climate Change." *Christian Science Monitor* (May 30, 2007): <http://www.csmonitor.com/2007/0530/p02s01-wogi.html>.

[340] Ibid.

as they lay out spending plans for new factories, offices, power plants, and lines of cars and trucks."[341]

Thanks in part to the live images of gushing oil captured by BP's undersea "oilcam" and streamed to television news broadcasts and internet sites around the world, the Gulf oil spill was selected as the top news story of 2010 in an annual poll of news directors and editors.[342] By June 2010, according to a public opinion poll conducted by the Associated Press, 87% of Americans felt that the spill had become "extraordinarily important to them personally."[343] In his speech the President sought to tap into the public's reaction to the disaster as he publicly called upon Congress to pass comprehensive climate legislation. His speech failed to convince skeptics, however, of the urgent need to act. As I noted in my introduction, just two months after the President's speech, climate legislation stalled in Congress when the Senate's forty-one Republicans voted to prevent the chamber's fifty-seven Democrats and two Independents from closing debate on the climate bill and sending it to the floor where it could be passed by a simple majority.[344] In their defense, Republicans could note that between 2008 and 2010 (when the party regained majority control of the House of

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[341] Ibid.

[342] Crary, David. "Gulf Oil Spill Voted Top News Story of 2010." Associated Press (Dec. 21, 2010): <http://www.ap.org/pages/about/whatsnew/wn_122110b.html>.

[343] Erica Werner, Liz Sidoti, and Trevor Tompson, "Obama to Address Nation on Oil Spill; Polls Say Most Decry his Handling of Disaster." Associated Press. (June 15, 2010): <http://www.cleveland.com/nation/index.ssf/2010/06/obama_to_address_nation_on_oil.html>

[344] A version of the Senate bill had been passed by the House of Representatives earlier in the congressional session in 2009. Had the Senate passed the bill it is quite possible that a final version of the bill could have been signed into law by President Obama prior to the November 2010 elections when Republicans won control of the House. Plummer, Bradford. "Eco-Movement Faces a Hostile Climate." National Public Radio (April 21, 2011): <http://www.npr.org/2011/04/21/135595689/new-republic-eco-movement-faces-a-hostile-climate>.

Representatives) Gallup pollsters recorded an increase of thirteen percentage points (35% to 48%) in the number of Americans who felt that the news media were "exaggerating the seriousness of global warming."[345] This sharp increase (which began well after the buzz over *An Inconvenient Truth* and *Happy Feet* had subsided) is attributable at least in part to what environmental journalist Andrew Revkin refers to as the "Mego factor" (which stands for "my eyes glaze over").[346] The publicity surrounding the films discussed in this project may have helped to bring the issue of climate change to the center of American public life but by the closing days of 2008 the near collapse of global financial markets and backlash against Obama's election quickly pushed global warming to the back of Washington's agenda. According to report conducted by Journalism.org, in 2009 coverage of all environmental concerns accounted for just 1.5% of total news coverage.[347] This continued lack of coverage, according to Revkin, is compounded by the fact that "Media norms keep big, creeping issues off the front page until it's too late."[348] Although the federal government has taken small steps to address climate change, for example in 2011 the EPA proposed raising current mileage standards on cars and trucks produced in the country to above fifty miles per gallon by 2020, efforts to pass federal legislation have been effectively tabled level until after the 2012 presidential elections. Americans have clearly reached a tipping point in their general acceptance of climate

[345] Newport, Frank. "American's Global Warming Concerns Continue to Drop." Gallup (March 11, 2010): <http://www.gallup.com/poll/126560/americans-global-warming-concerns-continue-drop.aspx>.

[346] Revkin, Andrew. "'The Mego Factor' and Climate Coverage" *DotEarth* (July 1, 2010): <http://dotearth.blogs.nytimes.com/2010/07/01/the-mego-factor-and-climate-coverage/>

[347] Cited in ibid.

[348] Ibid.

science but the nation's fierce political divisions are preventing that acceptance from being translated into action.[349] As was the case with civil rights, however, federal legislation may be the only long-term solution to ensure that the will of the majority is carried out despite the fervent opposition of a vocal minority.

If the climate debate failed to produce historically significant legislation in the years following the release of the films examined in this project, can it really be argued that these Hollywood blockbuster films not only *reflected* but actively *participated* in shifting the cultural logic of ecology between 2004 and 2008? The answer to that question, this dissertation has shown, is a qualified yes. While no single film is capable of shifting the cultural logic on its own, as a group these films clearly pushing climate change in the political spotlight during one of the most important periods in American history. My decision to narrow the focus of the project to the period of 2004 to 2008 was therefore due to a number of factors. First, *The Day After Tomorrow* as the first film to explicitly attribute its depiction of a large-scale natural disaster to anthropogenic climate change and the first effort to portray the issue against the backdrop of contemporary political debates. In his reception study of *The Day After Tomorrow*, Lieserowitz concludes that that film had quantifiable lasting effects on viewers' perceptions of climate change but did not produce a lasting impact on non-viewers' (i.e. society's) perceptions of the issue. As I also discovered while researching this project, however, Emmerich's film not only influenced its theatrical viewers but subsequent films as well. Had *The Day After Tomorrow* not caused such a stir, would Laurie David have approached Al Gore at the film's premier in New York and offered to produce *An*

[349] It is worth recalling the parties were divided over climate change well before *An Inconvenient Truth*.

Inconvenient Truth, the single most important film to in drawing public and business attention to climate change? While that question is ultimately unanswerable, it is the case that *The Day After Tomorrow* inspired the Weather Channel to shift its official position on global warming and hire their first climatologist, Dr. Heidi Cullen, who in turn experienced a dramatic increase in airtime during the channel's coverage of Hurricane Katrina. The impact of these films was further bolstered by the release of *March of the Penguins* and *Happy Feet*, which called the public's attention to emperor penguins – a species considered by ornithologists to be a beacon bird of global warming. The public's increasing concern about climate change during this period is also tied to its growing distrust of President George W. Bush, whose approval ratings steadily dropped from a record high of 90% in 2001, to 50% at the time of his reelection in 2004, to 20% in November 2008. The public's concerns over true reasons behind the war in Iraq and America's dependence on oil are clearly reflected in the critical reception of *There Will Be Blood*, P.T. Anderson's critique of capitalism, patriarchy, and natural resource extraction.[350] While I agree that cinema reflects cultural attitudes to a greater degree than it can possibly influence those attitudes, the attention these films brought to the issue of climate change was particularly important during this period considering the overall lack of news coverage generally devoted to environmental issues. Finally, given that the full effects of the 2008 stock market crash, election of President Obama, and other contemporary geopolitical will not be fully understood for some time, it seemed appropriate as well to conclude my study in mid-2008 when oil futures reached record prices as *There Will Be Blood* concluded its theatrical run.

[350] "Bush's Final Approval Rating: 22%." CBS News (Feb. 11, 2009): <http://www.cbsnews.com/stories/2009/01/16/opinion/polls/main4728399.shtml>.

When this project started in September 2005 I had no intentions of making sweeping claims about the cultural logic of ecology. Instead I started with a simple question. Why was everyone talking about penguins? That month, during a slow period in the summer blockbuster schedule, the wildlife documentary *March of the Penguins* had climbed into the box office top ten and television and radio talk shows were suddenly abuzz with news about penguins. When I checked local listings for the film here in Eugene I was not surprised to find that it was playing at the local arthouse theater because it had performed so well at Sundance. I did not expect to find it playing at the mall cineplex, however, until I heard a story on National Public Radio discussing how church groups were block booking screenings the film, a practice that had occurred for Mel Gibson's *Passion of the Christ* (2004). After I saw *March of the Penguins* on the big screen and decided to research it further I was startled to discover that penguins (already threatened by marine harvesting and pollution) had recently been linked by marine ornithologists to changes in the earth's climate due to global warming.[351] Upon reading that climate change may force hundreds of millions of people around the world (including the United States) to become environmental refugees by 2050 and threaten even the world's most isolated creatures with extinction by 2100, I felt obligated to consider whether media studies could contribute to the growing body of scholarly work in ecocriticism by examining the impact of climate change on American on culture through the unique lens of cinema.

[351] It was only upon researching that I learned that there was an original version of Jacquet's film and that other scholars had not discussed this fact. As I note in chapter 3, however, this project's argument analysis centers on the film most American viewers have seen.

Trying to figure out how the Hollywood films discussed in the project both reached viewers (in terms of their production, distribution, and exhibition) and reached out to viewers (in terms of their rhetorical, emotional, and psychological appeals) led me to combine two related research paths. In order to understanding how key players in the motion picture industry (as part of larger media conglomerates) purchase, develop, and market, and distribute their products in the global age I turned to the work of film historians and political economists. Additionally, I subscribed to scholarly publications like *Cinema Journal*, *JumpCut*, and *Film & History*, read scholarly books like Toby Miller's *Global Hollywood* and Janet Wasko and Paul Macdonald's *The Contemporary Hollywood Film Industry* and spent considerable time online browsing the pages of *Variety*, *Cinefex*, and *Deadline Hollywood*. Yet the more I watched the films themselves the more I recognized that they were each using the same basic techniques of the melodramatic mode of narrative filmmaking that were being used in nearly every other film on the market – creating an emotional connection between the viewer and the text by carefully integrating visual spectacle with music and narrative. Linda William's essay "Melodrama Revised" provides the most lucid account of melodrama's characteristics and its importance to the development of American cinema. Pam Cook, Barbara Klinger, and Christina Glendhill's further opened my eyes to the importance of melodrama within film studies, and Peter Brooks, Thomas Elsaesser, and Chuck Kleinhans's addressed the deeper connections between melodrama, history, and capitalism, that helped me to connect the mode's development to the deep roots of capitalism and, by association, climate change. Al Gore's claim (both in his film and in his speech at the 2007 Academy Awards Ceremony) that "global warming is a moral issue" inspired me to reread

Brooks's work on the moral occult from his study *The Melodramatic Imagination* and Raymond William's 1977 "Lecture on Realism" helped me to trace the aesthetics of the modern blockbuster film to its historical roots on the stage, in print, and in classical cinema.

One research path I ultimately decided not to pursue was a comprehensive reception study of these films. I have paid considerable attention to these films reception contexts (for example how they were discussed by film critics, the news media, and by film scholars). I recognized immediately upon reading Leiserowitz's description of the reception study conducted for *The Day After Tomorrow*, however, that quantitative research would be better left to social scientists than those of us in the humanities. I also soon discovered when I started this project that none of the films I selected had engendered quite the level of fan engagement more typical of science fiction and fantasy blockbusters like *Harry Potter*, *Pirates of the Caribbean*, and *Twilight*. In researching cinema through the theoretical lens of cultural studies and ecocriticism, I have come to recognize the tremendous value of studies such as that conducted by Lieserowitz and his colleagues for those of us engaged in textual and historical analysis and I hope to engage more directly with such scholars to help assess the impact of cinema and media on viewers perceptions of their environment.

One particular blockbuster film whose impact on audiences and the film industry owes a tremendous debt to the films examined in this study is *Avatar* (2009). Directed by James Cameron for 20th Century Fox, *Avatar* is among a number of commercially successful films produced during (and released subsequent to) the period covered by this study which make overt references to anthropogenic environmental change, including

Wall-E (2008), *Quantum of Solace* (2008), and *The Day the Earth Stood Still* (2008), and *Wall Street: Money Never Sleeps* (2010). Produced and marketed at an estimated cost of nearly $500 million, *Avatar* is the most expensive film ever made.[352] The film's combination of 3D visual effects, a lush musical score by composer James Horner (whose credits include *Apollo 13, Braveheart,* and *Titanic*), and a stirring melodrama of love and war propelled it to a record-shattering $2.7 billion take at the worldwide box office. Although the vast majority of Hollywood blockbuster films continue to steer clear of hot button political issues like climate change, *Avatar* is proof positive that filmmakers will continue to seek imaginative ways of portraying complex socio-ecological concerns like climate change as long as these issues continue to resonate so deeply with audiences. If the scientific predictions about climate change are as accurate as they appear, it is highly likely that viewers will continue to find their perceptions of environmental risk reflected in blockbuster films and other widely circulated cultural texts. Given the sheer scope of the challenges now facing society, ecocinema studies must prepare to undertake more complex and nuanced scholarship in the years ahead. But with so many media scholars suddenly turning their attention to ecocinema studies in classrooms, conference presentations, journal articles, and in extended studies such as this there is a bright future ahead for the field. Climate change and other environmental justice challenges can only be addressed through a collective effort and it is my hope that this study contributes to that effort.

[352] Cieply, Michael. "A Movie's Budget Pops from the Screen." *New York Times* (Nov. 8, 2009): <http://www.nytimes.com/2009/11/09/business/media/09avatar.html>.

APPENDIX

FILMOGRAPHY

Absolute Zero (2006)
The Arrival (1996)
A.I. (2001)
Batman Returns (1992)
Category 7 (2005)
Cosmos (1980)
A Crude Awakening (2006)
The Day After Tomorrow (2004)
Do the Right Thing (1989)
Earth (2009)
Earth Report: 2009 (2010)
The End of Suburbia (2005)
Escape from Suburbia (2007)
Everything's Cool (2007)
Flow: For the Love of Water (2008)
Food, Inc (2009)
Fuel (2008)
Global Warming Solutions (2006)
Happy Feet (2006)
The Hellstrom Chronicles (1971)
Home (2009)
An Inconvenient Truth (2006)
Inside Hurricane Katrina (2005)
Logan's Run (1976)
March of the Penguins (2005)
The Oil Factor (2005)
Oil & Water (2007)
Omega Man (1971)
Out of Balance (2007)
Planet Earth (2006)
Planet in Peril (2007)
Quantum of Solace (2008)
Road Warrior (1979)
Sharkwater (2006)
Silent Running (1971)
Six Degrees Could Change the World (2008)
Soylent Green (1973)
Sprawling from Grace (2008)
Strange Days on Planet Earth (2005)
There Will Be Blood (2007)
Trashed (2007)
Whatever Works (2009)

REFERENCES CITED

Abrahamson, Dean Edwin, Ed. *The Challenge of Global Warming*. Washington, DC: Island Press, 1989.

Adam, Barbara. "The Media Timescapes of BSE News." *Environmental Risks and the Media. Eds. Stuart Allan, Barbara Adam, and Cynthia Carter*. London: Routledge, 2000: 117-129.

Allan, Stuart, Barbara Adam, and Cynthia Carter, Eds.. "Introduction: The Media Politics of Environmental Risk." *Environmental Risk and the Media*. London: Routledge, 2000: 1-26.

Altman, Rick."Reusable Packaging: Generic Products and the Recycling Process." *Refiguring American Film Genres: History and Theory*. Ed. Nick Browne. Berkeley: U California Press, 1998. 1-41.

Anderson, Alison. "Environmental Pressure Politics and the 'Risk Society'." *Environmental Risks and the Media*. Eds. Stuart Allan, Barbara Adam, and Cynthia Carter. London: Routledge, 2000: 93-104.

---.*Media, Culture, and the Environment*. New Brunswick: Rutgers UP, 1997.

Anderson, Benedict. *Imagined Communities: Reflections on the Origin and Spread of Nationalism*. London: Verso, 1991.

Applegate, David. "Carl Sagan's Legacy: Making Science Popular." *Geotimes* (Feb. 1997): <http://www.geotimes.org/scenefe7.html>

Arango, Tim. "World Falls for American Media, Even as It Sours on America." *New York Times*. (Dec. 1, 2008): <www.nytimes.com/2008/12/01/business/media/01.soft.html>

Arthurs, Jane and Usha Zacharias. "Environment, Media, and New Gender Politics." *Feminist Media Studies*. 8/3 (2008): 317-318.

Balio, Tino. "Hollywood Production Trends in the Era of Globalisation, 1990-99." *Genre and Contemporary Hollywood*. Ed. Steve Neale. London: BFI, 2002. 165-84.

Barnouw, Eric. *A History of the Non-Fiction Film: Revised Edition*. New York: Oxford UP, 1983.

Bartlett, Richard J. "The Artists Behind the Wonder." *Astronomy*. 30/9 (2002): 40-43.

Bauder, David. “Weather Channel to Begin Showing Movies.” *HuffingtonPost*. (Oct. 26, 2009).

Bauman, Zygmunt. *Globalization: The Human Consequences*. New York: Columbia UP, 2000.

---.*Liquid Times: Living in an Age of Uncertainty*. Cambridge,UK: Polity, 2008.

Beck, Ulrich. *World at Risk*. Cambridge, UK: Polity, 2007.

---.*World Risk Society*. Cambridge, UK: Polity, 1999.

Beck, Ulrich and Elisabeth Beck-Gernsheim. *Individualization: Institutional Individualism and its Social and Political Consequences*. Thousand Oaks, CA: Sage, 2002.

Blair, Jennifer. “Media on Ice.” *Feminist Media Studies*. 8/3 (2008): 318-323.

Bousé, Derek. “Are Wildlife Films Really ‘Nature Documentaries’?” *Critical Studies in Mass Communication*. 15 (1998): 116-140.

---.“False Intimacy: Close-Ups and Viewer Involvement in Wildlife Film.” *Visual Studies*. 18/2 (2003): 123-132.

---.*Wildlife Film*. Philadelphia: U Pennsylvania Press, 2000.

Bordwell, David, Janet Staiger, and Kristin Thompson. *The Classical Hollywood Cinema: Film Style and Mode of Production to 1960*. New York: Columbia UP, 1985.

Bowen, Mark. *Censoring Science*. New York: Penguin, 2008.

Boyd-Bowman, Susan. “’The Day After’: Representations of the Nuclear Holocaust.” *Screen*. (July/Oct. 1984): 71-97.

Brand, David. “From Somber *Silent Spring* to Creative *Cosmos*, Author’s Style can make Difference in Selling Science, says Cornell Researcher.” Press Release: Cornell University (2/19/2001): <http://www.news.cornell.edu/releases/Feb01/Lewenstein.AAAS.je.deb.html>

Braudy, Leo and Marshall Cohen, Eds. *Film Theory and Criticism: Introductory Readings, 6th Edition*. New York: Oxford UP, 2004.

Braudy, Leo. “Genre: The Conventions of Connection.” *Film Theory and Criticism, 6th Edition*. Eds. Leo Braudy and Marshall Cohen. New York: Oxford UP, 2004: 663-679.

---."The Genre of Nature: Ceremonies of Innocence." *Refiguring American Film Genres: History and Theory*. Ed. Nick Browne. Berkeley: U California, 1998. 278-310.

Brooks, Peter. *The Melodramatic Imagination*. New Haven, Yale UP, 1976.

Buell, Lawrence. *The Future of Environmental Criticism: Environmental Crisis and Literary Imagination.* Malden, MA: Blackwell Publishing, 2005.

Carmichael, Deborah, Ed. *The Landscape of Hollywood Westerns: Ecocriticism in and American Film Genre*. Salt Lake: U Utah Press, 2006.

Carrol, Noël. "The Moral Ecology of Melodrama: The Family Plot and *Magnificent Obsession*." *Imitations of Life: A Reader on Film & Television Melodrama*. Ed. Marcia Landy. Detroit: Wayne State UP, 1991. 183-191.

Crichton, Michael. *State of Fear*. New York: Harper Collins, 2004.

Clark, Mike. "'Day After Tomorrow': Cloudy, Chance of Frosty Reception." *USA Today*. (May 27, 2004): <www.usatoday.com/life/movies/reviews/2004-05-27-day-after-tomorrow-x.htm>

Climate Action. Sustainable Development International and United Nations Environment Programme. London: Henley Media Group, 2007.

Conca, Ken & Geoffrey D. Dabelko, Eds. *Green Planet Plues: Environmental Politics from Stockholm to Johannesburg*. Third Edition. Oxford: Westview, 2004.

Contrino, Phil. "Rolling out the Green Carpet." *Box Office*. (Oct. 2009): 10-11.

Corbett, Charles J. and Richard P. Turco. *Sustainability in the Motion Picture Industry.* UCLA Institute of the Environment. (Nov. 2006).

Cris, Cynthia. *Watching Wildlife*. Minneapolis: U Minnesota Press, 2006.

Cronon, William, Ed. *Uncommon Ground: Rethinking the Human Place in Nature.* NY: W.W. Norton, 1996.

Cubbit, Sean. *Eco-Media*. New York: Rodopi, 2005.

Davidson, Keay. *Carl Sagan: A Life*. New York: John Wiley & Sons, 1999.

"The Day After Tomorrow: Could it Really Happen?" Pew Center on Global Climate Change. (May 31, 2004): <www.pewclimate.org/dayaftertomorrow.cfm>

Derrida, Jacques. *The Animal that Therefore I Am*. New York: Fordham UP, 2008.

DiMento, Joseph F.C. and Pamela Doughman, Eds. *Climate Change: What It Means for Us, Our Children, and Our Grandchildren*. Cambridge, MA: MIT Press, 2007.

DiMeo, Nate. "Box Office Booms in Bust Economy." *Morning Edition*. National Public Radio. (April 9, 2009): <www.npr.org/templates/story/story.php?storyId=1029000917>

Druyan, Ann. "A New Sense of the Sacred." *Humanist*. 60/6 (2000): 22-27.

During, Simon, Ed. *The Cultural Studies Reader*. NY: Routledge, 1999.

Dyer, Richard. "Entertainment and Utopia." 1977. *Genre: the Musical*. Ed. Rick Altman. London: BFI, 1981.

---. White. New York: Routledge, 1997.

Dyson, Freeman. "Carl Sagan's Vision." *Skeptic*. 13/1 (2007): 46-47.

Edford, Rachel. "The Elegance of *The Elegant Universe*: Unity, Beauty, and Harmony in Brian Greene's Popularization of Superstring Theory," in *Public Understanding of Science*. 16 (2007): 441-454.

Ehrlich, Paul R. and Anne H. Ehrlich. *The Dominant Animal: Human Evolution and the Environment*. Washington D.C.: Island Press, 2008.

Elgin, Ben. "Another Inconvenient Truth." *Business Week*. (Mar. 16, 2007): <www.businessweek.com/magazine/content/07_13/b4027057.htm>

Elsaesser, Thomas. "Blockbuster: Everything Connects, but Not Everything Goes." *The End of Cinema as We Know It*. Jon Lewis, Ed. New York: NYU Press, 2001. 11-22.

---."Tales of Sound and Fury: Observations on the Family Melodrama." *Imitations of Life: A Reader on Film and Television Melodrama*. Ed. Marcia Landy. Detroit: Wayne State UP, 1991. 68-91.

Elsworth, Catherine. "Eco-trendy Hollywood Stars as Major Polluter." *Telegraph* (Feb 10, 2007).

Feldman, Stanley and Lee Sigelman. "The Political Impact of Prime-Time Television: 'The Day After'." *The Journal of Politics* 47/2 (June 1985): 556-578.

"Fewer Americans See Solid Evidence of Global Warming." Pew Research Center Publications (Oct. 22, 2009): <http://pewresearch.org/pubs/1386/cap-and-trade-global-warming-opinion>

Friedman, Thomas L. *Hot, Flat, and Crowded: Why We Need a Green Revolution—and How it Can Renew America.* New York: Farrar, Straus and Giroux, 2008.

Gallagher, Mark. "I Married Rambo." *Mythologies of Violence in Postmodern Media*. Ed. Christopher Sharrett. Detroit: Wayne State UP, 1999. 199-225.

Garrard, Greg. *Ecocriticism.* New York: Routledge, 2004.

Giddens, Anthony. *Modernity and Self-Identity: Self and Society in the Late Modern Age*. Stanford: Stanford University Press, 1991.

---.*The Politics of Climate Change*. Cambridge, UK: Polity, 2009.

---.*Runaway World: How Globalization is Reshaping Our Lives*. New York: Routledge, 2003.

Giberson, Karl and Mariano Artigas. *Oracles of Science: Celebrity Scientists versus God and Religion.* Oxford: Oxford UP, 2007.

Giroux, Henry A. and Imre Szeman. "Ikea Boy Fights Back: Fight Club, Consumerism, and the Political Limits of Nineties Cinema." *The End of Cinema as We Know It.* Lewis, Ed. New York: NYU Press, 2001. 95-104.

Gledhill, Christine. "Pleasurable Negotiations." *Cultural Theory and Popular Culture: A Reader*. Ed. John Storey. Harlow, England: Prentice Hall, 1998. 236-49.

---. *Home is Where the Heart Is: Studies in Melodrama and the Woman's Film*. London: BFI, 1987.

Gledhill, Christine and Linda Williams, Eds. *Reinventing Film Studies.* New York: Oxford UP, 2001

Glotfelty, Cheryll, E. *The Ecocritical Reader*. Athens: University of Georgia Press, 1996.

Gomery, Douglas. "Economic and Institutional Analysis: Hollywood as Monopoly Capitalism." *The Contemporary Hollywood Reader*. Ed. Toby Miller. London: Routledge, 2009: 27-36.

Gottlieb, Robert. *Forcing the Spring: The Transformation of the American Environmental Movement*. Washington, DC: Island Press, 1993.

Grainge, Paul. *Brand Hollywood: $elling Entertainment in a Global Media Age*. London: Routledge, 2006.

Grierson, John. *Grierson on Documentary*. Ed. Forsyth Hardy. Berkeley: UC Press, 1966: 11.

Grim, David. "Al Gore to Scientists: 'We Need You'." *Science*. 323 (Feb. 20, 2009): 998.

Grove, Richard. *Ecology, Climate and Empire: Colonialism and Global Environmental History, 1400-1940.* Cambridge UK: White Horse, 1997.

Grover, Ronald, Tom Lowry, and Frederik Balfour. "Hollywood's Monster-Sized Carbon Footprint." *Business Week.* (Jan. 15, 2009): <www.businessweek.com/print/magazine/content/09_04/b411709285162.htm>

Gunning, Tom. "The Cinema of Aesthetics of Astonishment: Early Film and the (In)Credulous Spectator." *Film Theory and Criticism: Introductory Readings.* Fifth Edition. Ed. Leo Braudy and Marshall Cohen. New York: Oxford UP, 1999. 818-32.

Hall, Stuart. "Encoding, Decoding." *The Cultural Studies Reader*. Ed. Simon During. New York: Routledge, 1999. 507-17.

---."Notes on Deconstructing 'the Popular'." *Cultural Theory and Popular Culture: A Reader*. 2nd Ed. John Story. Athens, GA: U Georgia Press, 1998. 442-453.

Hansen, Bogi, et al. "Already the Day After Tomorrow?" *Science*. 305/5686 (Aug. 13, 2004): 953-954.

Hansen, James. "Twenty Years Later: Tipping Points Near on Global Warming." *The Guardian*. (June 23, 2008).

Hansen, Miriam. "The Mass Production of the Senses: Classical Cinema as Vernacular Modernism." *Reinventing Film Studies*. Ed. Christine Gledhill and Linda Williams. New York: Oxford UP , 2001. 332-350.

Haraway, Donna. *When Species Meet*. Minneapolis: U Minnesota Press, 2008.

Harbord, Janet. "Digital Film and 'Late' Capitalism: A Cinema of Heroes?" *The Contemporary Hollywood Reader*. Ed. Toby Miller. London: Routledge, 2009: 17-26.

Harkinson, Josh. "An Inconvenient Poop." *Mother Jones*. 33/4 (Jul./Aug. 2008): OutFront section.

Harris, Richard. "Global Warming is Irreversible, Study Says." *All Things Considered*. National Public Radio (Jan. 26, 2009): <www.npr.org/templates/story/story.php?storyId=99888903>

Harvey, David. *A Brief History of Neoliberalism*. Oxford: Oxford UP, 2007.

Hawkin, Paul. *Blessed Unrest*. New York: Viking, 2007.

Heise, Ursula K. *Sense of Place and Sense of Planet: The Environmental Imagination of the Global*. Oxford: Oxford UP, 2008.

Hill, John and Pamela Gibson, Eds. *Oxford Guide to Film Studies.* NY: Oxford UP, 1998.

Hochman, Jan. *Green Cultural Studies: Nature in Film, Novel, and Theory*. Moscow, ID: University of Idaho Press, 1998.

Hoffman, Andrew J. and John G. Woody. *Climate Change: What's Your Business Strategy?* Cambridge, MA: Harvard Business Press, 2008.

"Hollywood Joins Politicians, Artists and Environmentalists in Hard-Hitting UN Campaign to Combat Climate Change." Press Release: United Nations Environment Programme. (Sept. 18, 2009): <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=596&ArticleID=6310&l=en&t=long>

Hudson, Paul. "What Happened to Global Warming?" BBC News. (Oct. 9, 2009): <news.bbc.co.uk/go/pr/fr/-/2/hi/science/nature/8299079.stm>

Ingram, David. *Green Screen: Environmentalism and Hollywood Cinema*. Exeter: University of Exeter Press, 2000.

Intergovernmental Panel on Climate Change. United Nations. *Climate Change 2007: A Report of Working Group I of the Intergovernmental Panel on Climate Change*. Ed. S. Solomon, et al. Cambridge UK: Cambridge UP, 2007.

---.*Climate Change and Water*. Ed. Bryson Bates, et al. June 2008.

Irwin, Alan. *Citizen Science*. London: Routledge, 1995.

Ivakhiv, Adrian. "Green Film Criticism and Its Futures." *ISLE* 15/2 (2008): 1-28.

---. "Stirring the Geopolitical Unconscious: Toward a Jamesonian Ecocriticism." *New Formations* 64 (Spring 2008): 98-109.

Jameson, Fredric. *Archaeologies of the Future*. London: Verso, 2005.

---.*The Geopolitical Aesthetic: Cinema and Space in the World System*. London: BFI, 1992.

---.*Postmodernism, or, the Cultural Logic of Late Capitalism*. Durham, NC: Duke UP, 1991.

Jancovich, Mark and Lucy Faire, “The Best Place to See a Film: The Blockbuster, the Multiplex, and the Contexts of Consumption.” *Movie Blockbusters*. Ed. Julian Stringer. London: Routledge, 2003. 190-201.

Jhally, Sut. "Advertising at the Edge of the Apocalypse." *Critical Studies in Media Commercialism*. Eds. Robin Anderson and Lance Strate. New York: Oxford UP, 2000: 27-39.

Jenkins, Henry. *Convergence Culture: Where Old and New Media Collide*. New York: NYU Press, 2006.

Jones, Andrew R. “How the Media Frame Global Warming: A Harbinger of Human Extinction or Endless Summer Fun? PhD Dissertation. Department of Sociology, University of Oregon. (July 2006).

Joyce, Christopher. “Green Energy Scores Big in Obama’s Stimulus Plan.” *Morning Edition*. National Public Radio. (Jan. 27, 2009): <www.npr.org/templates/story/story.php?storyId=99895320>

Kerr, Richard A. “Politicians Attack, But Evidence for Global Warming Doesn’t Wilt.” *Science* 313 (July 28, 2006): 421.

Kerr, Richard A. and Eli Kintisch. “Nobel Peace Prize Won by Host of Scientists and One Crusader.” *Science* 318 (Oct. 19, 2007): 372-373.

Klare, Michael T. *Resource Wars: The New Landscape of Global Conflict*. New York: Owl, 2002.

Kleinhans, Chuck. “Notes on Melodrama and the Family under Capitalism.” *Imitations of Life: A Reader on Film and Television Melodrama*. Ed. Marcia Landy. Detroit: Wayne State UP, 1991. 197-204.

Klinger, Barbara. *Melodrama and Meaning: History, Culture, and the Films of Douglas Sirk*. Bloomington: Indiana UP, 1994.

Landy, Marcia, Ed. *Imitations of Life: A Reader on Film and Television Melodrama.* Detroit: Wayne State UP, 1991.

Leibovich, Mark and Patrick Healy. “Star in New Role, Gore Revisits Old Stage.” *New York Times* (Mar. 21, 2007): <www.nytimes.com/2007/03/21/us/politics/21gore.html>

Leiserowitz, Anthony A. “Before and After *The Day After Tomorrow:* A U.S. Study of Climate Change Risk Perception.” *Environment* 46/9 (Nov. 2004): 22-37.

---."Climate Change Risk Perception and Policy Preferences: The Role of Affect, Imagery, and Values." *Climate Change*. 77 (2006): 45-72.

---.*Global Warming in the American Mind*. PhD Dissertation. Environmental Studies. University of Oregon. (Dec. 2003).

Leiserowitz, Anthony, Edward Maibach, and Connie Roser-Renouf. *Climate Change in the American Mind: Americans' Climate Change Beliefs, Attitudes, Policy Preferences, and Actions*. Yale Project on Climate Change and George Mason University Center for Climate Change Communication. 2009.

Lewis, Jon. *American Film: A History*. NY: W.W. Norton, 2007.

Lichter, S. Robert. "Climate Scientists Agree on Warming, Disagree on Dangers, and Don't Trust the Media's Coverage of Climate Change." Statistical Assessment Service (STATS). George Mason University. (April 24, 208): http://stats.org/stories/2008/global_warming_survey_apr23_08.html

Lippit, Akira Mizuta. *Electric Animal: Toward a Rhetoric of Wildlife*. Minneapolis: U Minnesota Press, 2000.

Lowe, Thomas, et al. "Does Tomorrow Ever Come? Disaster Narrative and Public Perceptions of Climate Change." *Public Understanding of Science* 15 (2006): 435-457.

Macdonald, Scott. "Toward an Eco-Cinema." *ISLE* 11/2 (Summer 2004): 107-132.

Malakoff, David, Moderator. "Global Warming is Not a Crisis." *Intelligence Squared*. National Public Radio (March 22, 2007): <www.npr.org/templates/story/story.php?storyId=9082151>

Mast, Gerald and Bruce Kawin. *A Short History of the Movies*. 9th Edition. New York: Longman, 2005.

Marx, Karl. *Capital*. (Orig. 1867). Oxford: Oxford UP, 1999: 42-50.

Marx, Karl and Frederick Engels. "Ruling Class and Ruling Ideas." *Cultural Theory and Popular Culture: A Reader*. 2nd Ed. John Story. Athens, GA: U Georgia Press, 1998. 191-192.

Maxwell, Richard and Toby Miller. "Green Smokestacks?" *Feminist Media Studies* 8/3 (2008): 324-329.

McKibben, Bill. *Deep Economy: The Wealth of Communities and the Durable Future*. New York: Holt, 2008.

---. *The End of Nature.* New York: Random House, 1989.

Meister, Mark and Phyllis M. Japp, Eds. *Enviropop: Studies in Environmental Rhetoric and Popular Culture*. Westport, CT: Praeger, 2002: 1-12.

Merchant, Carolyn. *Reinventing Eden: The Fate of Nature in Western Culture*. New York: Routledge, 2004.

Miller, Toby, Ed. *The Contemporary Hollywood Reader*. London: Routledge, 2009.

Miller, Toby, et. al. *Global Hollywood 2*. London: BFI, 2005.

The Monster That Ate Hollywood. Frontline. PBS Home Video (2001).

Mulvey, Laura. "Visual Pleasure and Narrative Cinema." *Film Theory and Criticism: Introductory Readings*. 5th Ed. Ed. Leo Braudy and Marshall Cohen. New York: Oxford UP, 1999. 833-44.

Murray, Robin L. and Joseph K. Heumann. *Ecology and Popular Film: Cinema on the Edge*. Albany: SUNY Press, 2009.

National Academy of Sciences. *Understanding and Responding to Climate Change*. Washington, DC: The National Academies Press, 2008.

Neale, Steve. *Genre and Hollywood*. London: Routledge, 2000.

Nichols, Bill. *Representing Reality: Issues and Concepts in Documentary.* Bloomington: Indiana UP, 1991.

Nordhaus, Ted and Michael Schellenberger. *Break Through: From the Death of Environmentalism to the Politics of Possibility*. Boston: Houghton Mifflin, 2007.

North, Gerald R. "*An Inconvenient Truth* and the Scientists." *GeoJournal* 70 (2007): 27-31.

Pearce, Fred. *Earth: Then and Now*. Richmond Hill, Ontario: Firefly, 2008.

Perkowitz, Sidney. *Hollywood Science: Movies, Science, and the End of the World*. New York: Columbia UP, 2007.

Poundstone, William. *Carl Sagan: A Life in the Cosmos*. New York: Henry Holt, 1999.

Reusswig, Fritz. "The International Impact of *The Day After Tomorrow*." *Environment*. 47/3 (April 2005): 41-44.

Revkin, Andrew. *Global Warming: Understanding the Forecast*. New York: Abbeville, 1992.

Saad, Lydia. "Increased Number Think Global Warming is 'Exaggerated.' Gallup Poll. (March 11, 2009): <www.gallup.com/poll/116590/>

Carl Sagan. *Cosmos*. New York: Random House, 1980.

---."Croesus and Cassandra: Policy Response to Global Change. *Environment in Peril*. Ed. Anthony B. Wolbarst (Washington, D.C.: Smithsonian Institution Press, 1991) 202-233.

Schatz, Thomas. *The Genius of the System: Hollywood Filmmaking in the Studio Era*. New York: Pantheon, 1988.

---."The New Hollywood." *Movie Blockbusters*. Ed. Julian Stringer. London: Routledge, 2003: 15-44.

Schlosberg, David. *Defining Environmental Justice: Theories, Movements, and Nature*. Oxford: Oxford UP, 2007.

Schofield, Janet W. and Mark A. Pavelchak. "Fallout from *The Day After*: The Impact of a TV Film on Attitudes Related to Nuclear War." *Journal of Applied Social Psychology*. 19/5 (1989): 433-448.

"Schwarzeneger's Green Challenge." *60 Minutes*. CBS Television. (Dec. 21, 2008).

"Sea Change in Public Attitudes Toward Global Warming Emerge: Climate Change Seen as Big a Threat as Terrorism." Yale Center for Environmental Law and Policy (Feb. 27, 2008): http://opa.yale.edu/news/article.aspx?id=4787

Shohat, Ella and Robert Stam. Unthinking Eurocentrism: Multiculturalism and the Media. New York: Routledge: 1997.

Shone, Tom. *Blockbuster: How Hollywood Learned to Stop Worrying and Love the Summer*. (New York: Free Press, 2004).

Silverstone, Roger. *Framing Science: The Making of a BBC Documentary*. London: BFI, 1985.

Smith, D. Mark. *Just One Planet: Poverty, Justice, and Climate Change*. Bourton on Dusmore, UK: Intermediate Technology Publications, 2006.

Smoodin, Eric, Ed. *Disney Discourse: Producing the Magic Kingdom.* (New York: Routledge, 1994).

"Social Media Float in Thin Air." Pew Research Center Publications. (Oct. 22, 2009): <http://pewresearch.org/pubs/1388/global-warming-blogs-balloon-boy-twitter>

Soper, Kate. *What is Nature?* Oxford: Blackwell, 1995.

Story, John, Ed. *Cultural Theory and Popular Culture: A Reader*. Athens: Georgia UP, 1998.

Stringer, Julian, Ed. *Movie Blockbusters*. London: Routledge, 2003.

Strom, Robert. *Hot House: Global Climate Change and the Human Condition*. New York: Praxis. 2007.

Todd, Anne Marie. "The Aesthetic Turn in Green Marketing." *Ethics & The Environment* 9/2 (2004: 86-102.

van Dijck, José. "Picturizing Science: The Science Documentary as Multimedia Spectacle." *International Journal of Cultural Studies* 9/1 (2006): 5-24.

van Hoven, Bettina and Kathrin Hörshelmann, Eds. *Spaces of Masculinities*. London: Routledge, 2005.

van Kooten, G. Cornelis. *Climate Change Economics: Why International Accords Fail*. Cheltenham, UK: Edward Elgar, 2004.

Wasko, Janet. *How Hollywood Works*. London: Sage, 1995.

---. *Understanding Disney*. London: Polity, 2001.

Wasko, Janet, Mark Phillips, and Eileen Meehan, Eds. *Dazzled by Disney: The Global Disney Audiences Project*. London: Leicester, UP, 2001).

"Water World." *Now*. Public Broadcasting. (Oct. 23, 2009): <http://www.pbs.org/now/shows/543/index.html>

Weisman, Alan. *The World Without Us*. New York: Picador, 2007.

Wells, Paul. *Understanding Animation*. London: Routledge, 1998.

Wheeler, Wendy. *The Whole Creature: Complexity, Biosemiotics and the Evolution of Culture*. London: Lawrence & Wishart, 2006.

Whitley, David. *The Idea of Nature in Disney Animation*. Burlington, VT: Ashgate, 2008.

Williams, Alan, Ed. *Film and Nationalism*. New Brunswick: Rutgers UP, 2002.

Williams, Linda. “Melodrama Revised.” *Refiguring American Film Genres*. Ed. Nick Browne. Berkeley: U of California P, 1998. 43-88.

---. *Playing the Race Card: Melodramas of Black and White from Uncle Tom to O.J. Simpson*. Princeton, N.J.: Princeton UP, 2001.

Wilson, Kris M. “Communicating Climate Change Through the Media: Predictions, Politics and Perceptions of Risk.” *Environmental Risks and the Media.* Eds. Stuart Allan, Barbara Adam, and Cynthia Carter. London: Routledge, 2000: 201-217.

Wolfe, Cary, Ed. *Zoontologies: The Question of the Animal*. Minneapolis: U Minnesota, 2003.