Biocultural Ethics and Hollywood Climate Movies, 2004-2024

by

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2025

Ethics International Press, UK

British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN (Hardback): 978-1-83711-286-9

ISBN (Ebook): 978-1-83711-287-6

To Alex

Table of Contents

Introduction

According to a recent survey, only 2.8% of more than 37,000 fictional films and television episodes in the US between 2016 and 2020 included any climate-related content. A non-profit consultancy, goodenergystories.com, which works with media writers to help them craft stories about climate change, conducted the survey. As Anna Jane Joyner, the founder of Good Energy Stories, notes, "Good Energy is a story consultancy for the Age of Climate Change; we aim to make it as easy as possible to portray the climate emergency on-screen in entertaining and artful ways, in any story line, across every genre" (Joyner, 2023, March 12, p. 1). Broadening the genres available to climate fiction is especially important to Joyner, who knows that sci-fi disaster and fantasy plots have dominated climate movies. According to an article about her work by Manuela Andreoni in the *New York Times*, Joyner would like to see more stories "that deal with the uncertainty of the future, and those that portray courage by showing how communities, not heroic individuals, can change things" (Andreoni, 2023 March 10, p. 3). She's especially interested in "stories that deal with the mental health toll of climate change . . . [because] they help viewers who are feeling isolated understand that they are not alone and engage" (Andreoni, 2023 March 10, pp. 3-4).

My *Ethics / Climate Movies* study can help to reinforce the goals of Joyner's Good Energy. Although this book will often criticize Hollywood ethics and values, feature films remain a major medium of "adult education," which we would be foolish to ignore. At the same time, in advocating for more morally serious climate movies, I do not suppose that these are the only kind of films that may help to get us out of the mess we – i.e., western civilization – have created for ourselves and the world.

As Joyner's data suggests, one problem with American climate movies has been their scarcity. Even if early environmental films like *Soylent Green* (1973) are included as "climate" films – and I don't believe they should be – such movies have been relatively rare. (The fear motivating *Soylent* was the so-called "population bomb" and a good case can be made that "environmental" films in general differ categorically from climate crisis movies.) *Ethics / Climate Movies* will make that case – as well as define and analyze the content and general effects of these films on spectators – in a discussion of the most popular of them over the course of their twenty-year history.

More importantly perhaps, Joyner is also interested in broadening the genres in which concerns about our climate emergency can play a major role. This side of her critique touches on some of the ethical concerns that philosopher Stephen Gardiner has called *A Perfect Moral Storm: The Ethical Tragedy of Climate Change* (2011). His Preface briskly outlines the tragedy most humans are avoiding in public discussions of our climate dilemma: "The dominant discourses about the nature of the threat are scientific and economic. But the deepest challenge is ethical. What matters most is what we do to protect those vulnerable to our actions and unable to hold us accountable, especially the global poor, future generations, and nonhuman nature" (Gardiner, 2011, p. xii). These substantial ethical problems constitute the "perfect moral storm" of Gardiner's title and he is well aware that most of his western readers cannot be neutral observers in this discussion. Because we must be judges at our own trial, "This makes it all too easy to slip into weak and self-serving ways of thinking, supported by a convenient apathy or ideological fervor" (2011, p. xiii). Consequently, Gardiner advises, "We should work as hard at identifying bad arguments, policies, and theories as on developing the good; and we must pay attention to the ways important values are articulated, since the likelihood of their perversion is high" (p. xiii).

In addition to his own book, Gardner has coedited *Climate Ethics: Essential Readings* (2010) with several other ethical philosophers that includes eighteen essays. Although published more than a decade ago, most of these pieces focus on topics that remain current and even more pressing today. Despite some incremental progress, international political leaders have done little to address – much less solve – the foundational moral dilemmas of our climate emergency. Both Gardiner's study and the *Climate Ethics* anthology provide ethical guideposts in the study to come.

As Gardiner knows, one of the ways of narrowing discussions about the ethical implications of the climate crisis is by restricting the discourse to matters of scientific knowledge. In 2022, I was surprised to learn that climate and social scientists have not been sharing their methods and conclusions with each other. Both kinds of scientists rely on building models based on statistical information and past success that will allow them to predict future climatological and/or social outcomes. But neither group had been using the conclusions of their counterparts as inputs for their own predictions (Baer and Gordon, 2022, August 28, p. A3). The "good" news, though, according to *The Washington Post*, was that a few climate and social scientists proposed a new type of modelling that coupled climate and social information to track and predict these kinds of interactions.

Unfortunately, I've yet to read the results of such modelling. So, until these scientists get their acts together, it might be a good idea to recall what Jared Diamond wrote twenty years ago in his *Collapse: How Societies Choose to Fail or Survive*: "A society's responses to its environmental problems . . . always prove significant [to its survival or collapse]" (Diamond, 2005, p. 11). This generalization applies just as well to the US as to the twelve other nations and territories he

analyzed at the time. And, as many film scholars recognize, matters of ethics and social cohesion are often reflected in popular movies.

Because our climate difficulties and the films that begin to dramatize them touch on so many other realities in our lives, I am drawing as well for general ethical guidance from cognitive philosopher Mark Johnson. Well known for *Metaphors We Live By* (with George Lakoff), *The Meaning of the Body*, and *The Moral Imagination*, Johnson borrows insights from these books in his *Morality for Humans: Ethical Understanding from the Perspective of Cognitive Science* (2014). In addition to broad general agreement with Gardner and his colleagues, Johnson's work forges a strong theoretical and methodological link with my cognitive and coevolutionary approach to cultural and film studies.

In brief, Johnson demonstrates that moral appraisals are interrelated with creativity, intelligence, aesthetic sensibility, flexibility, and imagination. He begins his "Introduction: The Need for Ethical Naturalism" with the realization that "our values, including our ethical standards and ideals, emerge from our embodied, interpersonal, culturally situated habitation of our world, and not from some transcendent realm" (Johnson, 2014, p.1). He adds, "Surprisingly, this realization did not lead me to moral relativism, but rather to a conception of moral standards as relatively stable, but always provisional and corrigible, norms" (2014, p. 1).

Johnson draws on philosopher Abraham Edel's entry, "Nature and Ethics," in the *Encyclopedia of Ethics* to support his epistemological position: In "ethical naturalism," states Edel, "morality functions to further human survival, maintain community, and regulate relations to keep them effective. . . . Where naturalistic ethics has an explicit metaphysics, it shares with materialism a regard for matter and its ways as a resource, a limitation, a determinant, but it traditionally

rejects reductionism or dualistic assumptions that qualities of consciousness are outside the natural world" (Edel quoted in Johnson, 2014, p. 3). Johnson continues: "On the view I will be developing, there is no basis for drawing a radical dualistic distinction between nature and culture, as though each person had a 'natural' (bodily, physical) self and a distinct and different 'cultural' (social, moral) self that somehow have to coexist and interrelate" (3). "Consequently," he concludes, "in what follows 'natural' is not intended as a contrast term with 'cultural,' but rather as a contrast with 'supernatural.' The only forms of explanation I am rejecting outright are those that posit a realm of transcendent values, alleged to exist beyond the world of our embodied, interpersonal, and cultural interactions" (4). My *Ethics / Climate Movies* adopts the same epistemology.

Johnson's list of "Basic Sources of Value" in *Morality for Humans* demonstrates his awareness of both human evolution and history in the past and the existential threats posed by the realities of our climate emergency in the present and future. Humans, he notes, are the result of "an intricate series of ongoing interactions between our developing biological/social nature and the environments we inhabit, which are at once physical, interpersonal, and cultural. Human creatures seek to survive and grow, and all of this activity naturally occurs in an interpersonal and cultural context" (Johnson, 2014, p. 53). Accordingly, Johnson lists four categories of foundational sources for human values, beginning with a minimum level of "organism fitness" (2014, p. 54), supported by adequate food, clean air and water, protection from predators, and other physical necessities. Next are values "tied to intimate interpersonal relations" (p. 56) to support child care and other aspects of primary socialization, such as empathic family interactions. "Values tied to complex social interactions and institutions" (p. 62) are his third category. They include truthfulness, integrity, courage, acknowledgment of authority, loyalty, civic-

mindedness, and similar social and political virtues. Finally, Johnson discusses "values tied to our quest for meaning, growth, and self-cultivation" (p. 66). His short list for this category includes intelligence, aesthetic sensitivity, open-mindedness/flexibility, and creativity. This final category pulls Johnson's ethics close to Aristotle's eudaimonia, the ancient Greek's recognition that learning and knowledge can lead to the pleasures of a more wide-ranging and prosocial civic life.

Indeed, as Johnson recognizes, this claim puts him into an alliance with philosopher Martha Nussbaum and others who advocate using philosophy to enhance human capabilities. Johnson also compares his basic sources of moral value to similar lists by other philosophers and sociologists. He finds many similarities joining his own concerns to Jonathan Haidt's "six foundations of moral systems," for example. Answering philosophical concerns that a focus on normativity is ill-equipped to elevate human actions, Johnson embraces ecological philosopher Owen Flanagan's approach to this problem: "Morals consist of habits of heart, mind, and behavior. . . . Ethical reasoning is a variety of practical reasoning designed to help us negotiate practical life, both intrapersonal and interpersonal, as it occurs in the ecological niche we occupy" (Flanagan quoted in Johnson, 2014, p. 133).

Not content to rest on his list of ethical priorities, Johnson also discusses where human ethical norms come from, how they are activated, and the nature of good moral deliberation. "One of the most earth-shattering discoveries to come out of the cognitive sciences . . . is that human thinking and willing operate mostly beneath the level of our conscious awareness, often involving intuitive and affect-laden processes," states Johnson (2014, p. 73). This renders the possibility of any basis for transcendent moral reasoning an illusion and leads

Johnson into a discussion of "the affective foundations of morality" (p. 83), which I will take up in more detail in Chapters 2 and 3.

Without absolutes, however, moral deliberation becomes all the more necessary and Johnson takes a pragmatic, Deweyan, path into this thicket. This leads him to the metaphor of moral deliberation as a kind of "dramatic rehearsal" (2014, p. 121), in which different options are played out in the mind and their likely consequences fully imagined and explored. In this regard, he also borrows from ethicist Philip Kitcher, who terms human ethics a kind of evolving project for humanity that can have no conclusion.

Following Kitcher and most other non-foundational social theorists, Johnson appropriates a version of philosopher John Rawls notion of "reflective equilibrium" as a process – notes Johnson – "for constructing a theory that is sensitive and responsive to actual lived conditions, avoids any claim to absolute grounding of values or principles, and gives us a means of proposing moral, social, and political institutions" (2014, p. 128). This leads Johnson to affirm that he will "sometimes need to formulate a utopian vision of a moral system or institution in which everyone is treated equally with regard to available resources, offices, chances to pursue their individual interests, and so on" (pp. 127-28). Johnson admits that such an idealization is unlikely to occur in any society, but adds that "we can often employ such ideals as a way to assess the degree to which different moral systems come close to or diverge from various aspects of the articulated ideal" (p. 128).

Johnson ends *Morality for Humans* with a sermon against "moral fundamentalism." "What we need are not unconditional moral truths . . . [but] "instead, are refined, tested, and sensitive methods of moral inquiry" (2014, p. 190), he insists. In effect, my history of climate change movies positions several key films over a recent twenty-year

period as "dramatic rehearsals" for how the US engaged – or failed to engage – in moral inquires about our climate emergency. And my final chapter will posit a utopian ethical ideal against which our current norms and practices may be judged.

In short, Johnson's ethics allow us to explore the possibility that some US norms, which derive historically from the culture of western Europe, may be in tension with his four categories of biocultural ethical principles. My primary guide to the major psychological elements of American culture will be the work of coevolutionary anthropologist Joseph Henrich, who won international acclaim for his 2020 analysis, *The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous* (2020). All of the major cultures of the present world began to emerge in the long transition from hunting and gathering to agriculture near the beginning of the Holocene Epoch, about 12,000 years ago. Western European culture, in contrast, was a late and unusual – hence "weird" – arrival. Several early African and Middle Eastern cultures, plus Indian and Chinese culture, preceded it.

Indirectly facilitating much of "barbarian" Europe's transition in becoming Western, Educated, Industrialized, Rich, and Democratic (i.e.,WEIRD), the Catholic Church expanded its cultural authority after the Fall of Rome and shaped a new culture that would undermine traditional tribal loyalties in much of Europe and eventually create and come to dominate the industrial western world, including the movies. I will trace this process of coevolution in a later chapter.

Through the course of his nearly 700-page book, Henrich names and discusses the "Key Elements in WEIRD Psychology," which he lists in three general groups: 1. Individualism and Personal Motivation (self-focus, guilt over shame, low conformity, etc.). 2. Impersonal

Prosociality and Related Worldviews (trust and cooperation with anonymous others, reduced in-group favoritism, moral universalism, etc.) and 3. Perceptual and Cognitive Abilities and Biases (analytical over holistic thinking, attention to foreground, and overconfidence, etc.). (Henrich, 2020, p. 56). In general, I will discuss each of the ten films I am examining in depth with regard to Henrich's three major categories and then probe the ethical norms these movies probably influenced spectators to embrace or reject. My general goal in this regard is to ask whether US citizens might ever imagine and demand that their government promulgate ethical policies to avert the worst of the coming climate disasters threatening humanity and other mammals on the Earth.

To get at what film theorist Murray Smith calls the "subpersonal" realities of spectator response to these cli-fi movies – their emotional and cognitive processing and its results – I will approach my analysis through the insights of Smith's *Film, Art, and the Third Culture* (2017). As his title suggests, there is now a "third culture" available for scholarly truth-telling that merges the epistemologies of the humanities and sciences, which Smith terms "*cooperative naturalism*" (2017, p. 3). To introduce this approach, Smith renames and reframes much of what anthropologist Clifford Geertz called "thick description" into "thick explanation." As the new term suggests, Smith desires a more rigorous application of naturalism in seeking scholarly truths than Geertz intended.

When investigating films, Smith says, cooperative naturalists should go beyond an individual critical response to a movie to investigate both its subpersonal and personal levels. Subpersonal realities involve those affective and cognitive operations that are common to all humans, such as empathy, emotions, and our ability to blend two different mental concepts together. Personal phenomena, in contrast,

move beyond individual minds and bodies to involve social, political, and cultural levels of reality. As we will see, coevolution alters both subpersonal and personal realities. Consequently, a naturalistic historical understanding of evolved *Homo sapiens* necessarily builds upon both.

Smith puckishly alters the title of a play by Edward Albee (who took it from a song in Walt Disney's cartoon, *Three Little Pigs*) to name one of his chapters, "Who's Afraid of Charles Darwin." Smith makes it clear that his naturalistic framework for film study must include evolution: "I think we can boil down contemporary opposition to Darwinian theory, at least as it is applied to social and cultural matters, to three groups: creationists (of course), humanists (of a certain sort), and many of those on the political left" (2017, p. 151). Smith passes over the creationists to comment on the other two groups: "Traditional humanists and leftists often argue that an appeal to natural science, and especially evolutionary theory, necessarily results in explanations which are reductive, deterministic, and politically reactionary. Through the case study on emotion and expression that I have presented in this chapter, I have sought to point up the inadequacy of conventional wisdom on these matters" (151). In brief, Smith's study of subpersonal emotions and facial expressions makes it clear that evolution must play an important part in any cogent explanation of the performance and reception of these film images.

In his next chapter, Smith underlines the dual role that culture and biology play in human history, including film production and reception. He cites philosopher Kim Sterelny to support the biocultural view that "there is no culture/biology divide, either in human phenotypes or in human environments" (Sterelny quoted in Smith, p. 156). Just because, as Hegel and others assert, "humans are uniquely self-conscious and self-reflective" (p. 156) compared to other

species, this does not mean that "the capacities and traits we inherit exert no pull on us" (p. 156). (And because Hegel's philosophy, of course, preceded the Darwinian revolution by several decades, it's foolish to set his views against Darwin's.) Smith also notes film theorist Torbin Grodal's groundbreaking work on the dual influence of evolution and culture to state that "the existence of cultural variation does not reflect the absence or transcendence of biological imperatives within human experience, but rather the complexity of human biology" (158). Smith concludes: "Every cultural act or event depends, ultimately, on some biological capacity; and conversely, even our most basic, instinctual, 'purely' biological needs must manifest themselves in a cultural context, given that such contexts are the naturally evolved settings for human action" (p. 158).

Cooperative naturalists, Smith advises, should also "strive to prioritize description and explanation and avoid matters of subjective critical judgment" (2017, p. 53). Smith's general aim in *Film, Art, and the Third Culture* is to separate making and appreciating film art from the challenging task of explaining it. Although these aims focus on different activities, says Smith, it's possible for cooperative naturalists to occasionally stray into creation and appreciation, but they must primarily emphasize explanation. Consequently, historical explanations – the aim of this book – must involve the wide arena of coevolved continuities and differences.

I will delve into the coevolutionary basis of our cultural inheritance primarily through Stephen T. Asma's and Rami Gabriel's *The Emotional Mind: The Affective Roots of Culture and Cognition*. Asma (2021) provides a good overview of much of their 2019 book in his "Target Article" for a "Symposium on Adaptative Imagination," published in *Evolutionary Studies in Imaginative Culture* (2021, p. 2). There he writes that most of what we call science is a part of our

"indicative," not our "imperative" mode of thinking and responding. As he explains, our minds deploy two distinct modes to comprehend our experiences. When we see a snake in the grass – in one of Asma's telling examples – our indicative cognition tells us that the animal is a "snake," while our imperative minding is urgently energizing our body to "RUN" (Asma, 2021, pp. 2,4)! The two cognitive modes can act together, as in this example, but humans also evolved to separate them into what many psychologists call "hot" and "cold" cognition. Hot cognition is ancient and dominant. Predating language and logic, it helped our ancestors to survive through gut feelings, imperative emotions, and rapid reflexes.

One way of guiding and modifying the commands of our emotions, however, is storytelling. According to Asma, "the symbols that rule this imperative world of action are stories and images, not the phylogenetically more recent descriptive language of science" (2021, p. 4). Stories are especially important, says Asma, because all humans experience their own lives as inherently dramatic: "Our everyday world is a *story* of struggle, failure, overcoming enemies and challenges, forging alliances, nurturing children, hoping, dreaming, hunting, and being hunted. This is as true for my local librarian and mail carrier as it is for the Kalahari Bushmen and Aboriginal Arrente people" (p. 3). Asma affirms that we come to understand ourselves and our social world primarily through the stories we tell: "Paradoxically, high quality social knowledge can be better acquired through stories than through actual human interaction. . . . A well-told story or enacted performance usually reveals the causal network of internal feelings, ideas, and actions" (p. 6). Because these dynamics are often hidden to us even in the interactions of our own families, Asma concludes that stirring stories, unlike indicative reports of factual information, can directly motivate all individuals and groups to take purposeful action.

Film history is full of hot emotional scenes linked to sweeping narratives that motivated individual and group behavior to shape personal, social, and political ends. Eisenstein's *Battleship Potemkin* (1926) not only introduced filmic montage but helped to consolidate Communist rule in the new Soviet Union during the late 1920s. In the US, the scenes of racist violence in D.W. Griffith's *The Birth of a Nation* in 1915 – shown in the White House as well as throughout the country – helped to motivate the rebirth of the Ku Klux Klan, mostly dormant since Reconstruction. Twenty-four years later the myths that glorified the slave South got a Technicolor, star-studded, and musically enraptured boost in *Gone With The Wind*, which helped to perpetuate white racism and Jim Crow segregation into the 1960s. Hot film narratives and images can work toward progressive ends as well, as the examples of *A Raisin in the Sun* and *Dr. Strangelove* vividly demonstrate. In addition to these obvious instances, film and social historians have amply related the pervasive influence that popular movies have had on public health, gender norms, economic expectations, and a wide range of cultural behaviors.

Unfortunately, many American news and entertainment media relegated information about climate change to modes of cognition that were much more indicative than imperative and action-oriented. Until recently, even TV weather reports of hurricanes and forest fires were often filled with abstract charts and bland information, partly to validate their scientific credibility. If they included pictures of devastation, the events that caused them were usually safely in the past, with no plea to stop the destruction NOW! (These days, they are more likely to be videos of rampaging floods or howling winds, but often so ferocious that they seem to be beyond human control.) Popular feature films are generally better at mobilizing immediate action when that's their aim, but Hollywood has produced many more documentaries than melodramas, thrillers, comedies, and

tragedies centered on climate fears. Some docudramas do include a narrative arc – *An Inconvenient Truth* is partly about Al Gore's journey towards enlightenment and concern, for example – but the film does not tell an imperative story designed to move viewers to take immediate action.

Author George Marshall, an expert in media communication, bemoans the lack of emotion-laden feature films that could motivate action to mitigate our climate crisis. His 2014 book, *Don't Even Think About It: Why Our Brains are Wired to Ignore Climate Change*, nicely complements the work of Asma. Although published several years earlier, much of the research Marshall cites bolsters Asma's evolutionary embrace of storytelling and strong emotions as an important key to rescuing our biosphere and species. Simplifying Asma, Marshall writes, "Stories . . . are the means by which the emotional brain makes sense of the information collected by the rational brain" (2014, p. 105).

Still, several communication scholars note that many feature films, along with most television programs and streaming series, practice modes of narrative and spectator involvement that are more "hedonic" than "eudaimonic." Hedonics is the branch of psychology that analyzes self-oriented pleasurable and unpleasant states of emotion and consciousness, while eudemonics is an Aristotelean ethical position that assumes that moral actions toward others – not selfish pleasures – lead to happiness. Most popular films excite audiences hedonically with thrilling spectacle and easily manipulated emotions rather than involving them in prosocial, morally complex fictional relationships with complex characters that may challenge their perceptions, morals, and beliefs. Although the hedonic-eudaimonic distinction is an important one, some scientists have attempted to carve out separate cognitive and physiological

dynamics, apart from general mammalian affective behavior, that defines and regulates eudaimonic operations. As will be apparent, I do not take this unnecessary step.

Since the 2017 publication of Smith's *Film, Art, and The Third Culture*, many cultural historians and social scientists have taken his path between the humanities and the "hard" sciences to analyze climate-related fiction on film and other media with methods that combine empirical rigor with difficult historical questions, including the effects of popular media on audiences. One of the best of these recent efforts is *Empirical Ecocriticism: Environmental Narratives for Social Change* (2023), edited by Matthew Schneider-Mayerson and others. The anthology puts together provocative essays on methods, case studies, and reflections that focus on the analysis of climate-change problems from a variety of empirical perspectives. I'll be turning to its advice and analysis throughout this book.

Although it centers mostly on subpersonal rather than personal and social-historical explanation, *Screen Stories and Moral Understanding* (2023), edited by Carl Plantinga, also provides key insights. In his essay in the anthology, Murray Smith makes some useful distinctions between documentary and fictitious films that clarify the kinds of "morals" that fictitious movies often invite us to transfer to our lives in the real world. Robert Sinnerbrink's essay helpfully joins together "Affect and Moral Understanding" in his approach to audience response. And Helena Bilandzic, who also has an essay in *Empirical Ecocriticism*," underlines the difficulties of actually changing cultural morality in her, "Moral Cultivation: The Slow, Subtle, Small Effects of Filmic Narrative on Moral Understanding."

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Biocultural Ethics and Hollywood Climate Movies, 2004-2024 develops over seven chapters. "Chapter 1: Our Biocultural Heritage and Climate Predicament" begins with an overview of human coevolution and briefly traces performances of dramatic fiction from their beginnings in ritual to the movies. This synthesis of genetics and culture emphasizes our mammalian inheritance as the primary drivers of our emotions, which continue to shape the kinds of films we make and enjoy. What anthropologists call culture began evolving later and out of culture – after *sapiens* emerged – came early political beliefs. The next section of the chapter shifts to our present climate predicament and the response of denial and dread that it has fostered. Finally, the last section of the chapter sets the stage for the emergence of climate films in 2004.

"Chapter 2: The 'Impact' of Cli-Fi Disaster Movies" primarily examines the psychology of disaster movies centered on climate change, the most popular and numerous examples of films intended to allay the fears of climate disasters in the US between 2004 and 2024. It begins with a method for assessing the emotional structure of and audience engagement with *The Day After Tomorrow*, the hit movie that began a string of formulaic cli-fi flicks, which continued popular for sixteen years. I will also critique a different methodology for assessing the "impact" of this movie – a social-scientific method that emerged soon after its success. In addition, the chapter examines two other popular cli-fi disaster movies, in part, by comparing what the films do with their spectators to the kinds of therapies recommended by Dr. Britt Wray in her *Generation Dread: Finding Purpose in an Age of Climate Anxiety* (2022).

In the next chapter, I deemphasize psychological film analysis to engage in cultural critique and history. "Chapter 3: Chinese-American Cli-Fi and a Brief History of WEIRD Culture" begins with what may

be called a Chinese-American climate disaster movie, *The Wandering Earth*, which borrows from both cultural legacies. Much of the rest of this chapter summarizes Joseph Henrich's *The WEIRDest People in the World,* which contrasts Chinese and Western culture along the lines suggested by Henrich. Widely celebrated for its method and insights, Henrich's study tracks the development of western culture in the early middle ages, its spread from Europe via colonial conquest and imperialism to North America and other Anglosphere and Francophone colonies, plus its global economic success in the twentieth century. Many of the values and practices of WEIRD culture are directly implicated in our current climate crisis. A final section of the chapter turns from general history to the history of Hollywood and examines the cli-fi disaster movies already discussed from a cultural and ethical perspective.

Hollywood producers, writers, and directors also explored the genres of fantasy and social problem movies as possible frameworks for moralizing about our climate emergency. In "Chapter 4: Climate Fantasies About Capitalism," I begin with *Nurturing Our Humanity: How Domination and Partnership Shape Our Brains, Lives, and Future*, by Riane Eisler and Douglas P. Fry (2019), in order to focus attention on Hollywood's general reluctance to tackle the problematics of capitalism. Then I examine *Beatriz at Dinner*, which refuses to confront capitalist domination by turning to Alice-in-Wonderland dreams. Next, I look at James Cameron's blockbuster hit, *Avatar*, which invents a capability of super-empathy for his good guys, who use it to repel rapacious American imperialists to live in peace in an idealized nature.

"Chapter 5: Tragic Emotions in Climate Thrillers" examines two films that take advantage of the ethical flexibility offered by the psychological thriller genre. Worried that hurricanes or tornadoes will destroy his family, the main character in *Taking Shelter* suffers from

panic and grief, the emotions of tragedy. The centerpiece of the chapter is my analysis of *First Reformed*, writer-director Paul Schrader's investigation of his central character's near suicide in a narrative that mixes Calvinist guilt with the possibility of eventual eudaimonic reconciliation. The chapter ends with Dr, Wray's prescription to get involved with the Good Grief Network as a means of channeling climate grief into good works.

"Chapter 6: American Politics and Climate-related Movies" extends my discussion of WEIRD culture into recent American politics, specifically the rise of political polarization from 2000 to 2020. This polarization included several groups of films that advanced distinctive ideological perspectives – libertarianism, vigilante justice, and Christian authoritarianism. The chapter culminates in an examination of *Joker*, the surprise hit of 2019 near the end of Trump's first presidency, that wrapped these three strands of domination into a vicious web of nihilistic despair. Together with the Covid pandemic, *Joker* mostly ended the shallow optimism and declining relevance of cli-fi disaster movies.

"Chapter 7: Toward An Ethical Basis for Climate Governance" begins with a brief analysis of *Twisters* and two other post-pandemic films, before turning to the dire implications for US climate policy in the first six months of President Trump's second term in 2025. Next, I introduce Peter Corning's utopian vision of biocultural ethics, his *Superorganism: A New Social Contract For Our Endangered Species*, written in 2023. Corning builds his plans upon many of the ethical norms practiced by *sapiens* hunter gatherers and recommended as basic sources of value by Mark Johnson, including adequate nurturance, interpersonal empathy, and values supporting complex social interactions.

* * *

In *Don't Even Think About It*, George Marshall borrows a comment about climate disasters and our species' fear of death from the science writer, Carolyn Baker, who states: "[The expectation of] collapse forces us to march in a funeral procession toward the end of life as we have known it – and the end of ourselves as we have known them. And who, I ask, would willingly sign up for this?" (quoted in Marshall, 2014, p. 209). Many other climate progressives, of course, have shifted their concern from themselves and their contemporary communities to worry about the loss of a viable future for their children and grandchildren. I find myself among this group of potential tragic mourners. Trying to imagine the life of my grandson, now age fifteen, for the next fifty years has been the most depressing part of this investigation for me.

In his "Introduction" to *Why Climate Breakdown Matters* (2022), philosopher-journalist Rupert Read dwells on our grief about the climate chaos we face to mobilize such necessary feelings for progressive change:

We need to be reminded that we are embodied beings . . . who begin and end in Earth. And specifically, we are mammals: those that suckle their young. Even more specifically, human beings: those that know and must seek to understand ourselves, together. . . . If politics and society have a first virtue, then perhaps it is this: taking care of our young. . . . *That's what we do*. It is fundamental to who and what we are. And this care, if taken seriously, ramifies into the future. (Italics in original) (Read, 2022, pp. 1-2).

Read's musings have tragic as well as ethical ramifications. If "what we [should] do" as moral mammals is take care of our young, how can we avoid a measure of guilt for having failed to hold all humans, including ourselves, accountable for the last thirty years during which the "adults in the room" already knew that the way we lived our social

and economic lives in the US was destroying many other lives on Earth. The notion of a person's "carbon footprint" was invented by Big Oil to shift the blame for climate catastrophes from corporate greed to individual behavior. But the image can also be Hollywoodized into an AI Godzilla who sheds microplastics, guzzles gasoline, and breathes out CO_2 as he crushes humans underfoot in his thirsty rampage across the major cities of the industrialized Earth. We have permitted and even empowered this supersized Big Foot, our collective carbon footprint, to kill thousands of people around the world. The monster's victims already include flood killings in Pakistan, food refugees in Somalia, hurricane drownings in North Carolina, fire victims in California, and millions of others whose lives have been cut short by climate-related pollution and disasters. Nearly all of these deaths were preventable tragedies, not simply the result of poverty, location, or bad luck. And most of us living in the West have willingly participated in cultures and societies that helped to make this crushing pain more deadly. How can we begin to account and atone for our willful blindness and careless blunders? In retrospect, I wrote this book partly to find out.

Chapter 1
Our Biocultural Heritage and Climate Predicament

The term "predicament" in my chapter title better describes our situation than the more familiar "problem." As climate historian John Michael Greer points out:

> A problem calls for a solution. A predicament, by contrast, has no solution. Faced with a predicament, people come up with responses. Those responses may succeed, they may fail, or they may fall somewhere in between, but none of them "solves" the predicament, in the sense that none of them makes it go away."
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> Greer quoted in Boyd, 2023, pp. 28-29.

Because none of us will live forever, human mortality is also a predicament. As will soon be evident – if it isn't already – our climate emergency is a predicament, too. Given the failure of humanity to act promptly in the 1960s, when we first became aware that too much CO_2 was warming the Earth, it is no longer possible to treat global heating as a problem that can be eliminated. Together with many other realities and ramifications of climate change, it will be with us for a very long time, if not forever.

Given this situation, we need to get to the root of our predicament, which has partly to do with the biological and cultural evolution – or coevolution – of humanity. With the publication of *Culture and the Evolutionary Process* in 1985, biologists Robert Boyd and Peter J. Richerson were the first to offer a widely accepted explanation for the

process that linked together the genetic and cultural evolution of *Homo sapiens*. Many biologists had been working toward this synthesis since the late 1970s. By building mathematical models to test how both processes could have co-produced the evolution of our species, Boyd and Richerson outlined a theory that also substantiated the importance of group rather than individual change over time. In 2005, Richerson and Boyd's *Not By Genes Alone: How Culture Transformed Human Evolution* confirmed their earlier overview. Their 2005 book also demonstrated empirical links between their theoretical models and current archaeological findings about past hominid hunter-gatherer cultures.

These ongoing interactions between genes and culture during the long evolution of the *Homo* genus, which produced several other species before *sapiens* came along, were the key. This process occurred from roughly 2.1 million to 300,000 years ago during what is known as the Pleistocene Epoch. In response to the old either/or question – was our evolution mostly a matter of nature or nurture? – Richerson and Boyd voiced a both/and conclusion: Both genes and culture acted together to shape our species. World famous biologist E.O. Wilson affirmed this consensus in 2005 with the statement: "Human behavior is determined neither by genes nor culture but instead by a complex interaction of these two prescribing forces, with biology guiding and environment specifying" (Wilson, 2005, p. vii). For the *Homo* genus, those "environmental" forces were predominately cultural.

Genes and Culture in Coevolution

The coevolutionary synthesis validated by biologists and Anthropologists opened the floodgates for a variety of specialized studies beginning in the mid-1990s and continuing today. When you read the following list of many of these authors and their titles, note the importance of language that relates to minding, equality, and the

morality of cooperation in their titles. These books included Christopher Boehm's *Hierarchy in the Forest: The Evolution of Egalitarian Behavior* (1999) and Evan Thompson's *Mind in Life*: *Biology, Phenomenology, and The Sciences of Mind* (2007). In a series of books beginning with *The Origins of Human Cooperation* (2008) and including *A Natural History of Human Morality* (2016), Michael Tomasello investigated the coevolutionary origins and flourishing of cooperation among our hunter-gatherer ancestors. The essays on *Empathy and Agency* in a book of the same title edited by Hans Kogler and Karsten Stuber (2000) and Sarah Hrdy's *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (2009) validated the importance of empathy for social understanding and child-raising. In *A Cooperative Species: Human Reciprocity and its Evolution* (2011), economists Samuel Bowles and Herbert Gintis explored the coevolution of social norms for economic cooperation during the Pleistocene. Pursuing similar lines of inquiry, biologist David Sloan Wilson asked *Does Altruism Exist?* His subtitle, *Culture, Genes, and the Welfare of Others* (2015), underlines Wilson's affirmative answer.

Supporting the coevolutionary synthesis were several significant anthologies of essays, two of which included many of the scholars already named. Peter J. Richerson and Morten H. Christiansen edited *Cultural Evolution* (2013), which featured four sections on The Structure of Human Groups, Technology and Science, Language, and Religion during the Pleistocene. Peter Turchin authored an essay on "ultrasociality" and joined others to write concluding essays on "The Cultural Evolution of the Structure of Human Groups." Joseph Henrich contributed significant essays to the anthology on the evolution of technologies and prosocial religions.

Daniel Dor, Chris Knight, and Jerome Lewis edited a second, more specialized anthology on *The Social Origins of Language* (2014). Aiming

to counter Noam Chomsky's long-dominant view that the evolution of language depended on genetics, the authors in this anthology emphasized that language was primarily a social technology of communication, dependent upon collective cooperation. As such, the many forms of hunter-gatherer sociality already discussed effectively set the stage for the emergence and flourishing of language around 200,000 years ago, a mere 100,000 years after the appearance of *sapiens*.

The biologists and social scientists who validated the coevolutionary synthesis also recognized the increasing importance of culture over genetics as improvements in our genus gradually created new hominin species. But when did "nurture" take the place of "nature" as the primary driver of our evolution? In *The Secret of Our Success: How Culture is Driving Human Evolution, Domesticating Our Species, and Making Us Smarter* (2016), Joseph Henrich presents suggestive evidence that the emergence of *Homo erectus* roughly 1.8 million years ago marks a turning point in human coevolution away from a primary reliance on genes toward the dominance of culture. Of course the emergence of a nurturing culture also depended upon earlier genetic selections. The new species on the block had bigger brains, speedier legs and feet, wider hips, better aim when throwing spears, and a more flexible voice than her and his predecessors. Henrich builds on the work of many others to demonstrate that by this point in our evolution we practiced group parenting, relations of prestige as well as dominance in community interactions, altruistic behavior in dangerous situations, and types of leadership and governance that were already laying the foundations for the emergence of tribal languages. He would use this synthesis as the basis for emphasizing culture over genetics in 2020 when he published *The WEIRDest People in The World*.

Finally, this chapter will supplement my borrowings from Henrich with insights from several other historians, including Peter Turchin. Turchin founded Seshat with other historians and social scientists to demonstrate empirically that many past empires and nation-states followed cyclical paths of socio-political integration and disintegration. Seshat scholars arrived at these cyclical patterns through a method called "retrospective prediction." If there are two or more possible explanations for a historically validated result or the behavior of some variable," says Turchin, "we then ask historians to explore the archives, or archaeologists to dig up data and determine which theory's predictions best fit the data" (Turchin, 2008, p. 35). "Retrospective prediction, or retrodiction," he adds, ought to be "the life-blood of historical disciplines. . .," (2008, p. 35), For example, Turchin followed Richerson and Boyd's coevolutionary dynamics and mathematics to build a model demonstrating how and why altruism increased in our species near the end of the Pleistocene Epoch.

As yet, there is no consensus among the many scholars working within the coevolutionary synthesis as to the best ethical way forward for humanity in the face of our worsening climate emergency. Looking at the field as a whole, most scholars would agree with Mark Johnson that we need to learn from the norms and successes of our species' past because humans, broadly conceived, still require the fulfillment of basic needs and social cooperation in order to thrive and succeed. Human babies need nurturance and education from supportive adults to enable their empathic and emotional maturity. Loyalty, cooperation, and everyday altruism remain important attributes of social life. The rough equality of the hunter-gatherer economy, together with expectations about equity and reciprocity, remain important for humans into old age. And it's already evident that present climate realities are stretching human social and political institutions around the world to the breaking point.

It's important to emphasize that Johnson, Turchin, Boyd, Richerson, and Henrich – along with film theorist Murray Smith and the anthropologists, historians, linguists, cognitive and neuroscientists, and evolutionary psychologists I have named above – affirm the epistemology of naturalism to validate their insights, Working in the tradition of Charles Darwin, John Dewey, and nearly all philosophers of science today, these scholars would embrace Peter Godfrey-Smith's understanding of this general theory:

> Naturalism in philosophy requires that we begin our philosophical investigations from the standpoint provided by our best current scientific picture of human beings and their place in the universe…. The science we rely on is not completely certain, of course, and may eventually change. The questions we try to answer, however, need not be derived from the sciences; our questions will often be rather traditional philosophical questions about the nature of belief, justification, and knowledge.
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> Godfrey-Smith, 2003, p. 154.

This book about emotions, cultures, and politics at the movies, will use several sciences to try to understand how American audiences have peered through the lens of their mainstream culture to enjoy movies about climate change, in the process justifying (and sometimes changing) their knowledge about themselves, others, and the ecosystem of the planet.

The Movies in Coevolutionary Perspective

With Murray Smith's cooperative naturalism in mind, the following summary will touch on some of the major affective and cognitive components and the socio-cultural consequences of early