The End of Apocalypse: The Rhetoric of Apocalypse in Contemporary Environment Discourse

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in English

by

Keira M. Hambrick

Dr. Michael P. Branch/Thesis Advisor

August, 2011
We recommend that the thesis
prepared under our supervision by

KEIRA M. HAMBRICK

entitled

The End of Apocalypse: The Rhetoric of Apocalypse in Contemporary Environmental Discourse

be accepted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS

Dr. Michael P. Branch, Ph. D., Advisor
Dr. Lynda C. Walsh, Ph. D., Committee Member
Dr. Thomas Nickles, Ph. D., Graduate School Representative
Marsha H. Read, Ph. D., Associate Dean, Graduate School

August, 2011
Abstract

The aim of this thesis is to examine the definitions and uses of apocalyptic rhetoric in contemporary environmental discourse. I engage Barry Brummett’s definitions of premillennial and postmillennial configurations of apocalyptic episodes to examine how apocalypticism functions in environmental nonfiction, eco-fiction, and science fiction. I also apply Carolyn Miller’s genre theory to my work, investigating how different textual forms (nonfiction, eco-fiction, and science fiction) combine with apocalyptic episodes and strategies to produce distinct sub-genres of apocalyptic environmental writing. Rolf Zwaan’s work on genre expectations aids my analysis of how, within these sub-genres, readers’ genre expectations affect whether and to what degree they are able to separate, or decouple, reality from the world represented in the text. I argue that environmental nonfiction disables the decoupling process, and I explore how this inability to decouple influences the effects of apocalyptic rhetoric on audiences. In eco-fiction and science fiction, however, the activation of this cognitive decoupling process provides a creative space in which readers are able explore alternate realities. I contend that the decoupling of apocalypticism in environmental writing is an important process for environmentalists, ecocritics, and environmental rhetors to understand. Many critics and theorists consider apocalypticism the voice of the environmental movement, and it is my goal to reveal how this voice changes in different genres to speak to audiences about environmental concerns and action.
Dedication

For all living beings: may we go placidly amidst the noise and haste and learn to live in the present so that we may create a better future.
Acknowledgements

I owe heartfelt respect and gratitude to many people who have guided and assisted me during the development of this thesis project. First, I would like to thank my father for always encouraging and expecting the best from me, and my mother for her constant patience and support. I also extend my gratitude and love to my grandparents for their encouragement and love. I would also like to thank my dear friend, Dr. Tim Catalano, for igniting my lifelong interest in environmental rhetoric and the relationships between readers, authors, and texts. To my advisor and friend, Dr. Michael Branch, I am grateful for his unflagging support of my work, the helpful feedback on my writing, and his sage advice in all matters. I am also indebted to Dr. Lynda Walsh for her intellectual rigor and guidance in developing my skills as a writer and thinker. I appreciate Dr. Tom Nickles for his interest in and support of my project, and his energizing feedback. My committee has devoted much time and effort to my work, and I am grateful for the opportunity to have collaborated with such brilliant minds. I extend my gratitude to the community of friends and scholars in the Literature & Environment program at the University of Nevada, Reno. Finally, I would like to offer my love and thanks to Derya Şahingil for her unwavering support and for all the cups of tea that fueled the writing of this thesis. I dedicate this work to all of you in the hopes that it serves as adequate thanks for your presence in my life.
# Table of Contents

Preface ................................................................................................................................. 1

   Defining Environmental Apocalypticism as a Rhetorical Tool ......................................... 7
   Apocalyptic or Precautionary? .......................................................................................... 14
   Environmental Discourse Genres and Expectations .......................................................... 16
   Decoupling Apocalypse from Reality ............................................................................... 19
   *An Inconvenient Truth* ................................................................................................. 21
   *Eaarth* .......................................................................................................................... 25
   Conclusion ....................................................................................................................... 28

2. Reimagining Apocalypse: Speculation in Environmental Fiction ..................................... 31
   Feeling the Environment via Fiction .................................................................................. 32
   Apocalyptic Eco-fiction .................................................................................................... 33
   Building the Future ........................................................................................................... 34
   Bleak to the End ................................................................................................................ 42
   Conclusion ....................................................................................................................... 49

3. Destroying Imagination to Save Reality: Science Fictional Apocalypse ............................. 51
   Defining the Genre of Speculation and Wonder ............................................................... 53
   Identifying the Features and Expectations of Science Fiction .......................................... 55
   Decoupling Apocalypse in Science Fiction ....................................................................... 56
   *The Windup Girl* .............................................................................................................. 59
   *Oryx and Crake* ............................................................................................................... 67
   Conclusion ....................................................................................................................... 74

Conclusion: Revisioning Apocalypse in Environmental Discourse ....................................... 77

Works Cited .......................................................................................................................... 81
Preface

This thesis explores the definitions and uses of rhetorical apocalypticism in environmental texts. To garner audience attention, and to inspire action in already attentive audiences, environmental rhetors often employ apocalyptic rhetoric. While apocalyptic appeals have appeared throughout innumerable texts and arguments, the use of environmental apocalypticism most notably begins with the 1962 publication of Rachel Carson’s *Silent Spring*, which used apocalyptic imagery to inform the public about the dangers of indiscriminate pesticide use on the environment and human health. Many environmentalists have lauded *Silent Spring* as the text that catalyzed the environmental movement and, because of the success of Carson’s use of apocalyptic rhetoric, environmental rhetors have since continued to employ apocalyptic episodes and strategies in an effort to persuade audiences to give credence to warnings that, if ignored, might result in environmental crisis.

Critics, too, have had much to say about the apocalyptic rhetoric in *Silent Spring* and other environmental texts. A common argument is that the use of apocalyptic rhetoric is little more than environmentalist hysteria: unfounded shock tactics that fail to legitimate environmental issues or mobilize action to mitigate human impacts on the environment. Much of the criticism surrounding apocalyptic environmental rhetoric stems from a general misunderstanding and misuse of the concept of apocalypticism by both writers and readers. Due to this misunderstanding, environmentalists may hinder their own arguments and provide critics fodder for dismissive claims of environmentalist hysteria. Readers, too, suffer the negative effects of this misunderstanding as they are
discouraged by genre expectations and their associated text comprehension strategies from contributing to or believing in environmental issues and movements.

As a work of ecocriticism—the interdisciplinary study of literature and environment—this thesis seeks to add to our understanding of how environmental writers rhetorically engage contemporary audiences with environmental and social concerns. Like Amy Patrick, I hope to answer environmental communication scholar Robert Cox’s pertinent question: “How can environmental advocates invite public awareness and concern without crying that the sky is falling?” (284). Patrick argues that writers and readers alike mistakenly label texts apocalyptic when they should instead be considered “precautionary.” However, I argue that apocalyptic narratives are not necessarily precautionary—this distinction instead depends upon which text comprehension elements are activated by the genre in which apocalypticism is encountered. By examining the effects of genre expectations and conventions on the effects of apocalypticism, I hope to show ecocritics and environmental rhetors alike that we are in need of a more concerted study of genre and apocalypticism so that environmental discourse can become less closely engaged with the doom and gloom of apocalypse.

As a study of rhetoric in use, this thesis delineates the patterns of apocalyptic rhetoric that appear in select genres of environmental discourse and seeks to improve these practices. By merging ecocriticism with rhetorical analysis, I hope to demonstrate the limitations of the rhetoric of environmental apocalypse and to encourage discussion and use of genre theory and environmental rhetoric as important tools for environmentalists and ecocritics. This thesis will serve as a basis for improving the
efficacy of environmental discourse by introducing sensitivity to the nuances of language and genre in our discussions of environmental crises and environmental reform.

Attentive to a literary tradition concerned with informing and motivating the public to care about and engage with environmental issues, I examine the rhetoric of environmental apocalypticism in Al Gore’s *An Inconvenient Truth* (2006), Bill McKibben’s *Eaarth* (2010), James Howard Kunstler’s *World Made By Hand* (2008), Cormac McCarthy’s *The Road* (2006), Margaret Atwood’s *Oryx and Crake* (2004), and Paolo Bacigalupi’s novel *The Windup Girl* (2009). In particular, I explore how the different types of text—nonfiction, eco-fiction, and environmental science fiction—affect how readers perceive the use and meaning of apocalyptic episodes and strategies.

As a definitively interdisciplinary field of study, ecocriticism must be aware of the evolution of environmental discourse in many fields, including literary studies, education, communication, philosophy, sociology, psychology, the sciences, and politics. As such, it is important that ecocritics not only know of but also follow this evolution and begin to let go of the rhetoric of environmental apocalypticism. To understand the limitations and significant flaws of apocalypticism allows environmental writers and ecocritics to develop strategies to promote sustainable relationships between humans and environment. Moving away from the use of apocalyptic shock tactics may invite more people to engage environmental issues, and may help to dispel some of the misery, apathy, and fear surrounding environmental engagement. To effectively protect and improve the environment, writers and readers alike must not only feel responsibility but also feel empowered to do some good. Rhetorical apocalypticism, rather than being empowering or inspiring, can distress and intimidate nonfiction readers (Doherty and
Clayton 265), but the combination of apocalypticism with more creative and speculative genres of text may alleviate readers’ anxiety about ecological apocalypse.

I have three audiences in mind in this thesis project: those who write about environmental issues, employing apocalyptic rhetoric to do so; the ecocritics and environmental rhetors who study environmental texts; and readers interested in the relationships between environmental discourse and mass audiences. For writers, I clearly define and explain the meaning and impact of apocalyptic rhetoric on audience environmentalism. I hope to show that the rhetoric of environmental apocalypse, when merged with nonfiction sources, may not be the most effective means of inspiring ecological consciousness in audiences. For ecocritics, I intend to demonstrate how the use of rhetorical apocalypticism in nonfiction environmental discourse ultimately undermines the aims of the environmental movement, and I suggest instead that we learn to recognize the effects of merging apocalyptic strategies and episodes with other textual forms. For readers in general, I hope to show that apocalypticism is not the only way we can discuss or improve the condition of the environment.

The texts I examine in this thesis have in common that they are contemporary examples of environmental discourse that employ various forms of apocalyptic rhetoric. In the first chapter, I examine the rhetoric of environmental apocalypticism in such nonfiction environmental texts as Bill McKibben’s *Eaarth*, and the print version of Davis Guggenheim and Al Gore’s famous documentary, *An Inconvenient Truth*. My focus shifts to eco-fiction in chapter two. The third chapter focuses on the use of apocalypticism in environmental science fiction. The concluding remarks of this thesis suggest that
studying the genre theory improves general understanding of the mechanics and functions of apocalypticism in environmental discourse.

I do not explore non-secular apocalyptic texts in this thesis, nor do I discuss rhetorical apocalypticism in film, drama, poetry, music, visual or performance art, or advertisements. Because my goal is to examine the definitions and uses of apocalyptic rhetoric in three genres of environmental texts, I have chosen to focus closely on two examples of each genre, rather than to engage a wide array of texts. Through these close readings, I build a case for the variation of employment of environmental apocalyptic rhetoric and its place in environmental discourse. In so doing, I hope to facilitate conversation about the examination of apocalyptic rhetoric in environmental texts and inspire an interest in better understanding and implementing this rhetorical strategy.
1. Postulating the End of the World: The Rhetoric of Environmental Apocalypse

In this chapter, I establish the theoretical groundwork of this thesis. First, I provide the context for apocalyptic discourse in environmental writing, focusing on its definitions and rhetorical functions. Environmentalists and rhetoricians need to study apocalypticism because many critics consider it the voice of the environmental movement. In my discussion of apocalypticism, I provide a rebuttal to Amy Patrick’s argument that apocalyptic writing is a subset of a larger precautionary strategy. I argue that the precautionary tale, the jeremiad, and the elegy are distinct strategies that may express apocalyptic elements. I use Carolyn Miller’s genre theory to examine the elements that constitute different textual forms of environmental discourse, and how these texts differently engage apocalyptic themes. In the next section, I discuss the process by which readers decouple the world of the text from their real, situated world, focusing on how this operates in nonfiction environmental texts. Here, I focus my analysis on Bill McKibben’s *Eaarth* (2010) and Al Gore’s book, *An Inconvenient Truth* (2006). My goals in this chapter are to define rhetorical apocalypticism and to show its limitations in environmental texts; to foreground my critical and theoretical framework; and, to expose how the focus on environmental apocalypticism in these texts obfuscates the real goals of the texts and the environmental movement. Finally, I hope this chapter will serve as an introduction to the effects of decoupling apocalyptic episodes in environmental discourse.
Defining Environmental Apocalypticism as a Rhetorical Tool

To understand how apocalypticism functions rhetorically in environmental discourse requires an understanding of what constitutes apocalyptic writing and how it differs from the related literary devices of jeremiad and elegy. Some trouble with the use and critique of apocalypticism is its varying definitions. In *Imagining Apocalypse: Studies in Cultural Crisis*, David Seed explains that apocalypse may be understood in two configurations: terminus and telos (2). Apocalypse as terminus refers to the sense of an ending, while apocalypse as telos refers to the “ultimate aim” of the event (Seed 2). Through the lens of terminus, we expect that, for example, environmental apocalypse is the process by which the world ends. We despair and are ultimately swept away by the singularity of climate change, a catastrophic impact with an asteroid, or the blinding shear of light from a worldwide nuclear crisis. When environmental discourse engages the concept of apocalypse as terminus, readers are admonished, scolded, and left feeling helpless in the face of absolute, inexorable crisis. Through the lens of telos, on the other hand, we expect that apocalypse is the culmination of history in a final goal or destination. In environmental writing, telos appears as the idea that our current paradigm ends, after which we use our ingenuity and will to survive to eke out an existence within a new paradigm. If the world floods, we will learn to survive at sea, or use technology to adapt to hotter climates.

Environmental writers hope to convince audiences that Earth is worth saving and that, with increased ecoconsciousness, people can learn to thrive in a future, “green” world. Greg Garrard explains in *Ecocriticism*, “Only if we imagine that the planet has a future, after all, are we likely to take responsibility for it” (107). Contrary to the goals of
the environmental movement, environmental writing most often employs terministic apocalyptic episodes, which portray apocalyptic events as irrevocable endings. Clearly, terministic environmental writing suggests that the earth has no future; using this form of writing is thus counterproductive to the goals of the environmental movement and its spokespersons.

Barry Brummett, author of several books on the rhetoric of popular culture, offers a brief survey of some of apocalypticism’s other definitions. First, such scholars as Seed may understand apocalyptic as “a synonym for eschatology, the study of the end, of final things” (Brummett 7). However, Brummett locates alternatives: apocalyptic as crisis or disaster, characterized by impending doom; and, apocalyptic as a transition from “this world, era, or state of being to another one” (8-9). Brummett concludes his definitional discussion by offering his own definition of apocalypticism as a rhetorical category: “a mode of thought and discourse that empowers its audience to live in a time of disorientation and disorder by revealing to them a fundamental plan within the cosmos” (9). While Brummett’s suggestion that apocalypticism provides a sense of order by which readers contend with and make sense of chaos is interesting, I disagree with his claim that apocalyptic rhetoric is empowering, for it can be immobilizing and intimidating to readers. M. Jimmie Killingsworth and Jacqueline S. Palmer explain in *Ecospeak: Rhetoric and Environmental Politics in America* that “the appeal to emotion in the rhetoric of public debate is always risky…Fear can cause readers to open their eyes wide or to shut them tightly” (71). Despite the risks of numbing or failing to galvanize audiences to take pro-environmental action, environmentalists continue to employ apocalyptic rhetoric to raise readers’ awareness of environmental issues. While
apocalyptic may be understood as the study of endings, a sense of doom, or the cognitive dissonance associated with a paradigm shift, I offer a unified definition that will aid ecocritics and environmental rhetors in their work. *Apocalyptic is a rhetorical category that employs warnings, appeals to emotion and fear, and dystopian imagery in order to attract and galvanize audiences to act in favor of environmental aims.*

Brummett’s focus on apocalypticism as an organizing structure for chaos is important and makes sense when paired with the definition I offer for apocalyptic writing. Apocalypticism generally implies a sense of chaos and destruction, but many writers use it to mediate the perceived chaos in a reader’s actual environment. Take for example Rachel Carson’s seminal work, *Silent Spring* (1962). In the opening chapter, “A Fable for Tomorrow,” Carson describes an idyllic pastoral scene—a scene characterized by order, harmony, and positivity—and then charts the development of disorder, chaos, and death in the same scene by employing apocalyptic rhetoric. Her purpose was to capture her audience’s attention and to compel them to become more engaged in environmental issues so that they would act to mitigate the perceived threats created by indiscriminate pesticide use.

With the sociohistorical context of the Cold War in mind, the efficacy of Carson’s employment of apocalypticism becomes clear. Because Americans were deeply concerned with the threat of disorder and chaos from Soviet Russia, evoking a similar tension in *Silent Spring* heightened awareness of the issue of pesticide abuse because Carson tapped into a cultural anxiety. In Carson’s view, pesticides, like nuclear weapons, create a form of fallout that is silent, deadly, and pervasive (Lutts 34-5). While the cause
of chaos in *Silent Spring* is the misuse of pesticides, apocalypticism generally functions, just as Brummett argues, to provide a unifying or rationalizing structure for disorder.

As a contemporary example, consider the discourse of climate change. Environmentalists and skeptics alike suggest different reasons why weather patterns are less predictable now than they have been in the past hundred years. To explain and consolidate the chaos of “freak” storms, environmentalists provide order and reason by citing data that support the theory of climate change, thus providing a rationalization, a causal account, of environmental phenomena. Instead of leaving audiences wondering why mosquitoes are found in higher altitudes or why glaciers around the globe are shrinking, environmentalists explain that these phenomena are the result of climate change, CO₂ emissions, and global industrialization. Skeptics, on the other hand, offer their own sense of order for the chaos by arguing that these anomalies can be explained by looking at large-scale patterns in the planet’s natural heating and cooling periods, the natural evolution of species, or the roles of human beings as vectors for the spread of insects or new diseases. Both of these tactics share one goal: to provide some explanation for the apparent disorder in the environment. The greatest problem with this desire to use apocalypticism to provide order is that the apocalyptic episode can seem rigid, immutable, and beyond the scale of human control. Furthermore, *Apokalupsis*, the root of apocalypse, means “unveiling” and refers to the unveiling of a divine plan via an apocalyptic moment or period. If apocalyptic episodes “unveil” an alarming and unfavorable future that seems fixed and inevitable, readers may feel powerless against this larger order.
How environmental rhetors attempt to achieve a productive sense of order is best explained by understanding the different modes of apocalypticism that appear throughout environmental discourse. Brummett explains that there are two subgenres of apocalyptic rhetoric: premillennial and postmillennial, which suggest different trajectories for the imagined environmental apocalypse. To premillennarians, our troubles and pains—shrinking glaciers, unpredictable weather and subsequent problems in agriculture and water availability—are not our fault and are a sign of the coming apocalypse, which will be followed by a period of peace and prosperity. In this view, global warming is not really our problem as much as it is a sign of the coming religious apocalypse and then, after the requisite period of suffering, a golden age. Premillennial apocalypse, then, aligns with the concept of telos because the doomsday event marks a transition. To postmillennarians, however, the problems we face are our responsibility. In this view, prevention of the culmination of history in a terminal ecological apocalypse requires that we take responsibility for our carbon emissions and dependence upon fossil fuels and align ourselves now with environmental initiatives, which if closely followed and widely supported, may help us to avert ecological crisis. For example, postmillennarians may contend that giving up on the manic impulse to expand and grow our economies and instead focusing on minimizing our resource use and maximizing environmental conservation will enable us to avoid apocalypse.

We can see that the allocation of causation, responsibility, and power varies between these modes and aids us in defining and understanding rhetorical apocalypticism in environmental discourse. That is, if we encounter a text that argues we are merely the victims of hysteria and that we must ride out the natural heating and cooling processes of
the planet, we can expect that we are reading or hearing telos-based premillennial apocalyptic rhetoric. The conventions of the premillennial apocalyptic episode minimize readers’ sense of personal responsibility and power over the apocalypse, thus reducing the likelihood that they will be galvanized to change how they engage the environment. Conversely, if a text asserts that we are in fact responsible for altering the weather and conditions of the environment, and that we are slowly killing ourselves and other species, we know we have encountered postmillennial apocalypticism. Inculcated in the oncoming, terminal disaster, we are therefore also responsible for creating and enacting solutions. For example, the apocalyptic episode in *The Road*—which I will examine thoroughly in chapter two—is premillennial because the event is not explained or nor blamed on anyone, and the few survivors cannot alter the situation. *Eaarth*, on the other hand, is postmillennial because humans are considered responsible for creating environmental problems and are thus expected to formulate their solutions to avoid the predicted terminal end.

As an additional step in understanding apocalypticism, I will note the differences between this form of discourse and the related forms of the jeremiad and the elegy. The jeremiad is an invective literary form most closely associated with Puritan sermons. In it, the author or speaker denounces a group or society for its wickedness and then predicts the group’s downfall. The purpose of the jeremiad is to shame the audience and to move them to correct their behaviors before they bring about any sort of apocalyptic event. Clearly, apocalyptic discourse has the jeremiad strategy at its disposal, but it should be noted that not all apocalyptic writing is classifiable as jeremiad because not all apocalyptic narratives aim to motivate the audience to change their behaviors.
Furthermore, the apocalyptic narratives that are intended to modify the audience’s behavior may use different strategies that do not involve the invocation of fear or anger to move the audience. For example, one may use elegy to persuade an audience to change.

While persuasive and dependent upon emotional appeals, the elegy is distinct from the jeremiad. In an elegy, the author laments the death of a time, place, person, or even species. While the jeremiad is angry and accusatory, the elegy is melancholic and mournful. Environmental writing often uses the elegiac strategy to lament the loss of species, ecosystems, or native ways of living and being in a place. In an elegy, the subject could consist of a single person or an entire species of animal, a single moment in time or an entire era. Depending on the scope of the elegy, it could be apocalyptic in form. For example, an elegy for Rachel Carson would indeed be mournful, but not necessarily apocalyptic because it focuses on the life of one person who has already passed. However, an elegy for planet Earth as a self-regulating system would certainly be apocalyptic if the author emphasized how much we rely upon the Earth’s processes now, while the earth is still “alive.” Environmental writers can use elegies rhetorically to suggest to the audience what it might be like when a current subject ceases to exist. For example, a writer could create an elegy for an island—suggesting that the island has given way to the rising sea levels as a result of global climate change. Causing the audience to lament the loss of the island engages an anticipatory form of nostalgia. That is, writers can use elegies to make audiences miss things that they have not yet actually lost, thereby creating an emotional charge that could be used to motivate the audience to prevent the real loss of the subject.
While related to the apocalyptic form, as strategies that can be embedded in apocalyptic rhetoric, the jeremiad and the elegy are distinct literary forms that can be used rhetorically to use anger and fear to encourage action in an audience. Apocalyptic texts may use elements of elegy or jeremiad, but these forms should not be confused with each other. Because of the rhetorical utility of these forms, I consider them in my definition of apocalyptic as warnings, and appeals to emotion and fear. Apocalyptic narratives also employ precautionary warnings, which are the subject of much of Amy M. Patrick’s work.

**Apocalyptic or Precautionary?**

In her article “Apocalyptic or Precautionary?: Revisioning Texts in Environmental Literature,” Patrick contends that “to date, the literature of environmental apocalypticism has been recognized as the written voice of the environmental movement” (144). Patrick asserts that the “emphasis on doomsday is counterproductive,” to environmentalist agendas because “doomsday warnings are met with skepticism that environmentalists are hysterics crying wolf” (146). This negative labeling of warnings as environmentalist hysteria “encourages skeptics to discount what they view as fanatical or hysterical rhetoric, thereby justifying the dismissal of all voices associated with the environmental movement” (Patrick 146). In an effort to recuperate the rhetoric of warning, Patrick argues that the apocalyptic tradition is best understood as being “subsumed under the larger precautionary frame… in which apocalyptic tropes often play a secondary role” (145). I see two problems with Patrick’s proposed hierarchic relationship between the precautionary tale and the apocalyptic tradition. First, simply
renaming apocalypticism and its tools “precautionary” does not change how these rhetorical strategies function, nor does this renaming aid environmental writers and rhetors in making their discourse less counterproductive. Second, it is misleading to assert that apocalypticism is merely a secondary tool to the larger framework of the precautionary tale because not all apocalyptic scenarios are precautionary, nor are all precautionary tales apocalyptic. For example, consider a parent warning a child about the dangers of not wearing a helmet while cycling: the narrative the parent creates will certainly be precautionary and intended to encourage the child to behave safely, but it is unlikely that apocalyptic rhetoric would feature in the appeal. Now imagine a novel set in an apocalyptic world: although the author may employ apocalyptic or post-apocalyptic episodes and plot twists, the novel will not necessarily be intended to warn readers of a similar catastrophe. I propose that, rather than trying to hierarchize apocalypticism and the precautionary tale, it is more productive to examine how these rhetorical devices function in different genres of apocalyptic environmental discourse.

One of the key issues with the use of apocalyptic episodes or strategies in environmental discourse is that no one has examined the effects of merging apocalypticism with different text genres. By ignoring the effects of these combinations, or by not noticing these effects, environmentalists may produce works that are counterproductive to environmental goals. For example, if a writer intends a work to be precautionary, but does not pay attention to which apocalyptic strategies are combined with a genre, the text may fail to communicate precaution to readers. Furthermore, a text using apocalyptic episodes in order to stress the importance of an issue and to encourage environmental consciousness and activism in an audience may fail to do so, instead
causing readers to develop “eco-anxiety”—a chronic concern over environmental issues, characterized by such symptoms as panic attacks, sleeplessness, loss of appetite, and an overweening sense of helplessness (Doherty and Clayton 269). In an effort to bring clarity and focus to the use of apocalypticism in environmental discourse, I now offer an explanation of the mechanics of using apocalyptic strategies in different textual forms.

Environmental Discourse Genres and Expectations

In the realm of environmental communication, such scholars as Robert Cox study how environmentalists speak for and about the environment. Environmental discourse appears in a variety of forms (print, film, oration) and genres (nature writing, documentary, courtroom speech). Cox emphasizes, “the way we communicate with one another about the environment powerfully affects how we perceive both it and ourselves and, therefore, how we define our relationship with the natural world” (2). Genre theory is an important tool for understanding how we communicate about the environment through the combinations of different rhetorical strategies and textual forms. In her seminal work, “Genre as Social Action,” Carolyn Miller contends that “genre study is valuable not because it might permit the creation of some kind of taxonomy, but because it emphasizes some social and historical aspects of rhetoric that other perspectives do not” (24). Indeed, using genre theory to improve understanding of the combined effects of strategies and forms will allow environmentalists to better recognize, and perhaps control, effects in audiences. Miller discusses a series of hierarchical models of communication, which “can help illuminate the nature and structure” of rhetorical effects on audiences (151). The genres of writing in which environmental discourse appears
“have conventional forms because they arise in situations with similar structures and elements and because rhetors respond in similar ways, having learned from precedent what is appropriate and what effects their actions are likely to have on other people” (Miller 152). Before I examine what effects environmental rhetorical actions are likely to have on readers, let us first explore the conventional forms of environmental discourse.

While Miller provides extensive discussions of different constitutive elements of genres and means of testing the validity of genre claims, I will focus on two core features of her theory. First, within Miller’s hierarchy of elements, form and substance combine at lower levels of the hierarchy to produce higher-level elements. Miller writes, “A particular kind of fusion of substance and form is essential to symbolic meaning” (159). Substance consists of the “elements…and aims” that “constitute the aspects of common experience that are being symbolized:” sensations, images, idea, and attitudes (Miller 153, 159). Form, “the ways in which substance is symbolized…shapes the response of the reader or listener to substance by providing instruction (153, 159). While form and genre may seem analogous, Miller distinguishes between these elements: “Genre is distinct from form: form is the more general term used at all levels of the hierarchy.

Genre is a form at one particular level that is a fusion of lower-level forms and characteristic substance” (163). In this thesis, I explore the fusion of the substance of the apocalyptic episode with the forms of nonfiction books and fictional novels to produce distinct higher-level forms (sub-genres) of environmental literature: apocalyptic eco-polemic, apocalyptic eco-fiction, and apocalyptic eco-science fiction.

According to Clare Beghtol, “readers have explicit learned expectations for the genres with which they are familiar” (18). Examining genre expectations elucidates how
the form of a text influences the responses and reading processes of readers, which is critical to understanding the work of this thesis. In “Effect of Genre Expectations on Text Comprehension,” Rolf Zwaan explains, “knowledge of a discourse genre may function as a pragmatic device triggering in the reader comprehension strategies that are specific to that particular genre” (920). The expectations readers hold for genres act as “contextual information [that] influences both the process and the products of text comprehension” (Zwaan 920). That is, genre expectations influence how readers engage and remember texts. Models of discourse comprehension exhibit three distinct types of text comprehension. First, the surface structure, which “represents the exact form of a text, for example, its wording and syntactic structure” (Zwaan 920). The second type, the text base representation, “is a propositional network that represents the meaning of the text” (Zwaan 920). Third, the situation model “is a representation of a state of affairs (in reality or in some fictional world) that is referred to by the text” (Zwaan 920). When readers encounter different genres of text, they process their reading experience by using the surface structure, the text base representation, and the situation model. Which of these elements is emphasized depends upon the genre of the text and its associated reader expectations. For example, Zwaan explains:

News stories are primarily a tool for updating people’s representations of real-world situations. Therefore, when reading a text under a news-comprehension control system, readers should emphasize the construction of the situation model. Under a literary-comprehension control system, however, readers should focus on the text itself and thus construct a relatively strong surface representation. (921)
Therefore, readers employing a news-comprehension control system will read quickly and with a focus on updating their situation model, while readers of literary texts deemphasize the situation model, instead favoring development of the surface structure, which allows multiple interpretations to coexist. Each genre activates specific expectations in readers; therefore, we can sense that environmental issues—like ecological apocalypse—can be understood differently depending upon the genre in which they are expressed.

**Decoupling Apocalypse from Reality**

Whether and to what degree readers are able to use a text to update their situation model affects the synchronic cognitive process of decoupling. When readers encounter nonfictional text genres, their fiction expectations are deactivated; less development of the surface structure representation occurs while the situation model is emphasized. Rather than allowing multiple interpretations of the nonfiction text to coexist, readers adopt one interpretation and relate that representation to their reality. In the remainder of this chapter, I will explore how apocalypticism—a speculative, imaginative rhetorical strategy—is not perceived as fiction when readers encounter it through nonfictional genres. The expectations that readers apply generally to nonfiction also apply to apocalypticism; rather than noting the speculative nature of apocalyptic episodes, readers perceive these episodes as predictions that likely apply to their situation models of reality. Readers of nonfiction expect to learn something from the text, and thus may use the text to update their situation model. Because readers approach nonfiction texts as sources of accurate or useful information, it is unlikely that readers will see the worlds of reality and
the text differently. That is, readers of nonfiction will not decouple the textual world from the real. As I will demonstrate through textual analyses of *An Inconvenient Truth* and *Eaarth*, the gap between text and reality collapses for readers of nonfiction because the genre expectations deactivate the decoupling process. Without this gap, speculation is deactivated, which affects which stases—“a series of three or sometimes four points at which certain types of questions arise about a subject; these questions constitute a taxonomy of arguments” (Fahnestock and Secor 428) are activated. The taxonomy of the stases proceeds as follows: fact, definition, value, cause, and policy (Fahnestock and Secor 428). As a brief example of how genres affect the stases, nonfiction texts tend to emphasize the stasis of policy by galvanizing audiences to pursue specific actions, whereas works of science fiction focus on the stasis of definition but do not demand social engagement or activism through the stasis of policy. I will more thoroughly engage the relationships between genres and the stases in the textual analyses that constitute the latter half of each chapter of this thesis.

Now, I will turn my attention to two works of nonfiction environmental discourse, Al Gore’s *An Inconvenient Truth* and Bill McKibben’s *Eaarth*, and I will analyze how readers’ genre expectations prevent them from being able to decouple the authors’ apocalyptic visions from the actual present conditions of planet Earth. These analyses will demonstrate how apocalyptic visions are taken at face value as truth and thus disable speculation. Furthermore, this section will illustrate how important it is for environmental writers to be aware of the difficulty readers face in decoupling what-if scenarios and doomsday scenarios from reality.
An Inconvenient Truth

In the introduction to *An Inconvenient Truth* (2006) Al Gore notes that “time has not stood still for the global environment. The pace of destruction has worsened and the urgent need for a response has grown more acute” (8). Gore is clearly aligned with environmental writer Lawrence Buell in his assessment of the urgency of environmental discourse. Buell writes in *The Environmental Imagination*, “Apocalypse is the single most powerful master metaphor that the contemporary environmental imagination has at its disposal…the rhetoric of apocalypticism implies that the fate of the world hinges on the arousal of the imagination to a sense of crisis” (285). Gore accordingly emphasizes the sense of crisis that exemplifies global warming discourse. He writes, “Not only does human-caused global warming exist, but it is also growing more and more dangerous, and at a pace that has now made it a planetary emergency” (8). Here, Gore clearly emphasizes the stasis of fact by asserting that global warming is irrefutably real and anthropogenic. From this standpoint, readers will use this assertion of fact to update their situation model, but only if they believe his claims. The apocalyptic episodes Gore evokes are not decoupled from reality, and speculation is not engaged. With this emphasis on reality and the stases of fact, value, and definition, readers will feel compelled to move upwards through the taxonomy of stases, settling upon the stasis of policy. Gore celebrates the success of the stasis of policy by noting, “I have begun to feel that I am changing minds,” but he also reflects that “it is a slow process” (9). So how can Gore quicken the process of garnering attention and changing minds?

Following a trend common throughout environmental writing, Gore employs apocalypticism in his discussion of global warming because he “tried to tell this story in a
way that will interest all kinds of readers” (10). What could be more interesting and uniting a topic than the threat of apocalypse? To complement his apocalyptic tenor, Gore also briefly employs elegy and jeremiad-inflected descriptions in his discussion of global warming. Gore remembers lists of endangered species and “ocean and wind currents” in an elegiac tone, encouraging readers to feel nostalgia for the life forms and planetary cycles that characterized the time before us. Again, because readers do not engage fiction genre comprehension strategies, they focus on updating their situation model. The situation that Gore presents is dire, apocalyptic, and sobering. He even conjures images of the extinction of the dinosaurs and, after invoking a sense of nostalgia for the deep past of the once-great species that ruled the earth, equates our imminent demise with theirs, though he notes that “this time it is not an asteroid colliding with the Earth and wreaking havoc; it is us” (11). The elegiac tone reappears throughout the book as Gore summons more lists of extinct or endangered animals and discusses the “large-scale bleaching of corals” (161, 164-5). The tone becomes admonitory as Gore employs elements of the jeremiad form: “we know from bitter experience that the consequences of [ignoring an inconvenient truth] can be dire” (Gore 10). He then builds the jeremiad tone by quoting from Martin Luther King Jr’s final speech, in which King rebukes procrastination as a means of dealing with serious issues, noting that “over the bleached bones and jumbled residues of numerous civilizations are written the pathetic words ‘too late’” (Quoted in Gore 10-11). These emotional appeals will likely strike readers quite deeply because they are not decoupling the text from reality. Thus, the stasis of value is powerfully engaged; readers will likewise feel negatively about the apocalyptic episodes in *An Inconvenient Truth* and will be drawn to the stasis of policy. From this standpoint, readers will feel the
need and responsibility to act to forestall, slow, or reverse the destruction of the environment. To continually engage readers in the stases of value and policy, Gore reiterates the jeremiad tone by listing the insurgence of deadly algal blooms and the multitudes of insects, rodents, and bacterial or viral diseases that threaten to exterminate the human race if we do not take action to curb global warming (171-5).

Gore also employs a mixture of premillennial and postmillennial apocalypticism, a tactic that is perhaps unintentional. In the section of the book in which he discusses his college professor, Roger Revelle, Gore suggests that this figure was “prophetic” (38). This prophetic figure “knew that this path our civilization had taken would send us careening toward catastrophe” (Gore 38). This sort of elegiac sentiment is typical of premillennial apocalypticism—there is an apocalypse on the way, a prophet warned everyone, yet there is nothing that can be done to forestall it. From this premillennial position, Gore begins a flurry of statistical information, supplemented by graphs and photographs, that chart the “dramatic changes” taking place across the globe as a result of global warming (38-67). He even reports that touring natural disaster sites in Europe in 2005 “was almost like a nature hike through the book of Revelation” in which the classical, premillennial apocalypse wipes out the sinning human race (Gore 107-8). Because readers are not decoupling reality and the text as they read through these premillennial scenarios and descriptions, they will not recognize the speculative elements of apocalyptic discourse. Rather, they will read the apocalyptic warnings as truth. Employing a premillennial focus here emphasizes readers’ helplessness, which may increase their anxiety and fear about the state of the environment (Doherty and Clayton 264). Once the premillennial apocalyptic tone reaches a fever pitch, Gore reverts to a
postmillennial tone that establishes human culpability in the processes of global climate change and our responsibility for correcting the problems we face. Gore’s shift in apocalyptic tones mirrors a similar shift common in Old Testament prophecy, indicating the long history of the use of this mixture of rhetoric to sway an audience.

While Gore begins *An Inconvenient Truth* by urging us to consider global warming an anthropogenic phenomenon, the bulk of his text is premillennial in tone; he uses biblical imagery and references to suggest that we are staring apocalypse in the face. Toward the end of the text, however, he reminds us that we were powerful enough a force to cause the problem, and are thus powerful enough to solve it: “what we do to nature we do to ourselves. The magnitude of environmental destruction is now on a scale few ever foresaw; the wounds no longer simply heal themselves. We have to act affirmatively to stop the harm” (Gore 161). Imploring readers to consider the magnitude of environmental destruction activates the stasis of value—readers will naturally equate negativity with the destruction of the environment. By comparing the apocalyptic episode in the text with their situation model, readers will see that destruction of their homes and livelihoods clashes with their personal values. This persistent exploitation of reader values exerts an emotive force that compels readers to engage the stasis of policy. In the final section of the book, after 300 pages of warnings, Gore offers seventeen pages of changes that people can make in their lives help curb global warming. His suggestions range from weatherizing buildings and choosing efficient appliances (306-7) to consuming fewer products and less fuel (314) and taking political action to support green legislation (Gore 320-1). In this final section, Gore takes the postmillennial perspective—that we are responsible for solving our own problems—in an effort to empower his audiences.
Granting his readers power in this section over the apocalypse further emphasizes the stasis of policy. However, the potential problem with his approach is that readers will not be able to decouple the statistics and predictions or about the premillennial end of the world from the actual condition of reality. The stasis of policy may then seem too weak to some. Perhaps, after 300 pages of intense apocalypticism, those seventeen pages of action and hope may seem too brief, too inconsequential, and perhaps too easy to really affect the changes Gore says we need if we are to survive on Earth.

Gore’s text was effective in garnering audience attention and increasing ecological consciousness in readers. The use of apocalyptic rhetoric to emphasize the stases of fact, value, and policy may account for that success. By hooking readers’ attention with apocalyptic rhetoric, Gore’s book rooted readers in the stasis of value. He made readers evaluate the apocalyptic conditions of the world to determine how unfavorable an apocalypse would be. Then, with readers emotionally engaged with the apocalypse and fearful of its effects, he switched his focus to actions that readers could take to improve environmental conditions. Ending with focus on the stasis of policy was clearly effective; however, there is some risk that the solutions he offers are not enough to alleviate readers’ eco-anxiety and sense of helplessness, which was emphasized in the premillennial sections of the text.

_Eaarth_

While Gore argued in 2006 that global warming was a looming threat, Bill McKibben wrote from a different perspective in 2010. McKibben’s _Eaarth_ probes the depths of apocalyptic despair before alighting upon the sound assertion “that survival
begins with words” (102). Indeed, our survival does depend, in part, upon the words we choose, the metaphors that structure our lives, and the rhetoric we use to inform and persuade. In this section, I will examine the language and metaphors that undergird McKibben’s argument for the environment, and I will examine how his work activated the stases of fact, value, and policy while disabling speculation.

In the introduction of *Eaarth*, McKibben argues that “global warming is no longer a philosophical threat, no longer a future threat, *no longer a threat at all*. It’s our reality. We’ve changed the planet, changed it in large and fundamentals ways” (xiii). Here, McKibben wields postmillennial apocalypticism as a weapon meant to capture the attention of his readers and, if they can make it through the “uncomfortable, staccato, direct” first half of the book, to inspire them to perhaps respond to a call to action (xiv). Here, too, he directly challenges speculation regarding the state of the environment—global warming is no longer a speculated threat but, he asserts, our reality. Immediately, McKibben engages the stasis of fact, underlining the urgency and seriousness of the present condition of the world. If readers feared global warming, this rhetorical move may either relax or terrify them—if the apocalypse is in full swing and we are still alive, perhaps we have a chance of survival after all.

McKibben’s “only real fear is that the reality described in this book, and increasingly evident in the world around us, will be for some an excuse to give up” (xv). He is right to acknowledge that the reality he paints in apocalyptic tones is disheartening for many readers and that too many of what he calls his concussive “body blows” do little to inspire people to action. He continues, “We need just the opposite—increased engagement” (xv). So how do we achieve that increased engagement? How do we
capture people’s attention and also make them feel able to do something about the environmental challenges we all face? Despite McKibben’s realization that his book may immobilize and frighten his readers, he pulls no punches. He even explains the calculated, overt intention of his rhetoric. He doesn’t want the discussion of environmental apocalypse to be easy for readers to consume. He wants readers to update their situation models by absorbing the grim truths his writing identifies. After providing pages of statistics, he announces, “Don’t let your eyes glaze over at this parade of statistics (and so many more to follow). These should come as body blows, as mortar barrages, as sickening thuds” (5). McKibben wants us to react viscerally to his writing, to feel as if we are being attacked, damaged, harmed. His focus on significantly affecting readers relies upon the stasis of value. Readers should not enjoy the attacks of his grim rhetoric, and should “defend” themselves by improving the environment.

Despite his awareness of the risks of this rhetoric, McKibben falls prey to the siren call of apocalyptic language: the lilting dirge that makes some of us pay attention, that makes others among us give up and throw ourselves overboard, and that disables us all from steering away from the rocks. To wit, if we do not change our rhetoric, we’ll all drown—whether by sea level increases or the veritable seas of information and global debts. To steer audiences into safer, more productive and survivable waters, environmental rhetors and ecocritics must learn to speak a new language. Not the apocalyptic language that, when not decoupled, frightens and immobilizes, but a more positive, forward-looking language that encourages the belief that yes, we can make a difference. Although the first half of *Eaarth* is purely apocalyptic and readers are
engaging nonfiction genre expectations which disable them from decoupling and speculating, the second half of the book is considerably more uplifting than the first.

In the last two chapters of the book, McKibben engages positive speculation—giving examples of small, local initiatives that improved the economies and quality-of-life for residents of cooperative communities. He suggests that more localized initiatives and participation in 350.org—a group that strives to reduce the atmospheric concentrations of carbon dioxide to 350 parts per million or less—will ease our transition to a better way of living and being in the world. He advocates personal gardens, bartering with neighbors for goods and services, learning about the history and ecology of one’s home environment, and generally reducing dependency upon the current capitalistic system of buying and throwing away tons of materials. If readers proceed through *Eaarth* as if it is all fact, and assume that the world will crash and burn as McKibben continually suggests in the first half of the text, it is unlikely that they will feel as if they have any power to exert in the face of the chaos. The readers who actually make it to the last half of the book, however, may find some comfort in the pragmatic, small-scale solutions that McKibben offers for environmental issues. Rather than focusing on the apocalyptic tenor of *Eaarth*, recognizing and acknowledging the power of speculation may offer readers a safe space in which to take his warnings to heart without being utterly immobilized by the crushing weight of the threat of total apocalypse.

**Conclusion**

In this chapter, I have discussed the definitions surrounding rhetorical apocalypticism and I have provided the context for this rhetorical mode within
environmental discourse. Upon close inspection, *Eaarth* betrays the faults and fears of apocalypticism in environmental writing. McKibben noted that he feared the demoralizing effects of apocalyptic rhetoric, but indicated that he needed the mode in order to reach his intended audiences. While apocalyptic rhetoric can be effective in attracting attention, it is also a risky strategy that can mire readers in the stasis of value without allowing them relief through the stasis of policy.

While less depressing and apocalyptic than McKibben, Gore still employs apocalyptic rhetoric in *An Inconvenient Truth* with the intention of frightening people into action. As Buell points out, environmental rhetors and writers use this trope to arouse a sense of crisis. The problem is that if all environmental writers, advocates, and lobbyists use this language, the relative “volume” of apocalypticism increases until the underlying issues are drowned out in the cacophony. How, then, do we address environmental issues and advocate interest in these issues without terrifying people or providing fodder for critics’ dismissive claims of environmentalist hysteria? *Apokalupsis*, the root of apocalypse, means “unveiling.” In works of environmental nonfiction, the use of apocalypticism is not decoupled from reality. Therefore, the apocalypse is “revealed” to readers as truth, which can be demoralizing, intimidating, and even paralyzing (Doherty and Clayton 268). The primary effect of readers’ nonfiction genre expectations is that they will not decouple the worlds of text and reality. Thus, by focusing on updating their situation models by reading apocalypticism as truth, readers will not engage speculation. To speculate is not to unveil what has already been determined, but to envision what could be. Because the nonfiction genre does not enable speculative modes of text comprehension, it is unlikely that readers will engage such works as *Eaarth*
and *An Inconvenient Truth* as thought experiments. The seriousness with which readers will approach their readings of these texts affects which stases are emphasized and how readers connect the text to reality. In the rest of this thesis, I explore the tension between unveiling and envisioning, and demonstrate how progressive decoupling of apocalypticism in different forms of environmental writing affects readers’ abilities to engage speculation.
2. Reimagining Apocalypse: Speculation in Environmental Fiction

In the previous chapter, I defined the terms and theoretical concepts that undergird this thesis. I discussed the significance of the apocalyptic episode or strategy to environmental writing, and analyzed how the combination of apocalyptic episodes and strategies with different textual forms produces unique sub-genres of apocalyptic environmental writing. Through my analyses of *Eaarth* and *An Inconvenient Truth*, I explored how the particular configuration of stases and the deactivation of speculation functions in nonfiction environmental discourse. In this chapter, I will further develop my discussion of apocalypticism and attempt to demonstrate how the combination of the apocalyptic episode with environmental-themed fiction enables readers to disconnect the proposed apocalypse from reality through the process of decoupling. Decoupling—the synchronic, cognitive process of disconnecting the world of the text from the readers’ actual world—is activated by genres that allow imaginative freedom and speculation. In eco-fiction, readers may experience partial decoupling, whereby they are able to disconnect some, but not all, elements of the text from their reality. I extend my discussion of stasis theory in this chapter to elucidate which stases are activated or disabled when writers merge the apocalyptic episode with environmental fiction, and how these configurations of stases may affect readers. Because the scope of environmental fiction is broad, a comprehensive discussion of decoupling in these works is not possible; my focus in this chapter will thus be on James Howard Kunstler’s *World Made by Hand* (2008) and Cormac McCarthy’s *The Road* (2006). My goals in this chapter are to define and explain the constitution of the sub-genre of apocalyptic eco-fiction; to expose how
apocalypticism is not fully decoupled in this sub-genre; to explore how speculation is partially activated in this sub-genre; and, to facilitate further discussion and study of the effects of decoupled apocalypticism in environmental discourse.

**Feeling the Environment via Fiction**

To better understand how apocalyptic episodes combine with eco-fiction to produce a particular sub-genre, we must first examine some of the characteristics of eco-fiction. While eco-nonfiction focuses on scientifically underpinned discussions of the environment, global and regional characteristics or issues, and human relationships to environment, fiction offers other truths about the environment that are less scientifically rigorous. Through eco-fiction, readers are able to engage narratives and creative explorations of human-animal-environment relationships. Though scientific facts and data may appear, the narrative and lived experience of characters is most important in defining this genre. One popular example of eco-fiction is Edward Abbey’s *The Monkeywrench Gang* (1975)—a novel about the use of sabotage to protest and forestall environmentally destructive activities in the American Southwest. Through this novel, in which the four main characters burn billboards, sabotage machines, and use caltrops to evade the police, readers are able to imagine what life might be like if they engaged in acts of vandalism for environmental causes. As a result of the novel’s success, and the narrative’s ability to allow readers to vicariously engage a rebellious environmentalist lifestyle, the term “monkeywrench” has entered our lexicon to denote any sabotage of machines, and law breaking for the sake of preserving and rescuing wilderness areas and other wild spaces.
I will now provide a few characteristics of the eco-fiction genre. First, the genre is fictional and narrative, and generally follows the standard patterns and structures of fiction, broadly construed. Specific to eco-fiction, however, are characters who interact with environments and each other and often encounter conflicts that center upon environmental issues. Works of eco-fiction may bear characteristics of the mystery, romance, or drama, but focus on the environment.

Apocalyptic Eco-fiction

To reengage my discussion of Carolyn Miller’s genre theory, I now turn examining the effects of the combination of apocalyptic episodes with eco-fiction. Because of the particular genre expectations associated with fiction, the results of this genre’s combination with apocalypse differ significantly from the combined effects of apocalypse and nonfiction. As previously discussed, apocalyptic episodes and strategies appear in two main types: premillennial and postmillennial. As a result of the differences between these two types of apocalypticism, slightly different versions of the apocalyptic eco-fiction sub-genre are produced, depending upon which type of apocalypse appears in the environmental fiction text.

If eco-fiction centers on the development of ecologically-themed narratives, environmental-inflected plot devices, and the relationships between humans, nonhumans, and the environments in which they live, then apocalyptic eco-fiction engages such themes as the destruction or alteration of environments, the onset of environmental issues or crises, and how human, nonhuman, and environmental relationships are changed or challenged through environmental collapse.
Building the Future

The first text I will examine within this apocalyptic sub-genre of eco-fiction is James Howard Kunstler’s *World Made by Hand* (2008). James Howard Kunstler, a prolific American author and environmental critic, is best known for his nonfiction book, *The Long Emergency: Surviving the Converging Catastrophes of the Twenty-First Century* (2005), in which he argues that the United States’ dependence upon oil is a long-term emergency that will end in social, ecological, and economic crises. Kunstler argues throughout this text that oil and gas production have peaked and that, because of the imminent crash of our oil-based society, US citizens will be forced to abandon suburban and urban life in favor of living in local, self-sustaining communities. As the title suggests, *The Long Emergency* focuses on catastrophes—apocalyptic episodes—while building a sense of impending crisis, thereby in alignment with Buell’s view that the master metaphor of apocalypse is used to produce “the arousal of the imagination to a sense of crisis” (285).

Because of the nonfiction genre expectations readers bring to *The Long Emergency*, particularly the knowledge that they are not reading fiction, decoupling will not occur. Rather, it is more likely that readers will approach readings of *The Long Emergency* as opportunities to update their knowledge about the issues Kunstler discusses. Furthermore, the nonfiction status of *The Long Emergency* activates and disables a certain pattern of stases and other means by which readers may connect reality to the text. Like *Eaarth* and *An Inconvenient Truth*, *The Long Emergency*’s status as a nonfiction work disables speculation, which emphasizes the sense of crisis aroused by the apocalyptic episodes and strategies employed in the text. Without the freedom or genre
expectation of speculation at their disposal, readers will likely view Kunstler’s apocalyptic scenarios through the stasis of fact. By virtue of the upward pull of the stases, which results from the hierarchy of fact, definition, value, cause, and policy (Fahnestock and Secor 428), this apocalypse-as-fact stasis carries readers upward through the rest of the stases. Via the stasis of definition, Kunstler defines the crises he sees brewing as a result of oil dependency. The stasis of value stresses that oil dependency is bad, and the stasis of cause indicates that human beings and industrialism are the cause of the oil crisis. Still rooted in the value judgments about oil dependency, readers shift into the final stasis: policy. Through this stasis, the narrative alerts readers that changes in behavior and policy are necessary to forestall ecological apocalypse.

Through these stases and the nonfiction genre, readers are expected to learn about the issues Kunstler presents, and they are expected to make changes based on his recommendations. With so much emphasis on these stases—especially fact, value, and action—there is little room for readers to step back and engage speculation as a means of considering possible futures, and without speculation, the apocalyptic strategies employed in the text seem real. I emphasize this discussion of Kunstler’s nonfiction work to illustrate the significance of the relationship between form and substance in constituting genres. As discussed in chapter one, the form of the apocalyptic episode combines with the substance of the environmental nonfiction text to produce what we might consider a polemical apocalyptic eco-nonfiction sub-genre. The polemical sub-genre transforms into apocalyptic eco-fiction when the base form of the text shifts from nonfiction to fiction. Kunstler’s work provides a clear example of the changes that occur during this transformation of genre. To demonstrate how influential the factors of form
and substance are in the production of a genre with specific characteristics, let us now turn toward Kunstler’s other book on the topics of *The Long Emergency*.

Rather than producing another nonfiction text, Kunstler wrote *World Made by Hand*, an apocalyptic, dystopic novel set in the fictional town of Union Grove, New York. This work of eco-fiction is narrated by the protagonist, Robert Earle, a former computer software executive who, after the collapse of the US economic and social systems, became a carpenter in a small, local community. Earle’s narrative explores what life might be like after the major collapses about which Kunstler warned readers three years earlier in *The Long Emergency*.

The scenario Kunstler presents in *World Made by Hand* is apocalyptic in that the world as readers currently know it has ended: Americans are living well beyond the peak of oil production, and the economy has completely crashed, causing communities to fragment into different factions. Earle, whose wife and son died sometime in the aftermath of the apocalyptic events, introduces the world in which he and the other Union Grove townspeople live: there is no media coverage, no shopping malls, no modern medicine, and people recycle because they must; no factories exist to produce new goods (Kunstler 1, 3). As a result of the collapsed economic and social systems, unnamed persons or groups bombed Los Angeles and Washington, D.C., lending the novel a dystopic feel since there is no stable governmental force to maintain peace or security for US citizens. Everything that seems commonplace to modern readers of this novel is long lost to the characters. For example, in the opening scene, Earle is walking with the Union Grove minister, Loren, who is “obsessed with the old days” (Kunstler 1). Loren waxes nostalgic about shopping malls and Earle chimes in “I miss a lot of things, but I don’t
miss [malls]” (Kunstler 1). Over the course of the novel, Earle is elected mayor of his town and appointed to handle a local murder, locate a team of missing traders, and restore law, order, and a sense of purpose to Union Grove.

As a result of genre expectations readers will engage while reading this fictional work, this text activates speculation: readers will see one possible configuration of the future that Kunstler predicts in his nonfiction works. According to Zwaan’s work on news and literature genre expectations, readers are more likely to read World Made by Hand for pleasure than to update their situational models, and may read more thoroughly, allowing for multiple interpretations and meanings to coexist instead of quickly choosing one interpretation (921). This shift in genre and reader expectations thus alters how readers engage Kunstler’s arguments. The key to how readers engage World Made by Hand is the fact that speculation is activated by eco-fiction. The novel begins, “Sometime in the not-distant future” and the opening scene reveals characters engaged in elegiac remembering of the shopping mall that existed “before our world changed” (2). Already, readers will sense that the world of the novel is not actually real—but it is plausible. This plausibility allows readers to comfortably engage speculation about the future. Furthermore, the ability of readers to begin to see the speculative elements of this novel is the result of the partial decoupling of the real and fictitious worlds.

As with The Long Emergency, Kunstler employs apocalyptic episodes and strategies within World Made by Hand to convey his arguments about oil dependency and the environment; however, his apocalyptic strategy decouples from reality because the eco-fiction genre expectations distance reality from the narrative. The resultant genre of apocalyptic eco-fiction is characterized by a particular configuration of stases and
other characteristic elements that affect how readers engage the text. While the core of this genre is characterized by certain elements, the use of postmillennial or premillennial modes also determines which factors are activated. The activation of speculation enhances readers’ ability to decouple the apocalyptic episodes from reality, thus producing an imaginative space in which to envision possible routes to the future.

One way in which the apocalyptic strategy is employed in *World Made by Hand* is through elegy. The use of elegy is important in this novel because it allows readers to imagine what life might be like without modern conveniences. Describing a dam, Earle tells us “it was chilling to reflect on how well the world used to work and how much we’d lost” (Kunstler 4). Through his narrative, Earle evokes the sense of elegy for the technological world. Because this novel is set in the future, and readers still dwell within the world of electricity, fuel-power, and shopping malls, readers may experience a form of anticipatory nostalgia when they encounter these passages. That is, because readers presently know what it is like to go to a shopping mall or to drive a car, reading about the passing of these things may evoke a sense of nostalgia for the present, a sadness regarding the future. Earle’s technological elegy is also a sobering suggestion that technology might not be enough to spare the human race from apocalypse. The Union Grove townspeople can no longer rely upon grocery stores, electricity, automobiles, and news media, and so they must rely upon themselves. They produce their own food, walk wherever they go, and barter services for goods. Earle, for example, works as a carpenter and is often paid with foodstuffs for his labor. These examples work together to emphasize the stasis of fact: readers must suspend disbelief while reading and accept that Union Grove operates without modern conveniences.
Although the apocalyptic episode is decoupled from reality—that is, readers will not read apocalypse as a guarantee in this novel, as they might in the nonfiction text—readers are still able to connect the fictional world to the real. Elegizing aspects of the readers’ reality anchors the novel to the readers’ situation model of reality, thus mediating the decoupling effect by reestablishing some connections between fiction and reality. This connection is also achieved through the stasis of value. Kunstler created four factions of people to represent the different directions in which people may turn after a massive socioeconomic collapse: The Union Grove townspeople are disorganized, nostalgic, and barely surviving while waiting for the old world to somehow return. Wayne Karp, a former trucker, represents another possible direction for humanity. Karp and his faction lives on the outskirts of town and runs the General Supply—once a co-op before it was taken over by Karp and his band of “like-minded former motorheads, greasers, bikers, quasi-criminals and their families who had drifted in over the years” (Kunstler 28). Steven Bullock, a wealthy landowner, runs a two-thousand acre farm along the Hudson River. Bullock works to be self-sufficient, and his farm operates like a small village, which is filled with people who act as his serfs and labor in his fields. The fourth group is represented by Brother Jobe, the leader of a religious group called the New Faith Church: the group is mysterious, old-fashioned, and able to compete with Bullock in terms of attracting new members and operating self-sustaining operations.

Through the juxtaposition of these four factions, readers are able to engage the stasis of value: they will likely view Wayne Karp’s group as a terrible possibility for future human interactions, and while the New Faith religious sect seems well-intentioned, readers may balk from the homogeneity and rigidity of their social structure. Bullock’s
fiefdom functions well, but may not appeal to readers who value social equality, democracy, and individuality. The Union Grove citizens, although disorganized in the beginning of the narrative, may seem an acceptable option: independent, self-sufficient people who retain their individuality, hold elections, accept but do not require religious devotion, and who still find time to relax through musical gatherings. Readers will evaluate each social faction through the stasis of value and will determine which faction they align with. This evaluative process connects the novel to the reader’s real world by implicitly asking readers to choose whether and how they might fit within this speculated world or, how the speculated world and its factions of people align with the readers’ values. By evaluating the “fit” of the factions to personal values and the real world, readers forge connections between fiction and their situation model of the real world. Again, the natural progression of the stases upward through the hierarchy will draw readers from this value-based process of evaluation to a consideration of action. If readers draw close connections between their real world and the world of the novel, perhaps they will take some action to prevent the fiction of Union Grove from becoming reality.

One poignant example of how Kunstler addresses the real world through the decoupled narrative of the novel, again through the stasis of value, is the following scene, in which he attacks antienvironmentalist sentiment by pitting two characters against each other in an argument about creating a laundry facility that would dump wastewater downstream:

“What do you do with the dirty water?”

“Into the river, he said.”

“It’s got soap in it.”
“It’s just gray water. It’ll go downstream to the Hudson.”

“That’s not right.”

“It’s below where we fish. And mostly from town. It’s just soapy water.”

“That’s a hell of an attitude.”

“Don’t get all environmental with me,” he said.

While pro-environmental arguments may not register with some readers through nonfiction texts, or the use of environmental rhetoric may deter some audiences, Kunstler is perhaps able to engage these audiences through the novel. In this scene, readers are likely to evaluate whether dumping wastewater into the river is a good idea since the Union Grove citizens rely upon the river and cannot feasibly relocate to a cleaner area without the use of cars or other modern transportation. Because the readers are able to understand how much the characters rely upon their environment, they are likely to be critical of “bad” ideas that might endanger or compromise the environment. From this evaluative position, readers may be compelled to consider appropriate action—both in the novel, and perhaps in the real world—to protect the environments upon which people so clearly depend.

Finally, I would like to discuss the particular type of apocalypticism employed in this narrative. World Made by Hand is an example of postmillennial apocalyptic eco-fiction because it emphasizes that human beings are responsible for the apocalyptic episodes that disrupt life. In addition to being responsible for the damage caused by apocalypse, humans in postmillennial narratives are also responsible for correcting their behavior and halting the chaos associated with apocalypse. By the end of the novel, Earle
has saved the day by solving the murder case, exacting justice with Karp’s group, succeeding in forming a peaceful alliance between the New Faith and Union Grove people, and earning the respect of Bullock, who agrees to help the Union Grove people with Loren’s laundry project. In addition to these positive occurrences, Earle has come to terms with the loss of his family, and relinquished his nostalgia for the past. He invokes a sense of hope in his conclusion of the narrative: “And that is the end of the story of that particular summer when we had so much trouble and so much good fortune in the world we were making by hand” (Kunstler 317). In these final lines, we see that postmillennial apocalypse is a mixture of failure and success, chaos and order, but that the sense of an ending is actually hopeful—more of a fresh start than an absolute termination.

**Bleak to the End**

So far, I have discussed what happens within the sub-genre of apocalyptic eco-fiction when the apocalyptic episode is postmillennial in nature. In postmillennial apocalyptic eco-fiction, characters work together to overcome the apocalyptic elements and, through engagement with the environment, succeed in beginning or completing some beneficial action. The resolution of the postmillennial apocalyptic eco-fiction novel is often hopeful, uplifting, and generally positive. Because apocalypticism functions in two distinct ways, the sub-genres created via the combination of apocalypticism with textual forms will also be distinct in certain ways. To clarify the importance of apocalyptic episodes in the creation of new sub-genres, it is important to consider an example of premillennial apocalyptic eco-fiction. A prime example of a contemporary work of premillennial apocalyptic eco-fiction is Cormac McCarthy’s *The Road* (2006).
The Road tells the story of a man and his young son who are trying to survive in an apocalyptic landscape while following the road south to the ocean in search of safety from the ashen, presumably toxic environment and its few remaining human inhabitants. During their long, arduous journey to the south, the unnamed man and boy try to limit their encounters with the “bloodcults”—groups of starving people gone feral who cannibalize each other and infants for lack of other food sources. The environment is in shambles: there are no birds, no live plants, no fish, and even the sun is obscured by the thick clouds of ash—the grainy taste of which never leaves one’s mouth—that envelope everything (McCarthy 20). With death and danger at every turn, the novel is clearly apocalyptic, but the apocalyptic event is never definitively explained. The unnamed narrator simply reports, “the clocks stopped at 1:17. A long shear of light and then a series of low concussions” (McCarthy 52). The “dull rose glow in the windowglass” following the distant sounds of explosions suggests that the world was ravaged by a massive bomb strike or even nuclear attack, or perhaps even some combination of volcanic eruptions and meteor strikes, but reasons for the apocalypse are left to the readers’ imaginations. It should be clear from this open-endedness of the disaster that this novel relies heavily upon speculation. Because the narrator provides no clear description or explanation of the disaster or why it occurred—or even whether it was isolated to the US or a global crisis—readers must engage the text speculatively to fill the gaps. Like World Made by Hand, McCarthy’s novel directly engages, and I argue requires, speculation from readers. While little is said about the nature of the apocalypse in The Road, one thing is certain: this configuration of apocalypse is premillennial in nature.
Recall from chapter one that the premillennial viewpoint emphasizes the helplessness of humanity in the face of impending apocalypse, and that the apocalyptic event is terminal, resulting in near-complete annihilation of life. Following the traditional Judeo-Christian roots of premillennial apocalypse, the annihilation of life is often considered a mass cleansing of the earth in preparation for a thousand years-long golden age. In one scene, the boy plays “a flute [carved by the man] from a piece of roadside cane,” and the music he plays is “a formless music for the age to come. Or perhaps the last music on earth called up from out of the ashes of its ruin” (McCarthy 77). Here, we see the premillennial, telos-based tension between the termination of the present and the possibility of a coming age. While the promise of an age following the apocalypse might seem hopeful, there is no hope for the characters in The Road because the new age—if there is one—is well beyond their reach. Further evidence of the premillennial viewpoint of apocalypse is apparent throughout The Road. Some of the key premillennial traits expressed in the novel are the ubiquity of death, the degradation of humanity into hordes of cannibals, and utter hopelessness. While premillennial narratives may discuss the time leading up to the apocalyptic event, The Road is set squarely in the last moments of humanity in the wake of the apocalyptic episode. Throughout the novel, the narrator provides flashbacks of the time leading up to the apocalyptic event, conveying them through the man’s dreams and memories, and through general expository sections of the text.

In one such expository scene, we learn that “in those first years the roads were peopled with refugees shrouded up in their clothing. Wearing masks and goggles, sitting in their rags by the side of the road…creedless shells of men tottering down the
causeways like migrants in a feverland” (McCarthy 28). The description of shrouded refugees resembles a horrific pilgrimage: the people travel along the major causeways in search of answers, relief, safety, salvation. In a later scene, the narrator tells us that “Out on the roads the pilgrims sank down and fell over and died and the bleak and shrouded earth went trundling past the sun and returned again as trackless and as unremarked as the path of any nameless sisterworld in the ancient dark beyond” (McCarthy 181). To describe these pilgrims as creedless shells indicates another theme that runs throughout the narrative: the degradation of humanity, a fall into sin. In the spirit of apocalypticism, the narrator observes “the frailty of everything revealed at last” (McCarthy 28). This bleak revelation supports the general air of premillennial apocalypse and further suggests the ultimate hopelessness of the world and everything in it. One of the reasons why hopelessness pervades this example of premillennial apocalyptic eco-fiction is because death is ubiquitous and inescapable.

Death is a constant presence in the novel. Readers assume that the majority of the human race died in the apocalyptic event, and even the earth seems thoroughly dead. In an early scene, the man looks out over a valley and sees “the ashes of the late world carried on the bleak and temporal winds to and fro in the void. Carried forth and scattered and carried forth again. Everything uncoupled from its shoring. Unsupported in the ashen air” (McCarthy 11). The entire setting of the novel, and perhaps the entire globe, consists of ash and even the ocean is grey and lifeless (McCarthy 215). The sun, too, is encased in ash and hidden from view, “dull” and “moving unseen beyond the murk” (McCarthy 14). The rivers and dam reservoirs the man and boy encounter are also devoid of life. In this speculated world, everything is “dead to the root” (McCarthy 21). When the man and boy
encounter an old man shambling down the road, he tells them “things will be better when everybody’s gone...we’ll all be better off. We’ll breathe easier...there’ll be nobody here but death and his days will be numbered too. He’ll be out in the road there with nothing to do and nobody to do it to” (McCarthy 173). The old man’s assertion supports a premillennial reading of this novel; once everyone has died, the golden age can begin and the world can be repopulated with new beings. Again, while this may seem hopeful to some of the characters, readers will still feel the weight of death and decay in the novel. Despite the lack of hope that the apocalyptic trajectory provides, the text is in keeping with Brummett’s discussion of apocalypticism as a means of explaining and organizing chaos.

Because of the apocalyptic event, the narrator tells us, “old and troubling issues resolved into nothingness and night” (McCarthy 28). The resolution of these issues aligns with Brummett’s analysis and demonstrates how the apocalyptic event in the novel suddenly equalized or eradicated earthly concerns—save for the chaos of the apocalypse and the environment. Rather than worrying over their mortgages, their appearances, or their other daily concerns, the people left in this world struggle to survive the weather, each other, starvation, and illness. For many, the only way to survive is cannibalism, the first instance of which occurs after the man kills a marauder who tried to harm the boy (McCarthy 66). All that remained of the killed marauder after his cohort found his body was “dried blood dark in the leaves...the bones and the skin piled together with rocks over them. A pool of guts” (McCarthy 70-1). The fact that the man was eaten by his companions might horrify some readers, but we soon learn that he, too, ate people and, as a result, had “gray and rotting teeth. Claggy with human flesh” (McCarthy 75). The
cannibal “bloodcults” are so aberrant, that they keep people prisoners and rape women to “farm” them for infants.

In one house, the man finds a pantry full of people held captive by the bloodcults. “Huddled against the back wall,” he observes, “were naked people, male and female, all trying to hide, shielding their faces with their hands. On the mattress lay a man with his legs gone to the hip and the stumps of them blackened and burnt. The smell was hideous” (McCarthy 109). Clearly, the mores that governed human behavior in “the world before,” with which readers will relate, have vanished in this apocalyptic setting. Later, still shaken by the pantry of people and in search of food and safety, the man and boy follow three men and a pregnant woman (195). In the morning, the boy investigates the group’s abandoned campfire and discovers “a charred human infant headless and gutted and blackening on the spit” (McCarthy 198). The prevalence of cannibalism in the novel suggests generally that the premillennial apocalyptic event is necessary to provide order and renewal to the chaotic world.

The bleakness of the novel persists through its ending, further emphasizing the fall of humankind, the ubiquity of death, and the hopelessness of this apocalyptic future. In the end of the novel, the man dies from the illnesses and injuries he accumulated throughout the narrative, and the boy joins another group of wanderers who claim not to be cannibals. If this family does not eat the boy, he might be safer with them than if he continued to travel alone; however, it is safe to assume that everyone will die in the end, as the earth is dead and cannot be farmed, and canned foods are rare and irreplaceable. In this premillennial apocalyptic configuration, there is no hope for the immediate future, if ever, and readers may hold this narrative as a counterpoint to the positive ending of
World Made by Hand. I already mentioned that speculation is activated in this genre, and that the apocalyptic scenario is somewhat decoupled from the reader’s reality. Readers are likely to connect to this narrative through the stasis of value: clearly, the novel is rife with behaviors and settings that many readers will consider bleak, bad, and even evil.

Because this novel employs premillennial apocalyptic episodes and strategies, which emphasize hopelessness and a lack of human agency, I argue that the stasis of policy/action remains inactivated because the stasis of cause is unengaged or presented as beyond human control. With no clear reasons behind or description of the apocalyptic trigger, readers will be unable to connect their reality to the novel in this manner, thus taking action to prevent the apocalypse is incredibly difficult, and may not even enter readers’ minds unless they address the stasis of cause. Because the apocalyptic event’s causes are not explained in the novel, readers may speculate using their situation models as sources for information. That is, a reader whose situation model of reality contains information about nuclear holocausts may speculate that the apocalyptic event in The Road is nuclear. Another reader may use his or her situation model and personal value systems to produce a religious interpretation of the apocalypse, assuming that the shear of light and concussions are biblical fire and brimstone raining down from the sky. Whichever interpretation readers choose, their value systems and situation models may impact how they perceive the stasis of cause. For some readers, this may exert enough force to make them consider the stasis of policy, but the premillennial mode’s focus on helplessness and the stasis of fact largely deactivates readers’ responsibility and power.
Conclusion

As I have demonstrated in this chapter, apocalyptic episodes—premillennial and postmillennial—combine with the textual form of eco-fiction to produce a sub-genre I term apocalyptic eco-fiction. As a unique sub-genre of eco-fiction, apocalyptic eco-fiction bears a particular configuration of characteristics as well as a pattern of activated or disabled stases and speculation. The use of premillennial and postmillennial episodes creates slightly different configurations of apocalyptic eco-fiction, but the core principle of the genre remains the same: apocalyptic eco-fiction explores how humanity may band together or fall apart in the face of apocalypse. *World Made by Hand* and *The Road* activate or emphasize slightly different patterns of the stases, but both employ speculation and partial decoupling of apocalypse. These patterns of stases, speculation, and decoupling allow readers to begin to imagine what the future could be like and how these apocalyptic narratives might be avoided or mitigated. Kunstler is clear in suggesting that the state of the future is the result of current patterns of human behavior and interaction with the environment. As a result of this focus on the stases of fact and cause, readers are likely to feel pressure from the stasis of value and may be more likely to consider or alter their behaviors in order to avoid the world Kunstler imagines. McCarthy’s lack of a clear definition of the apocalyptic event requires readers to imagine what the apocalyptic scenario could have been. If readers choose to interpret the disaster as the result of human environmental negligence, then the stasis of value is similarly activated and may cause readers to consider policy to alter their behavior; however, the wider interpretive space provided in *The Road* also means that readers might not connect the apocalypse to an anthropogenic cause. I argue that the postmillennial configuration of
apocalypse—because of the emphasis on human responsibility—is potentially more efficacious than the premillennial configuration in terms of inspiring readers to consider their current behaviors and how they may impact the world because it more directly connects readers’ situation models to the text via the stasis of cause, which this engages a human scale of agency.

The study of the recombination of apocalyptic episodes with different genres of environmental writing is important to rhetoricians, environmental writers, and ecocritics alike. For rhetoricians, my focus on the decoupling of apocalypse and my utilization of stasis theory should elucidate how these sub-genres are conceived and how they function. For environmental writers, being aware of the rhetorical creation of genres—and those genres’ potential effects on readers—will aid the craft of writing by alerting writers to the various forms their work may take. For ecocritics, understanding the rhetorical aspects of genres of environmental writing will enable more in-depth analyses and discussions of how authors connect or disconnect readers from environments.
3. Destroying Imagination to Save Reality: Science Fictional Apocalypse

I have discussed the progressive decoupling of text and reality that occurs as readers engage different genres of environmental literature and alters their experiences of apocalyptic episodes. In works of nonfiction, readers are less able and less likely to decouple the world presented in the text from the world in which they live because of the specific genre expectations associated with nonfiction; readers use this genre to update their knowledge about the real world. The lack of “gap” between reality and text may cause readers to view apocalyptic rhetoric not as speculative, but as a factual assessment of the current condition of the environment. Furthermore, psychologists have found that apocalyptic rhetoric in nonfiction texts may cause readers to feel unable to affect the changes that environmental writers and rhetors seek in order to forestall disaster (Doherty and Clayton 269).

Readers are able to undergo one degree of decoupling when they encounter works of eco-fiction because the “fiction” label activates a new set of genre expectations, which govern how readers engage texts. In encountering eco-fiction, readers are more able to accept the setting of the text as a possible reality rather than as the real world. Therefore, the apocalyptic scenario that appears in the fictional world does not pose an immediate threat to the reader’s sense of reality. This degree of decoupling allows readers to begin to consider and engage environmental issues by exploring the connections drawn between the fictional and real worlds. The speculative nature of apocalypticism becomes clearer in fictional texts, and readers may be less likely to feel immobilized by fear and
eco-anxiety, and may respond favorably to the calls-for-action espoused by the narrator, characters, or author.

In this chapter, I discuss the complete decoupling of fiction and reality that occurs when readers encounter apocalypticism in works of environmental science fiction. Readers activate a new set of genre expectations and behaviors specific to the science fiction genre—expectations that differ from those activated by environmental nonfiction. As a result of these genre expectations—which include engagement of innovative science and technology, the appearance of non-human characters, and new worlds and settings predicated on unique natural laws—readers can more completely decouple the science fictional text than the nonfictional text from reality. From this decoupled stance, readers imaginatively construct the world of the novel as an imagined reality, and accept and engage fantastic creatures, scenarios, settings, and plots.

Speculation assumes its full effect in environmental science fiction, which enables readers to experience an alternative reality and perhaps to thoughtfully consider scenarios that they would quickly dismiss if encountered in a nonfictional text. Before demonstrating the decoupling of apocalypse in science fiction by closely examining The Windup Girl (2009) by Paolo Bacigalupi and Margaret Atwood’s Oryx and Crake (2004), I will define science fiction, engage the work of seminal science fiction theorists, and discuss the relationship between science fiction and speculation. Sensitivity to speculation in environmental science fiction—an inherently speculative genre—is important for environmental rhetoricians, environmentalists, and ecocritics. I argue that the imaginative space science fiction provides readers creates opportunities for more comfortable engagement with environmental issues and potential solutions. Finally, I
argue that the speculative nature of science fiction establishes a redemptive potential for apocalypticism that does not function in other genres of environmental writing.

**Defining the Genre of Speculation and Wonder**

As many critics, scholars, writers, and readers have noted, it is difficult to offer a single, cohesive definition of science fiction. Broadly construed, science fiction is a genre characterized by the engagement through narrative of possible innovations in science and technology. Authors of science fiction may use real, accurate, or probable scientific data and current discoveries to create fictitious worlds. The primary difference between science fiction and fantasy, a genre often incorrectly conflated with science fiction, is that science fictional works are predicated on what is actually possible in agreement with established natural laws, such as gravity.

The science fiction genre has been called *voyages extraordinaires, scientific romance, scientifiction, science wonder stories, and speculative fiction* (Gunn ix). James Edwin Gunn, the Director of the Center for the Study of Science Fiction, proposes in an introductory essay that science fiction “has no recognizable action, like the murder mystery, or recognizable milieu, like the western, or recognizable relationship, like the romance” and that “it can incorporate all the other genres” (xi). Indeed, science fiction is perhaps best understood as a genre of pluralism and variety, a genre that creates, explores, tests, and challenges worlds, and is thus ever shifting. In his own attempt to define science fiction, Gunn writes, “it is the literature of change, the literature of anticipation, the literature of the human species, the literature of speculation, and more” (xi). The key feature of this definition, I argue, is the notion that science fiction “is the
literature of speculation,” because this feature operates with the most vigor in science fiction.

Science fiction’s role as a vehicle for exploration of complex scientific and theoretical concepts, paired with its potential to influence and inspire change in its readers, makes it a prime candidate for ecocritical and rhetorical study. In *Science Fiction: The New Critical Idiom* (2006), Adam Roberts explains that science fiction is “a form of thought experiment, an elaborate ‘what if?’ game, where the consequences of some or other novum are worked through” (9). I will explain the novum in more detail in the following section, but for now it is enough to consider it an innovative element or invention within a science fictional text. In addition to the “what if” games of science fiction, it is important acknowledge the remark of science fiction theorist William Sims Bainbridge that in science fiction, “an author designs a plausible future, then the reader explores and evaluates it. If it feels bad, the readers can work to prevent it. If it feels good, perhaps they can bring it about” (213). The discourse of science fiction thus acts as a mirror to contemporary cultural concerns and is driven by relationships between readers and characters, present and future time, reality and alternate reality, and the frontier lands between what is known and not yet known about science, technology, society, and environment. The environmental consciousness of today is reflected in the futures and possibilities of the tomorrows in science fiction. Indeed, if we can explore what science fiction says, not just to readers, but about readers, perhaps we can find ways of increasing the import of ecological consciousness and concern for environmental wellbeing. While science fiction does not, as Gunn explains, have a single recognizable action, it does have a number of unique features that distinguish it from nonfiction or other genres of fiction.
Identifying the Features and Expectations of Science Fiction

Roberts writes “[science fiction] does not project us into the future; it relates to us stories about our present, and more importantly about the past that has led to this present” (28). While Roberts is right that science fiction often engages different time frames, I disagree with his broad claim that science fiction speaks to us about our pasts. Rather, in many works of science fiction, the novel is set in a possible future and our lived present time is the novel’s past: science fiction can make us question our present and future. Kingsley Amis noted in 1960 that, “science fiction presents with verisimilitude the human effects of spectacular changes in our environment, changes either deliberately willed or involuntarily suffered” (20). Amis’s point is clear and important: much of science fiction is environmentally focused, thus it is an important genre for ecocritics and environmentalists to consider.

In his discussion of science fiction, David Ketterer argues that “what all science fiction aims at is destroying old assumptions and suggesting a new, and often visionary, reality” (18). The processes of destruction and construction or imagination are rooted in Rolf Zwaan’s work on the effects of genre expectations on reader comprehension. If a reader of environmental news dismisses a claim about climate change, perhaps he or she will not be so immediately dismissive of a similar claim in a work of science fiction. The genre expectations associated with science fiction allow readers to accept and welcome apocalyptic environments. Rather than being frightening predictions of the state of reality, apocalyptic episodes in science fiction are creative, imaginative figurations through which readers may envision and explore possible futures.
Decoupling Apocalypse in Science Fiction

As Bainbridge notes, science fiction exists as a place in which alternate realities can be explored, and the conceptualization of these alternate realities can allow readers to become more aware of concepts which they had not previously considered (214). As a narrative-driven form of writing, the science fiction novel in particular allows readers to connect with science in ways that they may not be able or willing to do if it were only written in the passive, “objective,” voice of authority that defines so many scientific publications (Bainbridge 198). Therefore, the creative narrative work of science fiction, paired with its necessary, genre-defining focus on plausible or actual sciences, allows readers to explore scientific concepts through human narratives and experiences. The ability for literature to allow some degree of escape or separation from reality also allows readers to imagine themselves in the alternate futures crafted by science fiction writers. This feature of science fiction allows readers to decouple elements of reality from the text.

Decoupling readers’ expectations about their actual lived reality from the literature they read is significant. As Zwaan concedes: “in literature, the poetic function predominates… attention is focused on the verbal code itself, rather than on the specific situation it denotes. This does not mean that the situations that are described in literary texts are unimportant. What it means is that literary texts are primarily verbal works of art” (921 emphasis added). Understanding that literary texts are considered works of art or entertainment, and understanding that readers will thus pick up a work of environmental science fiction to be entertained, rather than educated, I still see the didactic potential of science fiction. If science fiction authors craft probable situations
that draw from real world concerns, readers may come to view these texts as far more than verbal works of art; they may learn to see science fictional situations as figurations of real problems and solutions. Through the remainder of this chapter, I hope to explore what science fiction has to say to and about reality.

While some may view literature—especially fiction—as primarily entertaining, and thus in opposition to public, civic discourse, which is considered persuasive and instrumental in affecting changes in reality, literature can be both entertaining and persuasive. In her theory of genre, Carolyn Miller asserts that communities create genres that in turn “serve as keys to understanding how to participate in the actions of a community” (165). Genres and their communities are thus co-constitutive. With this point in mind, Ketterer’s argument should become clearer: because of this co-constitutive nature of genre and community, science fiction can indeed suggest and create new assumptions and new realities. In other words, Ketterer proposes that science fiction authors create new realities that may influence audiences and new authors, thus creating and perpetuating a genre and culture of reading that addresses problems via imaginative solutions. Ketterer is attuned to the importance of apocalypticism in science fiction, too:

*Apocalyptic literature is concerned with the creation of other worlds which exist, on the literal level, in a credible relationship (whether on the basis of rational extrapolation and analogy or religious belief) with the ‘real’ world, thereby causing a metaphorical destruction of that ‘real’ world in the reader’s head*” (13).

That the act of reading is itself apocalyptic is a fascinating point, and I argue that the suppression of the real world in the reader’s head is what allows him or her to fully
engage the imaginative spaces left open by the science fiction genre. To clarify how the real and imaginary worlds are separate, Ketterer explains that “while mimetic literature addresses itself to reproductions of the ‘real’ world, fantastic literature involves the creation of escapist worlds that, existing in an incredible relationship to the ‘real’ world, do not impinge destructively on that world” (13).

Darko Suvin, perhaps the most influential science fiction writer, critic, and theorist of the twentieth century, further explains the distinctions between reality and imagination via the concept of the novum in his seminal work, *Metamorphoses of Science Fiction* (1979). The novum, according to Suvin, bears “narrative dominance” in a work of science fiction, and can be understood as a “novelty” or “innovation” that is consistently “validated by logic” (63). “Clearly,” he argues, “the novum is a mediating category whose explicative potency springs from its rare bridging of literary and extraliterary, fictional and empirical, formal and ideological domains, in brief from its unalienable historicity” (64). Science fiction manipulates and draws from actual history, science, technology, and human culture, and the core concern of the text is apparent through the novum, as I will soon demonstrate with *The Windup Girl* and *Oryx and Crake*.

As Csicsery-Ronay explains in *The Seven Beauties of Science Fiction*, “for Suvin, the novum is the central imaginary novelty in a science fiction text, the source of the most important distinctions between the world of the tale and the world of the reader” (47). Thus, the novum is an important factor in connecting the readers’ situation models to their readings of science fictional texts. From a decoupled stance, readers may accept the novum as fact and compare it to something similar in their situation model. Csicsery-Ronay further explains, “sf [science fiction] novums are the radically new inventions,
discoveries, or social relations around which otherwise familiar fictional elements are reorganized in a cogent, historically plausible way” (47). One of the defining elements of the novum is that it must be logical, based in plausible science, and mark a departure from our reality. The function of the novum, then, is to construct an alternate reality which readers “make sense of by constantly, though not always consciously, comparing it with the familiar world” (Csicsery-Ronay 50). The novum captures an element of the familiar world and offers a compelling, alternate version; a departure that betrays readers’ real-world concerns and values. The alternate realities created through the novum thus allow readers who have decoupled the real and fictional worlds to find connections, to relate certain aspects of the novel to the situation model of reality. “Every novum,” therefore, “calls attention to the historical inertia of the reader’s actual present” and “its primary purpose is to make critical recognition of the ideological mythology of one’s own time possible” (Csicsery-Ronay 50-1). To begin to clarify and support my assertion that the novum is the feature of the science fictional text that most clearly identifies the real world concerns explored in the text, I turn now to close readings of the primary texts selected for this chapter.

*The Windup Girl*

Paolo Bacigalupi’s 2009 novel, *The Windup Girl*—a work of environmental science fiction set in Thailand—explores a possible post-petroleum future defined by rising sea levels and social unrest. In this future Thailand, the crisis of climate change has peaked, resulting in significant changes in sea level and unpredictable weather patterns. The human race has also expended the global supply of petroleum and gasoline,
rendering most petroleum-age technologies obsolete. As a result, many tools and industries have been retro-engineered to rely upon treadles, spindles, and large mammals for power. Concurrently, the human race is besieged by a slurry of genetically engineered botanical blights and plagues that eradicate entire populations of people. Genetic engineering companies employ “calorie men” to search for new seed stock from which gene hackers may manipulate new strains of illnesses and new strains of weevil and rust resistant crops. In addition to genetically engineered animals like the megodons—15 feet-tall-at-the-shoulder elephant-derivatives used to turn spindles to generate power in factories—gene hackers produced a new race of people. The New People are lightning fast and have much more acute senses than regular humans, but are produced sterile and designed to serve. The outwardly visible mark of a New Person is its telltale stutter-stop motion; a tick meant to emphasize their beauty and precision while also marking them as nonhuman others.

In the opening scene of the novel, we are introduced to Anderson Lake, the protagonist, who is searching for a new kind of fruit in the Bangkok, Thailand marketplace. The descriptions of fruits and what Lake sees reveal concerns of the human race of the future: blister rust contamination, “new-variant tomatoes,” and “pirated U-Tex rice” (Bacigalupi 1). We are assured that, despite how shocking and unfamiliar this scene may be to readers, “none of it touches Anderson” (Bacigalupi 1). What this ultimately reveals about Lake is that he is accustomed to this odd new world with which readers are unfamiliar. Furthermore, we learn that the protagonist is a Caucasian foreigner working in a version of Thailand embedded in a world concerned with issues of environment, genetic modification of foods, and bioengineered diseases. Other scenes, like the
introduction to the refugee Chinese workers and native Thais reveal how the rest of the surviving human race has adapted to the new environment. Lake, an American worker in Thailand, depends upon the Chinese refugees for aid. Lao Gu, for example, is Lake’s rickshaw driver, and the first refugee or “yellow card” to whom we are introduced in the book. We learn that:

The old Chinese man is nothing but a scarecrow, dressed in rags, but still, he is lucky. Alive, when most people are dead. Employed, while his fellow Malayan refugees are packed like chickens into sweltering Expansion towers. Lao Gu has stringy muscle on his bones and enough money to indulge in Singha cigarettes. To the rest of the yellow card refugees he is as lucky as a king. (Bacigalupi 4)

The vivid description of this character allows readers to visualize him, but not to understand how he came to become a Malayan refugee, or why all of the yellow card Chinese in the city are in constant danger of being deported, arrested, or “dumped into the methane composters of the city along with the daily fruit rind and dung collections, to bake steadily into compost and gas and eventually light the city streets with the green glow of approved-burn methane” (Bacigalupi 22). The native Thais, however, are relatively safe, though wary of farang (foreigners) like Lake because they often bring with them new strains of plagues like cibiscosis, which causes victims to “[cough] the meat of their lungs out” (Bacigalupi 125). This composite image of the human race differs starkly from what readers expect or experience in reality.

The country, we discover, is surrounded by dikes and seawalls intended to keep the ocean out of the cities (Bacigalupi 7). The level of the “blood warm” ocean
(Bacigalupi 60) is the result of, we naturally assume, the melting of the polar icecaps and
the subsequent flooding of much of the world—a global warming crisis scenario with
which readers are familiar. Although Bacigalupi notes in the end of the novel that his
representation of Thailand in the future in no way accurately represents its current
condition or people (361), readers cannot view the futuristic Thailand as an entirely alien
place; many of the details used throughout the novel are rooted in the readers’ situation
models of present reality. For example, the prevalence of Buddhist religious archetypes
and tropes, references to gas-powered vehicles, and use of the Thai language, are
indicative of the complicated nature of the novel’s setting and relationship to the real
world. These memes from the readers’ present time, in combination with the novel’s
unique inventions, behaviors, and tropes, allow readers to locate and create connections
between the worlds of fiction and reality. These connections between fiction and reality
enable readers to consider the situations of the novel as more than fictive: readers can use
*The Windup Girl* as a form of thought experiment.

The novum helps us to see what contemporary cultural concerns the author’s
work hinges upon. In the case of *The Windup Girl*, the novum(s) centers upon issues of
genetic modification and apocalyptic figurations of environment. This recognition then
enables exploration of how literature—specifically science fiction—functions as a mirror
of social and environmental concerns. Suvin’s conception of the novum depends upon the
existence of a single, driving novum that defines the trajectory of the plot. Csicsery-
Ronay astutely notes that “each sf novum is a compound of at least two different kinds of
radical change,” the first of which typically “appears as a physical-material novelty”
(Csicsery-Ronay 56). In the case of *The Windup Girl*, this material change comes in the
form of kink springs—energy storage technology consisting of a wire coated in “algae-derived powder” before it is “tortured into its final structure, winding on itself, torquing into a tighter and tighter curl, working against everything in its molecular structure as the spring is tightened down” and then encased and charged (Bacigalupi 10-11). The springs, once compressed to the size of a fist and encased, can “hold a gigajoule of power. Quadruple the capacity-weight ratio of any other spring on the market” (Bacigalupi 5). The springs, their creator explains, provide “power this portable” that has not existed “since gasoline” (Bacigalupi 6). While this statement seems ordinary in the novel, and the plot unfolds almost entirely without the use of petroleum-based technologies, readers can be expected to be startled by the idea of a time space wherein gas will no longer be a ubiquitous power source.

Suvin’s concept of cognitive estrangement accounts for how readers will feel about the lack of gasoline in the novel. Cognitive estrangement refers to “the process of feedback oscillation” that occurs as readers “[compare] the imaginary model with the ideological one” (Csicsery-Ronay 50). That is, readers quickly compare the world in The Windup Girl to their own realities and this rapid comparison produces a sense of disconnection for both worlds. Cognitive estrangement thus functions through connections readers draw between their situation models of reality and the world of the text. From a cognitively estranged viewpoint, readers will evaluate the novum in relation to the situation model. If readers disapprove of the novum, or if it is too jarringly different from their situation model, they may wish to avoid its manifestation in reality. Conversely, if readers approve of the novum, they may consider it a positive change or addition to reality. These considerations thus affect reader engagement with the stasis of
policy; however, this stasis is not encountered as a nonfictional call-to-action, but as part of the “what if” game of science fiction.

The second element of radical change that defines the novum, as Csicsery-Ronay explains, is “ethical novelty: a change in values and mores” (56). This ethical element emerges directly from the material aspect of the novum and further engages readers in the stasis of value. In *The Windup Girl*, we know that the kink spring is the material aspect of the novum. The ethical change, then, comes in how characters in the novel, and readers experiencing the novel, perceive the ethics and use of oil, gasoline, coal, and other forms of energy that are so routine in contemporary reality that we often become numb to thinking critically about them. One of the most cogent examples of this ethical dimension appears when Kanya, a double-agent within the Environmental Ministry, is below ground in the Ministry’s Quarantine Department and observing the lab computers. “Some of them are models that haven’t existed in fifty years and burn more energy than five new ones,” the narrator explains to readers who are inundated and at times obsessed with the computer-driven culture of the present (Bacigalupi 215). Kanya notes the extreme energy consumption of these computers and “the amount of power burning through them makes Kanya weak in the knees. She can almost see the ocean rising in response” (Bacigalupi 215). Computers are an ordinary part of readers’ lives, so Kanya’s evaluative response to their energy consumption will cause readers to evaluate the gadgetry in their situation models of reality, thus connecting readers to Kanya through the stasis of value. The stasis of cause is also apparent in this scene, and may cause readers to cognitively progress through value to cause to action—perhaps they will consider how much energy they consume in reality and whether that level of usage is acceptable.
The stasis of cause is further engaged in the narrative by descriptions of the science fictional environment. Dikes and coal-burning pumps that keep the ocean out of the city surround Thailand, preventing the inundation that such cities as “New York and Rangoon, Mumbai and New Orleans” have already suffered (Bacigalupi 7). Although it is never overtly stated or explained, readers can infer from their own experiences and familiarity with discourses of climate change and its potential apocalyptic effects, that the seas have risen as a result of the complete melting of the polar icecaps and glaciers. Bacigalupi hints at the extreme climate, “the hammer heat” of the sun a contemporary concern, and leads readers to conclude in their own minds what the causes could be (2). These connections between reality and the text may cause readers to consider how changes to their environments might create or forestall events prefigured in the novel.

In a particularly chilling scene, Gi Bu Sen (Gibbons), a rogue gene hacker for one of the major calories companies—the same company for which Lake operates—explains to Kanya, the Environmental Ministry lieutenant, that “Nature has become something new. It is ours now, truly. And if our creation devours us, how poetic will that be? (Bacigalupi 247). As a gene hacker, ripping DNA from seed banks and modifying plants’ genes has been Gi Bu Sen’s life’s work. The cibiscosis, rust, blight, and other plagues that afflict the human and other-than human populations of the future world were created by such geneticists as Gi Bu Sen. He further explains that “the nature of our beasts and plagues” is to “mutate and adapt” to fit new niches (Bacigalupi 246). This concern directly correlates with one of the chief questions readers will bring to their reading of the book: how are we manipulating the environment and what consequences might we generate in the future as a result of our tampering? Earlier in the novel, Lake is
examining photos and trying to identify the strange fruit he found in the market in the first page of the book. He finds a captionless photo of a farmer standing near a pile of the fruit and rues the fact that “the dead men and women [from the past] have no idea that they stand in front of the treasure trove of the ages” (Bacigalupi 64). Readers may perceive themselves as the “dead men and women” from the past and may discover that “when we read science fiction, we recognize that it applies to the real world, and we ask it real questions. The first one is: How did we get there from here?” (Candelaria 9).

Reminiscent of a catalog of commodities in an early American nature writing text, Lake provides a list of the fruits that no longer exist in the future: “oranges […] dragon fruits, none of these pomelos, none of these yellow things…lemons. None of them. So many of these things are simply gone” (Bacigalupi 64). These absences in the novel engage readers’ situation models of reality with elegy, and force readers to imagine what life might be like without these commonplaces. This invocation of elegy and anticipatory nostalgia functions to build emotional capital that the author might use to produce environmental engagement in the audience.

The catastrophic changes to the environment and the dangers of genetic modification of crops, people, and animals ring clearly in this science fiction novel. Through this captivating narrative, readers may experience one possible future without oil, lemons, or oranges—a future world rife with human exploitation and inequality.

Throughout the novel, Lake and other characters refer to Finland and allude to a disaster in which the entire seed bank in Finland—which indeed exists in reality—is ransacked, burnt, and lost forever. Seeds from thousands of years of history are destroyed by greedy calorie companies, gene hackers, and bioterrorists seeking new genetic material from
which to manipulate the next plague. In the end of the novel, to prevent another incident like the one that occurred in Finland, Kanya assassinates the calorie company representatives who have come to sample from the last seed bank in Thailand. Kanya takes the seeds and relocates them to a new, secret location out of the reach of the sea, which she welcomes into the city by blowing up the levees and pumps (Bacigalupi 355). Ketterer reminds us that “the fulfillment of the apocalyptic imagination demands that the destructive chaos give way finally to a new order” (24) Kanya provides one possible configuration of that new order.

While reading science fiction, readers decouple the text from reality, and the characteristics of the novum allow them to reconnect certain elements of the text to their situation model. From these specific connections, which are designed by the authors, we can learn what concerns the science fictional text means to engage. The recoupling effects of the novum act in *The Windup Girl* to make readers consider the relationships between energy consumption, genetic modification, global climate change, and both the human and nonhuman world. The apocalyptic scenarios presented in *The Windup Girl* are distinctly postmillennial—humans are responsible for the global climate change crisis and only human intervention can offer any chance of hope or renewal, which Kanya provides through her takeover of the city.

*Oryx and Crake*

Margaret Atwood’s *Oryx and Crake* explores the effects of scientific and technological developments in the field of genetic modification. This novel opens, after the collapse of humanity by an unnamed apocalyptic event, with Snowman—a character
who has renamed himself after something no longer possible, no longer culturally relevant. Snowman (known before the apocalypse as Jimmy) lives in a tree near a group of genetically engineered humanoids known as the “Crakers.” Snowman’s childhood friend, Glenn, who renamed himself Crake after an extinct species of bird, designed these herbivorous humanoids to be peaceful, nature-loving, and only sexually active during specific breeding seasons. Snowman shares his environment with the Crakers, who are unaware of what life was like before the apocalypse, and a variety of other genetically engineered beasts. In the opening scene, Snowman awakes in his tree and hears “the distant ocean grinding against the ersatz reefs of rusted car parts and jumbled bricks and assorted rubble” (Atwood 3). This novel spans two timeframes: the years preceding the apocalyptic event, and Snowman’s experiences with the Crakers after the collapse of humanity. In the passages of text that describe the world before, we see the heights of technological achievement, the commercialization of life, and the commodification of sex. In the passages describing Snowman’s experiences with the Crakers, we see evidence of the destruction of human civilization and the Crakers’ harmonious relationships with themselves and nature.

The apocalyptic event, we learn, is the result of a virulent genetic pandemic that Crake engineered and had his lover, Oryx, sell as medicinal prophylactic pills called BlyssPluss (Atwood 325). The purported purpose of the pills was to “eliminate the external causes of death,” namely war, contagious diseases, and “overpopulation, leading—as we’ve seen in spades—to environmental degradation,” Crake explains (Atwood 293). However, Crake’s real motivation was to deliberately and quickly
eliminate humanity in order to spare it a slow inevitable demise through natural causes. Crake explains:

As a species we’re in deep trouble, worse than anyone’s saying. They’re afraid to release the stats because people might just give up, but take it from me, we’re running out of space-time. Demand for resources has exceeded supply for decades in marginal geopolitical areas, hence the famines and droughts, but very soon, demand is going to exceed supply for everyone. (Atwood 295)

In this scene, Crake captures a real world concern, overpopulation, and offers a radical solution to it: a pharmaceutical novum that sterilizes entire populations of people under the pretense of granting them enhanced libido and sexual prowess, and immunity to sexually transmitted illness. Readers will connect their situation model to this scene, thus recoupling this element of the text to reality, and will evaluate the problem of overpopulation and Crake’s alleged solution. The connection between this novum and the readers’ situation models will activate the stasis of value, causing readers to evaluate the issue of overpopulation and to consider agreeable solutions. If the idea of a sterilizing prophylactic does not alarm readers enough activate the stasis of policy, then perhaps the real effects of the drug will.

Crake hired Jimmy (Snowman) to handle the BlyssPluss ad campaign and appointed him second-in-command. While Crake is away from headquarters, Jimmy observes a series of bulletins about plague outbreaks:

At first Jimmy thought it was routine, another minor epidemic or splotch of bioterrorism, just another news item…then the next one hit, and the
next, the next, the next, rapid-fire. Taiwan, Bangkok, Saudi Arabia, Bombay, Paris, Berlin…the maps on the monitor screens lit up, spackled with red as if someone had flicked a loaded paint brush at them. This was more than a few isolated plague spots. This was major. (Atwood 324)

Oryx explains, “It was in the pills. It was in those pills I was giving away, the ones I was selling. It’s all the same cities, I went there. Those pills were supposed to help people!” (Atwood 325). Crake used Oryx to distribute the BlyssPluss pills, which actually contained a lethal bioengineered virus, so that he could ensure the entire human population of the planet, save for Jimmy, would be eradicated. Jimmy, the only known survivor, then renames himself Snowman and assumes his role as the caretaker of the Crakers who, like him, are immune to the virus. At the end of the novel, Snowman is slowly dying from a severe infection in his foot and he finds a band of three other humans. He debates whether he should kill them to protect the Crakers, or to welcome them, but the novel ends without a clear indication of his choice or the outcome. Readers are thus left to speculate about the novel’s ending and the two options for the future. Snowman could kill the three humans, and then die of his foot infection, to complete Crake’s plan to replace humanity with the Crakers. Alternatively, Snowman could let the humans live, which would invite a series of other possible outcomes. They could skill Snowman and the Crakers, and then die of natural causes, leaving the planet devoid of human or humanlike life; or, they could heal Snowman’s foot and attempt to recuperate the human populations, thus placing the human race in competition with the Crakers for resources and space.
While the novel engages postmillennial apocalypticism through Crake’s activation of the apocalypse through the dissemination of his lethal virus, *Oryx and Crake* is an example of premillennial apocalypticism. Although Crake establishes human responsibility for the apocalypse by bioengineering and distributing the virus, there is nothing that the human race can do to forestall, prevent, or reverse the apocalypse. Extinction is a significant theme in this novel, which also supports a premillennial reading of the text. As children, Glenn and Jimmy play a game called Extinctathon, “an interactive biofreak masterlore game” in which players choose either Kingdom Animal or Kingdom Vegetable and challenge each other to use clues to identity “some bioform that had kakked out within the past fifty years” (Atwood 80). To play the game, each player must choose the name of some extinct plant or animal, hence Glenn’s “Crake” moniker. Later in the novel, when Crake has become a mad scientist, he employs a number of the Extinctathon grandmasters and has his lover (Oryx) choose a name from the Extinctathon list. Many of the names chosen by characters belong to animals and plants that are indeed extinct in the readers’ present time; however, other species like *Oryx beisa* are still extant in reality. The use of extinct species names serves two functions. First, these names act as reference points that connect the novel to reality; readers are likely to be familiar with some of the species: Rhino, Manatee, Oryx. Second, the act of choosing extinct names foreshadows the extinction of the human race by equating humans with other species of life that have “kakked out.”

The use of codenames from Extinctathon also evokes elegy. Currently, the Rhino, Manatee, Oryx, and other species mentioned in *Oryx and Crake* are still alive. By listing these species as extinct in the novel, Atwood makes readers imagine that these lifeforms
are extinct. When the human characters in the novel choose the names of extinct species of plants and animals, this creates a connection that extends the elegiac tone to humankind. After the collapse of humanity in the novel, we can assume that *Homo sapiens* would become just another name in the Extinctathon database—if anyone were still alive to play. These connections between reality and fiction, readers and characters, humans and extinct species, emphasize the frailty of the human race and this affects readers’ value connections to the text. Readers may feel anticipatory nostalgia for the species of animals and plants that no longer exist in the novel. Furthermore, readers may feel nostalgia for their present time, the novel’s past, as the Crakers find artifacts and debris from the extinct human world.

Readers may also use their real world concerns about technology and genetic modification to view this apocalyptic tale as a critique of technology: we can achieve incredible things with technology, but that does not mean we will be able to save ourselves if we need to. The stases of value and cause are activated here: readers will evaluate the destruction of the human race and then consider causes for the destruction, which carry additional value judgments, but are not necessarily on the same scale as human agency. This novel suggests no hope for the human race, considering that Crake inoculated only Jimmy against the virus. Before approaching the three humans, Snowman “lifts his watch; it shows him its blank face. Zero hour, Snowman thinks. Time to go” (Atwood 374) and the novel ends. Rather than ending on a clear note of hope, as in a postmillennial scenario, this novel concludes with speculation and uncertainty. Readers are left to speculate about what action Snowman takes and whether it is positive or negative, whether he lives or dies, whether the Crakers are protected or slaughtered.
Clearly, this novel fully activates readers’ space for speculation, and even requires that they speculate to fill in gaps in the narrative. How readers choose to fill the gaps will depend upon their situation models and personal value systems.

In this speculative novel, in which corporations and bioengineering firms rule the world, Snowman serves as a link between reality and fiction. Especially for the Crakers, Snowman is the gatekeeper of knowledge. When the Crakers find debris washed up on the beach, they bring it to Snowman to learn whether the items are safe or harmful. In one scene, the Crakers show Snowman “a hubcap, a piano key, a chunk of pale green pop bottle smoothed by the ocean. A plastic BlyssPluss container, empty; a ChickieNobs Bucket O’Nubbins, ditto. A computer mouse, or the busted remains of one, with a long wiry tail” (Atwood 7). To explain these artifacts from the novel’s past—the readers’ present reality—Snowman invents mythologies or provides plain answers like “these are things from before” (Atwood 7). Snowman thus mediates the space between reality and fiction, for readers and the Crakers, but only readers will be able to distinguish the two because the Crakers believe everything that Snowman tells them.

The rhetorical characteristics of the apocalyptic scenario presented in this novel depend upon the use of contemporary concerns: climate change and the dangers of genetic modification. *Oryx and Crake* explores what life might be like if we are not careful now with genetically engineered organisms and our overweening desire to control nature. From a rhetorical standpoint, this novel betrays mainstream environmental concerns and arguments in a literary format that, arguably, allow more readers a chance to engage and perhaps understand what is at stake with environmental discourse.

Developing a familiarity with apocalyptic rhetoric and how it is decoupled in science
fiction enables ecocritics and environmental rhetors to more compellingly engage how this text might speak to readers or make statements about our actual concerns.

**Conclusion**

As we have seen in this chapter, science fictional depictions of real world concerns allows readers to decouple the fictitious world from the real world. This decoupling creates and holds open an imaginative space that provides opportunities for readers to meaningfully consider connections between these worlds. By discussing how science fiction operates within the stasis of fact—asserting that the conditions of the fictitious world are not a possible future or even related to the present reality, but their own solid, concrete, rational formulation—I hope to have shown ecocritics and environmental rhetors alike how science fiction is able to address such issues as environmental apocalypse without the explicit call-to-action that accompanies texts written in the stases of action or policy. Rather than demanding action, science fictional worlds ask readers to become part of that world, accept that world as it is, and understand how that world operates. In understanding how a fictitious world operates, perhaps readers will be able to translate this experience to the real world, to examine possible futures and solutions to problems.

In this chapter I have argued, like Ketterer and others, that science fictional texts act as thought experiments in which readers can “test out” new realities or imaginative solutions to real world problems. While many of the scenarios readers encounter in science fiction are bleak or apocalyptic, this genre holds creative, positive potential.

According to *The Science in Science Fiction*, by Robert W. Bly, more than 80 scientific
inventions, concepts, and revolutions—from atomic warfare to genetically modified foods, robots to television, and test-tube babies to global warming—were prefigured in science fiction (ix-xii). Without science fiction as a creative and engaging thought experiment, it is possible that some of these advances would not have been made, or that issues of global warming, water shortages, and genetic modification of foods might not figure so prominently in our minds and literatures today.

While such prominent figures as Al Gore have created documentaries and books describing the data and events leading up to a global, climate change catastrophe in which the icecaps melt, polar bears and other species become extinct, and the seas warm and rise to flood continents, little is said about what life under such circumstances might be like. Paolo Bacigalupi and other science fiction writers, however, engage with the scientific data surrounding environmental concerns and explore what it might be like to live during a time that we have fully expended our global stock of gasoline and been cornered by the rising oceans. Science fiction explores “the human consequences of technical developments” (Bainbridge 212). While “science fiction does not resolve the serious issues of mundane world” (Bainbridge 222), it may enable us to think more critically about our world, and to understand how our ideological and aesthetic relationships with environments affect our material uses, abuses, and connections with the world. If ecocritics and environmentalists heed the assertion that “no variety of literature except science fiction wonders about the long-term future of the human species, and none suggests such a wide range of alternative fates” (Bainbridge 222), then perhaps they will understand the importance of studying how apocalyptic episodes and other common features of environmental writing function in this genre of text.
Perhaps in the practice tests offered by science fiction, we can explore and generate solutions before we must truly know what it means to live future worlds wherein the world’s major cities are submerged or the human race is extinct and forgotten alongside countless other species of “obscure bugs, weeds, and frogs nobody had ever heard of” (Atwood 81). I hope this chapter has increased ecocritical and rhetorical sensitivity to science fiction and that it facilitates discussion about the decoupling of apocalypticism and the resultant effects on speculation and the stases. The speculative foundations of science, and the genre expectations readers bring to their readings of science fictional texts, change how apocalypticism functions in these texts. Rather than “revealing” the actual future or our inexorable fate, as the root of apocalypse suggests, this speculative genre allows us to use apocalypticism to envision new possibilities. By envisioning and speculating about these alternatives, rather than committing ourselves to bleak doomsday scenarios, perhaps we can learn to use the imaginative spaces provided by this genre to help us reveal real solutions to our global and local environmental concerns.
Conclusion: Revisioning Apocalypse in Environmental Discourse

In this thesis, I have examined the use and meaning of apocalyptic episodes and strategies in select environmental texts. By focusing on the genre expectations readers associate with eco-nonfiction, eco-fiction, and science fiction, I have explained how the cognitive process of decoupling texts from reality changes the function and perception of apocalypticism. When readers encounter nonfiction texts, their genre expectations disable comprehension strategies specific to fictional genres. That is, readers will perceive nonfictional works as means of updating their situation models of reality, and these texts often emphasize the stasis of policy, which is intended to make readers change their behaviors. Because of the genre expectation produced linkages between the text and the readers’ situation models, the cognitive process of decoupling the text and reality is disabled. Thus, such speculative and imaginative strategies as apocalypticism will be considered factual predictions if the state of the future, rather than as creative thought experiments.

As Bill McKibben and Al Gore note, apocalyptic strategies and episodes in nonfiction environmental discourse are effective in capturing an audience’s attention and alerting them to a sense of crisis. While apocalypticism can therefore be very effective in garnering attention and motivating people through the stasis of policy to make changes to their patterns of consumption, behavior, and energy use, this rhetoric is risky. Psychologists have found that exposure to doomsday scenarios in nonfiction environmental texts worries audiences and that “individuals’ worries about environmental health threats take a toll on their subjective well-being” (Doherty and
Furthermore, what many environmentalists may perceive as apathy about the environment, which they may hope to correct by using apocalyptic imagery to secure attention, “is actually paralysis in the face of the size of the problem” (Doherty and Clayton 270). To truly affect environmental change, it is important that environmentalists be aware of how apocalypticism functions in nonfiction texts. I hope my study of the inability to decouple apocalyptic scenarios in texts from reality will facilitate further discussion and study of the effects of rhetorical apocalypticism in nonfiction and other forms of writing.

While potentially risky in nonfiction environmental discourse, apocalypticism functions differently in eco-fiction. Through my study of James Howard Kunstler’s *World Made by Hand* and Cormac McCarthy’s *The Road*, I have demonstrated how the fiction-appropriate text comprehension systems activated by genre expectations allow readers to decouple some elements of the text from reality. In these decoupled spaces, readers are able to attain a “safe” imaginative distance that encourages speculation about and acceptance of apocalyptic episodes. In works of eco-fiction, the stasis of policy is less likely to be an overt section, as in a nonfiction text, that requires audience consideration or compliance. The stasis of value, however, can be significantly engaged in eco-fiction, which may lead some readers to speculate about or pursue changes in policy or procedure to avoid the apocalyptic scenarios that drives the plots of apocalyptic eco-fiction. The use of premillennial and postmillennial configurations of apocalypse also affects whether readers are likely to feel empowered to make changes in reality. Another way that environmentalists, ecocritics, and environmental rhetors may improve their practices is through greater awareness of the specific characteristics that distinguish
premillennial and postmillennial apocalyptic forms, and how these forms function in specific text genres.

Scholars and readers will find that apocalyptic episodes become decoupled from reality in works of science fiction. The genre expectations of science fiction encourage readers to quickly dissociate the text from reality; however, as Ketterer and others propose, the genre also recouples certain elements of the text to reality through the use of a novum—a radically new invention or concept in a science fiction text “around which otherwise familiar fictional elements are reorganized in a cogent, historically plausible way” (Csicsery-Ronay 47). The novum directly connects a real world concern, like overpopulation or genetic modification, to the text. This bridging of reality and text holds open an imaginative space in which readers may imagine and explore potential outcomes of current problems, the development of new problems, or possible solutions. From this imaginative, creative space which is possible because readers are less likely to balk at apocalypse in science fiction than in nonfiction, readers may productively engage ideas and concepts that they had not previously considered. Science fiction, then, may serve as an efficacious means of encouraging creative problem solving strategies.

The study of apocalypticism in environmental discourse is paramount to increasing awareness and action regarding environmental issues. When effective, apocalypticism can create “rhetorically potent public communication about climate change science” and other environmental concerns (Spoel et al. 53). When ineffective, it can cause tremendous anxiety and apathy regarding the environment (Doherty and Clayton 269). Through this project, I have contributed a way of understanding the effects of decoupled apocalypse in environmental discourse, as a means of achieving efficacious
use of this rhetorical strategy. I hope my work will facilitate further study and discussion of the rhetorical functions of apocalypticism in texts, and that environmentalists, ecocritics, and environmental rhetors alike can use my work as a foundation for future analyses of how apocalypticism functions. According to technical communication scholars, “as the scientific apocalyptic predictions for climate change [and other environmental concerns] continue to grow, now more than ever citizens need to use their political power, science knowledge, and cultural rationality to participate actively in the policy development process” (Spoel et al. 78). Scholarship that examines the effects of apocalypticism in environmental discourse can grant citizens the power and awareness they need in order to intelligently consider and address environmental issues. While nonfiction works engage real world constraints, fictional genres enable audiences to imaginatively experience environmental problems and solutions through speculation and the stasis of value. Through the combination of scientific and imaginative engagement with apocalyptic environmental discourse, perhaps environmentalists can encourage more efficacious responses to global environmental concern.
Works Cited


--- “Toward a Definition of Science Fiction.” In *Speculations on Speculation: Theories of Science Fiction*. James Gunn and Matthew Candelaria, eds. Lanham: Scarecrow P, 2005. 5-12.


Patrick, Amy Marie. “Apocalyptic or Precautionary? Revisioning Texts in Environmental Literature.” In *Coming Into Contact: Explorations in Ecocritical Theory and
Practice. Annie Merril Ingram, Ian Marshall, Daniel J Philippon, and Adam W.


