

APOCALYPSE THEN, APOCALYPSE NOW, AND A FUTURE  
WITHOUT FEAR: A NEO-PAGANISTIC REIMAGINING OF OUR  
CLIMATE CHANGE NARRATIVE

by

Nelson Alexandar Falkenburg

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*Certificate of Approval*

This is to certify that the accompanying thesis by Nelson Alexandar Falkenburg has been accepted in partial fulfillment of the requirements for graduation with Honors in Environmental Humanities.

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Don R. Snow

Whitman College  
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[Kublai Khan and Marco Polo in Conversation]

Already the Great Khan was leafing through his atlas, over the maps of cities that menace in nightmares and maledictions: Enoch, Babylon, Yahoooland, Butua, Brave New World.

He said: “It is all useless, if the last landing place can only be the infernal city, and it is there that, in ever-narrowing circles, the current is drawing us.”

And Polo said: “The inferno of the living is not something that will be; if there is one, it is what is already here, the inferno where we live every day, that we form by being together. There are two ways to escape suffering it. The first is easy for many: accept the inferno and become such a part of it that you can no longer see it. The second is risky and demands constant vigilance and apprehension: seek and learn to recognize who and what, in the midst of the inferno, are not inferno, then make them endure, give them space.”

—Italo Calvino, *Invisible Cities*

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## 1. An Introduction to Climate Change

Climate change is the great issue of our time—a kind of modern Gordian Knot. However, unlike Alexander the Great, we cannot simply untie the knot by slashing through it. Instead, we are at a point with climate change where we are constructing narratives about how best to approach its tangled mess. Narratives are the stories we tell ourselves about our world, including our past, our present, and our future. One narrative in particular, the apocalypse narrative, has become the dominant narrative in discussions of climate change. What this narrative tells us, as well as its pitfalls for addressing the issue of climate change, will be discussed at length in the pages that follow. Furthermore, a new narrative will be presented—a strange, ambiguous narrative ripe with possibility. But first, we need a basic understanding of what climate change means, and how the apocalypse narrative is present in our modern culture.

I'm not sure when I first became conscious of climate change. I grew up in the liberal hippie mecca of Olympia, so maybe it was always there, like when you leave the TV on and it makes that high-pitched whine you eventually ignore. But the first time I remember learning about the science behind global warming (that's what it was called at the time) was in my ninth grade biology class.

Mrs. Engman was my teacher at the time. She had bone-white hair that had once been golden blonde, and stood a head above all of the other students, even the basketball player Taylor. Her Viking ancestry was written on her heavy brow and shone through her icy blue eyes. She should have cut an imposing figure, should have demanded respect with her frame alone, but she spoke softly and our class was rowdy. In our class there was one senior who insisted he be

called Squirrel (she politely refused and continued down the attendance sheet), there was a football player named Chago who once ate all of the potatoes we were going to use for a microscope lab, and there were Charlie and Connor, who regaled each other every Monday with their weekend exploits.

The class when we learned about climate change was rather rote, forgettable. Mrs. Engman sat at her computer, flipping through slides with green and blue earths and too-close suns that shot squiggly rays.

“When methane and carbon dioxide are released through fossil fuel burning, they remain in the atmosphere and create a reflective layer, letting the sun’s heat in, but not letting it out.”

Next slide. A stock image of an iceberg.

“The heat then melts icebergs, glaciers, snowpacks, etcetera.” She said etcetera whenever she listed something, even if there was nothing left to list. “The white snow—which is typically reflective—melts, meaning even more heat is soaked up by the earth.” More squiggly lines jabbed at the planet.

Next slide. Snow covered in a layer of grime, as if it had been flambéed.

“When particulates land on snow it reduces the albedo of the snow.” She defined albedo, reflectivity, and I scribbled the definition in my careful notes. Charlie said it sounded a lot like libido and Connor laughed. She went on.

“Climate is not weather, although it is often misconstrued as weather. Weather is in a constant state of change from day-to-day and hour-to-hour, while climate is the general trend of weather, historical weather and future weather. Climate is averages of temperatures and rainfalls, rather than specific events.” She switched to a slide that showed the Earth divided into zones along longitudinal lines.

“Climate applies to larger regions while weather is localized. That being said, climate change has been charged by many media and scientific circles for producing catastrophic weather events, including droughts—such as the recent record-breaking drought in California—floods, and hurricanes. These events are often portrayed as the harbingers of climate change—climate change actualized in weather.” She flashed a slide with three pictures: a cracked and dry desert, a boy standing in the littered wreckage of what presumably was once his home, and a picture of a person paddling a canoe through a suburb.

She continued, flipping to a picture of a pile of coins. “In a nutshell, that is climate. But what is change? Change is a word we are all comfortable with, although many are uncomfortable with the concept itself.” She paused and looked up from her computer, smiling, but no one laughed at her joke. Maybe I was the only one still listening. She went back to her notes. “Change means that things will be different, that the status quo will shift, which then means we either have to mitigate that change, or we have to adapt to it.”

*Click.* Mrs. Engman went on to talk about Milutin Milankovic and his theory of heating and cooling cycles, but she had lost me. I paid attention only enough to record her lecture in my notes—none of it mattered to me. My classmates and I were not inspired to do something about climate change, or even to think critically about it. Instead, we were bored. The scientific graphs and slides may have educated us, but they were not challenging us.

That same spring, Al Gore’s movie *An Inconvenient Truth* was released. It went on to win the Academy Award for best documentary, Gore won a Nobel Peace Prize for his work, and global warming became a household phrase. I watched the film with my family. It’s important,

my mom told us. She had read the book in her book club. She thought there were some things we could take away from watching it.

The movie ended up being a glorified PowerPoint with a high-powered political figure running the slides showing receding glaciers, squiggly sun arrows, and ice bergs melting, buoyed by graph after graph of temperatures, distances and water levels. The most exciting part was when Al Gore got on a Genie scissor lift that pushed him to the top of the PowerPoint screen. Nevertheless, by the end of the film, my family and I were fairly shocked. Mr. Gore even gave us some suggestions for working against climate change. He told us ways to reduce our carbon footprint, ways to “green” our lives and our house. My dad bought a car for my mom that got 50 miles per gallon and started making biodiesel at the marina he manages. Mom went fluorescent.

But none of that really changed anything. Global warming was still happening; our household sacrifices made no significant impact. And even though I knew the inconvenient truth and agreed that climate change was an issue, I became, well, even more bored with the whole thing. In the context of scientific PowerPoints climate change was unimaginable. That isn't to say unthinkable. I could think about it just fine with statistics and histogram bar graphs—that is to say, with science. But I couldn't imagine what could be done about it; CO<sub>2</sub> was too small, global temperature rise too large, changing light bulbs too simple.

It wasn't until a professor introduced me to the notion of climate change as apocalypse, as present, as a political, ecological issue requiring re-framing, that something clicked. That word, *apocalypse*, was so weighted with meaning and biblical history that it made me think differently about the issue of climate change. Aaron Bobrow-Strain, a politics professor, mentioned casually that apocalypse is a part of the societal narrative we tell ourselves. In our western culture, apocalypse is the ending of our human story—a cosmic punchline that helps us

delineate time—and our modern apocalypse is climate change. This idea resonated deeply with me. But it wasn't until later, when I taught creative writing to a middle school class, that I finally understood how enmeshed this story is in our culture.

When I signed up to teach Mrs. Clearman's sixth graders, I didn't expect to be confronted with the apocalypse. In the second lesson I told the students they would write collaborative poems together. The collaborative poems introduced me to their writing abilities, creative process and, surprisingly, their collective subconscious where the apocalypse lurked.

The students wrote faster than we had expected. They were the gifted kids after all, part of the school's "Explorer" program, and their poems were dripping with creative imaginings. All of the students had budding personalities that they were growing into, like their lanky arms and gawky ears. There was Dalton, a performer, who wrote poems as Wilford Warfstache, a pseudo-British character with a lisp and a mustache. There was Maddy, a quiet, meek girl who had a way with figurative language and never needed help. There was Joel, the one the other kids called "The Bad Kid," who really wasn't bad at all, just energetic with little respect for authority. And then there was Carter, a little blonde boy with sharp cheekbones and penetrating eyes who couldn't sit with both feet on the floor. He had a dark imagination and maybe a dark home life, but probably both. He was perceptive and brilliant.

The collaborative poem that Carter's table wrote is titled "Despair." Carter was first to read and prefaced his reading by saying, "It's kind of dark," followed by a nervous giggle. He then proceeded to read in the voice of someone much older, as if he had already passed through puberty and stood in the clear on the other side. The classroom, usually buzzing with energy, laughter, clandestine pokes and whispered asides, fell quiet and still as Carter read:

**Despair** (with spelling edits)

He fell asleep to them softly and dreamed

Of polk-a-dot cactus  
Sherbert skiing on  
Dalton of Jessica  
Town then awoke in rainbow town

After arriving in rainbow town  
Many exotic things occurred  
Such as the apocalypse of gummy bears  
And the drought of 1997

With the thought of heavy rain in 2002  
And the tornado of 2013  
The thought of  
Devastation, loss, and despair

In the eyes of children  
Who have lost loved ones to  
Evil doing: 9/11 that was a time  
Of great loss and sadness.

He finished reading, lingering expertly on the last line, and bounced back to his seat.

Admittedly, during his reading, the word “apocalypse” in the poem barely registered for me. But he wasn’t the only one to include the biblical term; two other groups that day, sitting at different tables, also used the same word. Joel spelled it “apocolips,” and Carter spelled it “apolips,” but there it was, a terrifying, black, impish thing nested in amongst rainbows and sunsets and polk-a-dots—the things we expect sixth graders to write about.

Perhaps, upon reading my students’ poems, I was experiencing the Baader-Meinhoff phenomenon, in which you hear a new word or phrase and then it reveals itself in unlikely places at unusual times. We have all experienced this phenomenon, usually upon learning a new term, but I think I was undergoing something beyond a familiarization; I was attuning myself to the

apocalypse narrative and getting positive feedback in unlikely places. After the collaborative poetry lesson I opened my ears and was bombarded by the amount of daily apocalypse in our society, cementing for me the strength of the apocalypse narrative.

If you flip on the news, go to a theater, pick up the paper from the mailbox, read popular literature, or teach sixth grade, the apocalypse is seemingly nigh. Jon Stewart ran a whole series on my favorite news network discussing the topic “Apocalypse Now” and another segment named “Apocalypse Cow” (concerning mad cow disease); cinema is exploding with big-budget apocalypse hits like “2012,” “After Earth,” “The Day After Tomorrow”; the *Daily Mail* ran a headline in October 2013 that read “Apocalypse Now: Unstoppable Man-made Climate Change Will Become Reality by End of the Decade”; and an entire genre of post-apocalyptic dystopian fiction, including Cormac McCarthy’s *The Road* and Margaret Atwood’s *The Year of the Flood* is darkly imagining our near future. Despite the fact that many people don’t believe the apocalypse has arrived, and some don’t believe that Climate Change has anything to do with the apocalypse, there’s no denying the apocalypse is a modern societal narrative.

But how useful is this narrative in relation to climate change? What do we gain by thinking of climate change apocalyptically? In my paper, I will introduce a new narrative and way-of-thinking about climate change that is based in a neo-paganistic relation to our world, inspired by Carl Sagan’s *Cosmos*. Apocalypse was my first exposure to reimagining the predominately scientifically-framed climate change narrative, and it helped me view the issue through a new critical lens. However, the apocalypse narrative has detrimental implications for political action and individual meaning-making in response to climate change. While it is a useful step in understanding the narrative framing of climate change, we need more radical imaginative frames if we are to live in a climate change future.

In what follows, I will begin by explaining the biblical apocalypse narrative of Revelation, then discuss the secularization and scientization of that narrative, focusing particularly on Bill McKibben's *Eaarth* as a contemporary example. Next, I will critique the scientized apocalypse narrative of climate change, drawing from the works of philosophers, social scientists and political theorists. I will then transition to opportunities for reimagining the narrative and rethinking our climate change world, using D.H. Lawrence's *Apocalypse* as an example of Sarah Amsler's "Critical Pedagogies of Crisis Thinking." I will conclude with a personal narrative that employs a symbolic reading of Carl Sagan's *Cosmos*, allowing for the connectivity and heightened relational understanding of our universe that this climate change moment requires.

My paper will not give any answers to climate change, or offer solutions to its problems. In fact, climate change cannot be *solved* like other problems. But what I hope to convey is the necessity for a new dominant narrative in relation to climate change, one that preferences ambiguity, creativity, imagination and connection in place of apocalypse. This hopeful frame may not stop the globe from warming, but it will open up a new way of thinking about the climate change moment and how to live in, and with it.

## 2. John's Revelation

It's the 21<sup>st</sup> of December, just a few days until Christmas—which my family celebrates in the capitalist tradition (we stopped going to church years ago)—and I am at our annual extended-family Christmas celebration. All of my family on Mom's side has gathered here at Papa and Papa Grandma's house. We spend the better part of an afternoon eating hors d'oeuvres, drinking my Great Aunt Margie's frothy, alcoholic eggnog from her secret recipe, and making awkward cross-ideological and cross-generational small-talk. Before dinner, having consumed only carrot sticks and ranch, spiced nuts, chocolate, and four cups of eggnog, I decide to engage Aunt Phyllis in a conversation about the apocalypse. I admit that I had the intention of writing about it later. We're sitting on the leather couch in Papa and Papa-Grandma's living room, a mounted deer bust hangs from the wall in front of us, and the smell of roasting ham wafts through the kitchen. My stomach grumbles but I ignore it.

“Hey Phyllis, what do you think of the apocalypse?” I could have found a more specific way of framing the question, but after four cups of egg nog...well anyway. She turns to me slowly, her eyebrows furrowed as if she hadn't heard correctly. “I mean...,” my brain is wading through thick, thick nog, “in terms of all that's going on today, and what's happening in the media and with the climate, what do you think?” She smiles. I am about to open up a very talkative can of worms.

“Well, I think the apocalypse is here, that we are in the midst of it. I believe the signs are here, that the seven seals have—wait a minute, have you read Ezekiel, or David, or John's Revelation?”

I feel a little ashamed and shake my head “no.”

“Oh, well when the seven bowls are poured out, the seven trumpets blown, and seven seals broken, there will be terrible earthquakes and storms and floods. This is happening now, Nelson.” I nod my head. There do seem to be an awful lot of natural disasters lately.

“Do you think this has to do with climate change?” I ask her.

“Well, yes, in a way. God is angry with the people, and these events are his works, kind of like a punishment.”

“Oh, well, do you think we have anything to do with it?”

“No, how could we? Are we as powerful as God?” I didn’t really know what to say to that. “There’s been some unusual earthquake activity lately around the Bay Area, and with all the peace talks in Jerusalem, between the Philistines and the Jews, it’s the whore of Babylon returning.” She looks worried, but her voice is galvanized. “I’m not afraid, though. I’m not afraid to die. I know my name is written in the Book of Life. I am afraid of the persecution; to be denounced by non-believers, like Jesus was. I’m afraid of the torture, but, in the end, it is only my body. I know I will live forever in the kingdom of God.” When Phyllis says this, it isn’t as if she’s trying to convince herself. She truly believes.

“How would you...I don’t really know how to say this, but how would you label your religion, you know, like there are Protestants, Catholics, Episcopalians...?”

“I’m a true Christian, Nelson. I model myself after the actions and teachings of Christ as best I can. That is what it means to be a Christian. My husband...” She trails off and shrugs. Dave isn’t a true Christian. He thinks most of what Phyllis says is pretty far out. He comes to check on us at least once during our conversation, I guess to make sure she isn’t harassing me too much. Phyllis may consider herself a *true* Christian, but most others would call her an Evangelical, or Born-Again, or Fundamentalist Christian.

At this point in the conversation I'm very hungry; I can smell the mashed potatoes and gravy, I can hear the clatter of silverware in the kitchen, but Phyllis hasn't even tried conversion yet. "I appreciate your interest in this, Nelson. I always knew you had a spirituality about you." I smile and try to deflect the comment, fully aware of where we're headed. "I know you do not have faith in Christ, but He has faith in you." She looks sad now, and tired, very tired. "I pray for you and your family every day. That they might be saved. I am afraid for you, so I pray for you." She reaches out to me and clasps my hand in her long, knobby fingers.

"Thank you, Phyllis," I say in all honesty. I don't believe the apocalypse is coming, but either way it's comforting to have her on my side.

Phyllis believes in a very specific, rapture-ready, literal reading of the apocalypse. Her interpretation reduces the interesting nuances of the text to a sort of operational guide for the end. Eschatological texts do have modern societal weight and consequence, but these influences are far more intriguing and potentially transformative than a mere destruction-salvation story. I will trace out the societal apocalypse narrative and explain its modern import in relation to climate change by focusing on one eschatological book, the Book of Revelation, including its historical context, key concepts, and the impact it has had on the environmental movement. I will draw primarily from the analysis of Brian Blount, a theologian who has rigorously studied the historical context of Revelation, in order to convey the work's historicity and religious intent. Not having much background on the subject, I found his work to be comprehensive, comprehensible, and illuminating. I will also include corroborative historical commentary from theologian Adela Yarbro Collins. In order to comprehend how the apocalypse narrative came

into being, and how that narrative has been adopted by the environmental and climate change movements, it is imperative to have background knowledge of the text.

Revelation is the final book of the Christian New Testament. The word “revelation” is a translation of the book’s Greek title “ἀποκάλυψις” or “*apokalypsis*,” the root of our contemporary English word “apocalypse.” Pre-biblically, the term “apocalypse” was understood as “the marital stripping of the veiled virgin.”<sup>1</sup> Revelation, in this case, is the stripping away of the veiled future so that Christians may revel in the beauty of New Jerusalem. Often understood as “the end,” the true meaning of “apocalypse” is much closer to a disclosure: one man’s prophecy of the coming kingdom of God.

As with most biblical texts, identifying the true author of the Book of Revelation is difficult. Nevertheless, there is general agreement amongst historians as to the name, location, and social setting of the author. Understanding Revelation through the facets of authorship, place and social moment will be beneficial for grasping its relationship to our modern apocalypse narrative. Blount argues that the name “John” is most likely the true name of the author.<sup>2</sup> While many authors at the time wrote pseudonymously, John would have written with his true name because he wrote openly to church communities “that could easily have identified him and thereby challenged his pseudonymous claim.”<sup>3</sup> The name John is coincidentally also the name of the author of the fourth gospel and early historians attempted to equate the two. However, according to Collins, the author of the fourth gospel “was killed for his allegiance to Christ, apparently before 70 C.E.” a full two decades prior to John laying pen to paper.<sup>4</sup> In Blount’s analysis of John’s Revelation, he states: “John was most likely a Palestinian Jew who had come to the conclusion that Christ was God’s messianic agent charged with the task of ushering in

God's reign."<sup>5</sup> So, we have some admittedly vague ideas of who John was, but where and why was he writing?

The location from which John wrote is relatively easy to ascertain (he directly tells the recipients of his letters), but his reason for being there holds deeper meaning: "I, John, your brother and colleague in the persecution and reign and non-violent resistance in Jesus, was on the island of Patmos because of the word of God" (1:1-3). Patmos is a small island in the Aegean that historians argue was used for the purpose of exile.<sup>6</sup> "Because of the word of God," means that by bearing witness to Jesus as savior, John claims to have been exiled to the island. The persecution mentioned by John, however, is not the immediate persecution at the hands of the Romans, to which the Christians were still dutifully paying homage, but rather "the *expectation* of persecution."<sup>7</sup> To understand this concept more fully and to ascertain why John wrote Revelation, some socio-historical context is necessary.

John wrote Revelation at a time when Christian monotheism was coming into direct conflict with Roman paganism. During the reign of Domitian, religion and the state were intertwined, evinced most clearly in the imperial cult. As a facet of the imperial cult, "the emperor was regularly associated with the gods and sometimes presented as a god himself."<sup>8</sup> The conflation of the religious and political spheres in Roman society meant that opting out of cultic practices for Christians was especially difficult: "rejection of the gods implied resistance to the state."<sup>9</sup> In order to avoid persecution, Christians accommodated and worshipped pagan deities as well as their Christian God. A letter sent from a Roman Governor, Pliny the Younger, who wrote during the time of the Book of Revelation, describes the process of punishing those charged as being Christ-believers:

I have handled those who have been denounced to me as Christian as follows: I asked them whether they were Christians. Those who responded affirmatively I

have asked a second and third time, under threat of death penalty. If they persisted...in their confession, I had them executed.<sup>10</sup>

The emperor agreed with Pliny the Younger's actions and praised him. In a response letter he wrote:

You have chosen the right way with regard to the cases of those who have been accused before you as Christians...Christians should not be sought out. But if they are accused and handed over, they are to be punished, but only if they do not deny being Christians and demonstrate it by the appropriate act, i.e., the worship of our gods.<sup>11</sup>

Idol worship and renunciation of God was the socio-religious reality for Christians during John's time; it became a method of survival. But what John demands in Revelation—one of his reasons for writing the book—is a shift back to true Christianity, including renunciation of pagan gods and the imperial cult. This is not an easy thing to ask of a marginalized group. Renunciation of the imperial cult would lead to the *expected* persecution of Christians, a persecution of much greater proportions than the current *experienced* persecution. However, John, unlike his fellow idolizing Christians, was already experiencing the persecution, symbolized by his exile to Patmos, making him an exemplary witness.<sup>12</sup> Alongside this expected persecution is the promise of a better future, one in which the kingdom of God, offering eternal life, replaces the regimental Roman Empire.

Ultimately, John's revelation is very straightforward: "Jesus Christ is Lord...the director of human destiny, the controller of human fortune," and Jesus Christ will return again with a vengeance.<sup>13</sup> John's hopeful prophecy allows Christians to worship Christ with an eye toward the future kingdom and to endure the persecution. While John wrote Revelation for his people in his time, the book has had reverberations reaching into modernity. The future orientation of the Book of Revelation has affected how western society perceives time. At the conclusion of her essay on Revelation, Collins claims that the text "suggest(s) the inner meaning of our universe or

of the human experience of its process. The biblical apocalypses are viewed not as forecasts of what is to be but as interpretations of how things were, are and ought to be.”<sup>14</sup> With implications of this magnitude, and with its position as the final text in the New Testament (one of the most important texts in western history), the Book of Revelation has had profound influences on the narratives of western civilization and scientific progress.

### 3. Secularization and Scientization of the Apocalypse

Today, when most people hear the word *apocalypse*, they understand it to mean destruction, or the end of the world, not a prophetic revelation that Christ is Lord. The reason for this redefinition is twofold. First, the most common reading for lay-readers of the text, who do not understand it in its socio-historical context, is that it portrays a bloody, gory, violent slaughter at God's hand. This reading is so surface-level as to be paltry. John's elevated language is meant to serve the purpose of motivation through fear, saying essentially, "do not be one of the non-believers who end up in the lake of fire." Secondly, the word *apocalypse* has gone through a kind of translation. In 2008, the *Oxford English Dictionary* added a new definition of apocalypse: "a disaster resulting in drastic, irreversible damage to human society or the environment, esp. on a global scale; a cataclysm."<sup>15</sup> The new definition, in its departure from Revelation, describes what many people imagine contemporarily upon hearing the word. The new meaning of the word—its modern connotation—has developed in the context of scientific progress and the environmental movement.

Beginning with the detonations of "Little Boy" and "Fat Man" in Hiroshima and Nagasaki, changing focus through the environmental movement, and continuing with our current climate change crisis today, apocalypse has been intertwined with scientific progress and rationality. In order to trace out the threads connecting Revelation to climate change and scientific progress, I will employ the work of Stefan Skrimshire and Frederick Buell. Skrimshire is a professor of philosophy of religion at University of Leeds, where he teaches the roots of apocalyptic thought in modern political life. In his essay "Eternal Return of the Apocalypse," he analyzes the narratives of modern scientific progress and climate change in the historical context of Revelation. Frederick Buell, an English professor from the UK, takes a historical approach in

his discussion of environmental apocalypse. By combining the philosophical and historical perspectives I hope to elucidate how the climate change apocalypse narrative became the dominant story of the environmental movement.

When “Little Boy” was dropped on Hiroshima on August 6, 1945, Perry Miller, a historian, wrote that “the narrative [of the Book of Revelation] for the first time becomes historical.”<sup>16</sup> At the time, prominent political figures reacted similarly; Winston Churchill saw apocalyptic finality in the nuclear bombs. He called the devastation of Hiroshima “the second coming of Wrath,” and said “the atomic bomb is the good news of damnation.”<sup>17</sup> Robert Oppenheimer, one of the chief physicists on the Manhattan Project, reflecting back on his work, famously recalled a passage from the *Bhagavad Gita* when Vishnu, by impressing Arjuna with his powers, tries to compel the prince to do his duty: “Now, I am become Death, the destroyer of worlds.” There may have been moments similar to this in earlier human history, moments where the end seemed very near, but none was as global, within human control, or as shocking as the bombings of Hiroshima and Nagasaki.

According to Stefan Skrimshire, our perception of the world as having a terminus is only possible because of the Book of Revelation. Skrimshire claims that the Book of Revelation changed our perception of time from “eternal occurrence to an archetypal existence,” a shift from a cyclical gestalt based on natural occurrences such as seasons and moon cycles, to a linear gestalt.<sup>18</sup> Linearity meant that history could be read like a narrative, “whose beginning, Genesis, also pointed to, or revealed, its end(s): Apocalypse.”<sup>19</sup> This means that not only did the narrative of The Book of Revelation for the first time become historical during nuclear apocalypse, as Miller claims, but also that The Book of Revelation allowed the human experience to be read historically in the first place. Therefore, while John’s Revelation shaped the very way western

civilization perceived time, the detonation of “Little Boy” also allowed humans to see the apocalypse as a moment in historical time.

Besides contextualizing apocalypse by giving it a historical moment, the development and deployment of nuclear weapons demonstrated humanity’s own power to destroy itself. Buell and Stein, both historians, recognize this moment as pivotal in our modern apocalypse narrative. Stein argues that by developing nuclear weapons “humans no longer needed to wait for God to bring the apocalypse, they could bring it themselves.”<sup>20</sup> The power to destroy ourselves, and the associated fears, led to the creation of the Doomsday Clock, an arms race between the Soviet Union and United States, Mutually Assured Destruction (MAD), and the notion of nuclear winter, one of the earliest articulations of a kind of apocalyptic climate change. Carl Sagan, who will feature prominently in the conclusion of this work, was one of the five scientists involved in the TTAPS study that coined the term “Nuclear Winter.” According to Encyclopedia Britannica, their hypothesis was that:

The basic cause of nuclear winter... would be the numerous and immense fireballs caused by exploding nuclear warheads. These fireballs would ignite huge uncontrolled fires (firestorms) over any and all cities and forests that were within range of them. Great plumes of smoke, soot, and dust would be sent aloft from these fires, lifted by their own heating to high altitudes where they could drift for weeks before dropping back or being washed out of the atmosphere onto the ground. These thick black clouds could block out all but a fraction of the Sun’s light for a period as long as several weeks. Surface temperatures would plunge for a few weeks as a consequence, perhaps by as much as 11° to 22° C (20° to 40° F).<sup>21</sup>

The low temperatures and the lack of sunlight would stall plant photosynthesis and, combined with high levels of radiation, as well as overwhelmed medical facilities, would lead to a massive number of deaths.

The potential for nuclear apocalypse removed God's agency from the apocalyptic narrative and gave it to science. Politicians held the power to make the executive decisions for war, but that power was granted only by the physicists of the Manhattan Project through the destructive technology they created. The nuclear physicists were then able to forecast nuclear fallout and impact, becoming a predictive and moralizing entity, a position that has been adopted by climate scientists and others in our contemporary environmental movement. The power of physicists in the case of the Manhattan Project is also directly connected to our privileging of a progress-oriented mindset.

Only within a collective mindset of "progress" would we have been willing and able to develop nuclear weapons. It is critical to recognize how the apocalypse narrative shaped human understanding of "progress" and, most importantly, scientific progress. Skrimshire argues that if—thanks to John's Revelation—human history is able to be viewed as a narrative, then we as humans see ourselves as progressing through time. In order to establish the basis of the connection between scientific progress and revelation, Skrimshire refers first to Isaac Newton, whose development of calculus and mechanical philosophies were the scientific status quo for centuries. One relevant ground-breaking theory of Newton's mechanical philosophy "was a belief in the gradual decay of 'powers' of the cosmos, due to observations of increasing irregularities in planetary orbits."<sup>22</sup> This scientific discovery provided "evidence of the degradation of the earth" and implied that "the end of all things was just around the corner." Newton, himself a devout Christian and a believer in the Book of Revelation's teachings, effectively merged scientific progress and apocalypse for the first time. Through progress, "both in the physical sense and in the common belief at the time," we see that "the near-perfection of human (scientific) knowledge was the sign of the apocalypse itself; the sign that the "ends" of

the earth were being revealed in the progress of humanity towards its perfection.”<sup>23</sup> In other words, scientific rationality was able to show how the world could very feasibly come to an end. Furthermore, the increasing exactitude of our scientific rationality is only attributable to the forward movement of scientific progress. Even today, we know that not only will the world eventually end, but so will our sun and our universe, unraveling over time due to entropy. Skrimshire continues his argument by drawing a semantic connection between the “enlightenment” of scientific progress, and “the idea that humans participated in the unfolding *revelation* of the secrets of the universe towards its perfection.”<sup>24</sup> In other words, by rationalizing our world with progress, scientists constantly call the apocalypse into being and make it *real* or, *knowable*. In his conclusion, Skrimshire notes that progress does not simply replace the impending doom of apocalyptic vision, but that the two become ever more intertwined: “Faith in the eventual perfection of creation is coupled with an acceptance of periodic crises in the world. Those crises are seen as an aspect of its unfolding ‘reason’ or story.”<sup>25</sup> Scientific progress, much like Revelation, recognizes that after crisis a better world is created.

In terms of war and military technology, scientific progress is linked to apocalypse by viewing crises as inevitable steps forward. World War II brought together the status quo of progress, our contextualizing of history as linear, and our human ability to destroy ourselves, thereby cementing our modern apocalypse narrative. The nuclear apocalypse narrative has since been re-contextualized and adopted by the environmental movement. In 1962, the baton in the race to devastation passed from nuclear apocalypse to ecological holocaust.

In the early 1960s, the apocalypse narrative—borrowed from nuclear Armageddon and a part of our society’s story—was put to use in order to galvanize an environmental movement. Frederick Buell points to Rachel Carson as the first person to articulate nature’s doomsday. He

claims that “the environmental component of this immense power,” meaning the power to destroy our world, “emerged first with Rachel Carson’s *Silent Spring* in 1962.”<sup>26</sup> Whether or not she was the first to describe environmental apocalypse, as Buell claims, Carson’s story about the effects of DDT is often cited as the beginning of the contemporary environmental movement in the United States. Carson’s apocalypse is not a human apocalypse, at least not directly, but an avian apocalypse. Nevertheless, through the poisoning of birds and the end of spring, Carson showed how the nuclear narrative of apocalypse was translatable to an environmental narrative of apocalypse. Furthermore, because of the public outcry generated by *Silent Spring*, and the eventual ban on DDT, Carson brought this narrative into the spotlight. Apocalyptic framing became (and continues to be) the primary method for communicating environmental problems, including climate change.

Biologist Paul Ehrlich, following in Carson’s footsteps, explicitly translated the ecological crisis narrative to one of humanity in 1968, when “he envisioned a grotesquely overpopulated world,” in which plagues and famines of biblical proportion visit humanity. Ehrlich employed neo-Malthusian economics and a numbers-based approach to the issue of population, reveling in a “rational” solution to the problem. His final formula, developed with the help of John Holdren, is called the IPAT formula.<sup>27</sup> IPAT, or  $I=P \times A \times T$ , is the lettering of a formula put forward to describe environmental impact, “I.” In the formula, “P” represents “Population,” “A” stands for “Affluence,” and “T” signifies “Technology.”<sup>28</sup> At the end of the 1960s, the narrative showed that humanity’s environmental crisis was still within its control—addressing P, A, or T, or banning DDT were steps that could be taken to avert apocalypse. However, the limits of our progress-oriented society were soon to be recognized.

In 1972, *The Limits to Growth*, authored by the Club of Rome, showed the public a prophetic answer to our contemporary predicaments. Favoring numerical representations of the issues, the Club of Rome summarized in three simple steps a global-systemic analysis of contemporary problems. In the introduction to their book, the Club of Rome authors laid out the environmental issues and what, by their estimation, is to be done:

1. If the present growth trends in world population, industrialization, pollution, food production, and resource depletion continue unchanged, the limits to growth on this planet will be reached sometime within the next one hundred years. The most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity.

2. It is possible to alter these growth trends and to establish a condition of ecological and economic stability that is sustainable into the far future. The state of global equilibrium could be designed so that the basic material needs of each person on earth are satisfied and each person has an equal opportunity to realize his human potential.

3. If the world's people decide to strive for this second outcome rather than the first, the sooner they begin working to attain it, the greater will be their chances for success.<sup>29</sup>

Although the phrasing is remarkably vague and clinical, The Club of Rome is directly addressing “the end” in its report.

The environmental apocalypse of Carson, Ehrlich, and The Club of Rome borrowed heavily from nuclear apocalypse, which was informed by the Book of Revelation's teleology and the new power for self-destruction discovered by humanity. Progress also retained an important place in the environmental apocalypse narrative, although its implications are less evident than those for nuclear apocalypse. For Carson, Ehrlich and The Club of Rome it was obvious how we arrived in our place of present day environmental degradation; we progressed there through new technologies. DDT was a technology developed for disease and pest-control, and technology, “T,” was a factor in the environmental impact equation. Progress was viewed as a sort of enemy, but ironically, progress was also the only way to a better future beyond the present crisis. By

employing the apocalypse narrative, the environmental movement implicated itself inextricably in a teleological framework of progressing crises. The environmental apocalypse narrative has since been employed with increasing frequency. Today, environmentalists have found the narrative's most recent crisis: climate change.

Stefan Skrimshire proposes that the crises we have faced occur cyclically, so that once one concludes, the next begins.<sup>30</sup> The implication of this argument is that we have always been in an apocalyptic moment, at least since the framework entered our western narrative with Revelation. Each apocalypse is related to crisis and progress. As mentioned earlier, crises are viewed as necessary because each apocalyptic crisis is justified by science's progressive vision—a kind of modern revelation. Recently, crises framed apocalyptically have included nuclear Armageddon, the environmental crises of Carson, Ehrlich and The Club of Rome, and now climate change. However, Skrimshire does acknowledge that this cyclical crisis may not apply in the same way to climate change. The climate change apocalypse is unlike the nuclear apocalypse, wherein we were in control of launching nuclear weapons; or Carson's *Silent Spring* apocalypse, wherein we could stop spraying DDT and the ecosystem would rebound. Instead, in our modern apocalypse, "we may have reached a point at which the idea of human agency—the ability to act—has also become swallowed up in the larger meta-narrative in which the end of the story is beyond people's control."<sup>31</sup>

Skrimshire justifies a cyclical apocalyptic framing of climate change because it engages in a progressive, hopeful future after the event. However, because of the fact that we have lost control of climate change, or, more likely, never had control of it in the first place, I do not see how this is the case. The framing of the climate change apocalypse as something that can be overcome or avoided is problematic. In order to fruitfully address the nuanced issue that is

climate change, new frames have to be conceptualized. In the final chapters of this paper, I will introduce a new way of rethinking climate change, but we cannot explore those ideas yet. Before reframing climate change, it is necessary to understand the gravity of applying the apocalypse frame to climate change.

Bill McKibben's *Eaarth* is a contemporary evocation of the apocalypse narrative, intentionally fusing climate change to an apocalyptic frame. The simplest way to understand our modern secularized and scientized view of apocalypse is to read McKibben's work next to the Book of Revelation, while keeping in mind Skrimshire's arguments concerning crisis and progress. *Eaarth* and its argument in many ways define, better than any other work, the current, misguided framing of the environmental movement as apocalyptic.

#### 4. *Eaarth* :A Contemporary Example

McKibben, according to the *Boston Globe*, “is probably the nation’s leading environmentalist,” and, truth-be-told, it is difficult to think of another person who has done as much activism on the issue of climate change. Al Gore? Perhaps Mr. Gore did make global warming a household phrase and won the Nobel prize for it, but since *An Inconvenient Truth*, Gore has been largely absent from the green spotlight. McKibben has written two books on the subject of climate change, *The End of Nature* and *Eaarth*; he is the founder of the environmental organizations Step It Up and 350.org; he has published numerous articles on the topic in magazines and newspapers, including *Rolling Stone*, *Harper’s*, *The Atlantic Monthly*, *Outside*, *Orion*, *The New York Times*, and more. He is promptly becoming the thin, bespectacled face and voice of climate change.

In his most recent book, *Eaarth*, McKibben has assumed the role of John of Patmos. Relating the words of climate scientists—such as the IPCC, NASA, NOAA and others published in *Science* or *Nature*—McKibben details the end of Earth:

We’re every day less the oasis and more the desert. The world hasn’t ended, but the world as we know it has—even if we don’t quite know it yet. We imagine we still live back on that old planet, that the disturbances we see around us are the old random and freakish kind. But they’re not. It’s a different place. A different planet. It needs a new name. *Eaarth*.<sup>32</sup>

He goes on to explain that we are “in one of those rare moments, the start of a change far larger and more thoroughgoing than anything we can read in the records of man.”<sup>33</sup> We are simultaneously in an apocalyptic and post-apocalyptic world. McKibben repeats this catastrophic refrain again and again throughout *Eaarth*, constantly reminding the reader of the immediacy of the problem, and its scale.

McKibben's revelation of the end-times shares many similarities with the apocalypse of John. There are fires, "not just more fires, but bigger ones. On average, large fires now burn four times as long as a generation ago"<sup>34</sup>; massive die-offs in the ocean: "The oceans, which cover three-fourths of the earth's surface, are distinctly more acid and their level is rising is rising; they are also warmer"<sup>35</sup>; mountain pine beetles are the modern locusts: "The scope and scale of the destruction is like nothing we have ever seen"<sup>36</sup>; hail storms (without the biblical blood): "Australian insurers recently predicted that the number of storms with golf ball-size hail could become twice as frequent between now and 2050"<sup>37</sup>; and famine: "*the number of people with too little to eat is now rising instead of falling, and rising fast.*"<sup>38</sup> This laundry list of climate change-related catastrophes reads like the seven seals of the apocalypse being opened, and the intention is similar: to strike fear and prompt repentance.

Throughout his book, McKibben leans strongly on science, statistics, and rational analysis to support his claims. The first chapter of McKibben's book, with the deceptively rosy title, "A New World," is a brain-numbing collection of scientific findings and data collected to describe our current catastrophic dilemma. McKibben acknowledges that this is the status quo method for delivering the climate change message: "The traditional way of imagining the effects of climate change is simply to list disparate data points—to go around the world inventorying the items that one scientist or another has managed to model and predict."<sup>39</sup> This is precisely what McKibben does. Every paragraph is introduced by a different study, and all the combined studies are given complete descriptive power with respect to the issue. Here are a few of the ways in which McKibben presents these arguments:

"A NASA study in December 2008 found that warming on that scale was enough to trigger a 45 percent..."<sup>40</sup>

“Scientists from the National Sea Ice Data Center said the increased melting of Arctic ice was accumulating heat in the oceans...”<sup>41</sup>

“But the damage is already happening: researchers calculate that the new aridity and heat have led to...”<sup>42</sup>

“The great glaciologist, Lonnie Thompson, drilling cores on a huge Tibetan glacier...”<sup>43</sup>

“...said a researcher at the National Center for Atmospheric Research.”<sup>44</sup>

“...said the University of Chicago biologist Timothy Wooton.”<sup>45</sup>

Organizing the quotations in this way does not misrepresent McKibben’s argument in the slightest. It only leaves out the actual data reported by McKibben, which I found difficult to fully comprehend and skimmed anyways. This isn’t to say that McKibben doesn’t acknowledge other ways to describe climate change. “The other time-honored method for communicating this kind of news is to find individual victims and share their stories, in the hope that narrative will accomplish what statistics can’t.”<sup>46</sup> What then follows is McKibben’s brief departure from statistics: a list of anecdotes about how individuals around the world are struggling with climate change. But it doesn’t last long: “The trouble with this endless collection of anecdotes, though, is that it misses the essential flavor of the new world we’re constructing.”<sup>47</sup> This new world can only be accurately described and constructed by the precise use of data, which McKibben seems to think acknowledges the “essential flavor” of Eearth.

And perhaps he’s right. Rationality and science have become the primary narratives for the construction of our “new world,” and are essential modes for describing climate change. McKibben sees data as capable of changing history: “But the real news that day, the data that rewrote the history books, came from the International Energy agency”; it is capable of

predicting what is to come: “In January 2009, a team analyzing twenty-three climate models told us about the future.”<sup>48</sup>; and the scientific prediction is an apocalyptic future: “As James Hansen and his NASA team pointed out, any increased reliance on coal is enough to guarantee that we’ll never get back to 350 [parts per million]. Cue doom.”<sup>49</sup>

Bill McKibben, who is arguably the greatest communicator of climate change, can only tell the story of climate change through science. There is a depressing irony in this, especially when a communicator says (without irony), “but as usual you don’t need words to make the point at all, because numbers would do,”<sup>50</sup> or, also without irony, quoting a scientist: “‘It’s pretty outrageous what we’ve done.’ Which is as objective a scientific statement as you’re likely to hear.”<sup>51</sup> McKibben’s narrative is consciously apocalyptic: “The earth that we knew—the only earth that we ever knew—is gone,”<sup>52</sup> but this apocalypticism can only be described through studies and the statements of climatologists. McKibben’s offers just one example of the scientization of the apocalyptic climate change narrative—it is, after all, the most common narrative frame for addressing the issue—and it is a narrative fraught with inconsistencies and ambiguities. I will not argue *de facto* against the use of statistics, experiments or climate models—science is an important way to understand the issue—but I will critique that particular lens, as well as the apocalyptic frame itself, as far as they limit the potential for political action and creative response.

## 5. Critique of the Scientized Climate Change Apocalypse

It is a sunny day, one of those late winter days that are an absolute spring tease, coaxing gullible flowers to open their petals and making me question Punxsutawney Phil's "Six More Weeks" prediction. I am outside my house in a T-shirt, talking to my sister on the phone and pacing back-and-forth on the muddy sidewalk. I want to tell her about my girl problems, about how depressed I've felt recently. I want to ask her advice for what I should do next. I want her to affirm me and build me back up. Instead, we talk about climate change.

"Did you read the *Rolling Stone* article I posted on your wall?" She means my Facebook Wall. Although it's certainly taboo, she doesn't apologize for talking about Facebook in real life. Then again, she's never been very apologetic.

"Yeah, I read it," I say as I kick a sprouting seedpod into the street. Actually I'd read half of it, but that was enough.

"I thought that was *so* crazy. What are we going to do? I mean, basically the world as we know it is over. How can we reverse all that?" The article was another McKibben piece, pointing the green finger of global warming at corporations, and calling for immediate political change in the face of disaster.<sup>53</sup> And my sister was distressed. She said she hadn't been sleeping well at night because she'd been up thinking about it, mulling over the parts per millions and the tipping points in her head as the nervous anxiety kept her awake.

"How is it that Copenhagen failed? That our government is failing us? Have you seen the graphs and the scientific predictions?" The questions were rhetorical, I guessed, because she didn't let me respond. "We need to change something, and change it now. I got in a fight with Abigail about it when we played *Settlers of Catan* last night," she continued. Abigail is a friend of hers from college who graduated with a Poly-Sci degree. "Abigail said we need to focus

locally, on grass roots organizing, and tell people about it so they can change their minds or something. But I think we need to go bigger: change policies, or really tax the corporations. It needs to be political and it needs to happen right now.” I could almost imagine her jabbing her finger into the green Formica countertop of her apartment in Seattle.

“Do you really think that will happen immediately?” I ask her. “With Congress the way it is, nothing will ever happen *right now*. I’m sorry, but I agree with Abigail on this, to an extent.”

“But, Nelson, this is happening all over the world *already*, what does more education or more convincing really change? There is tons of carbon in the atmosphere, literally gigatons more than there should be. The facts are in and we need to act now.” I could feel her concern over the phone as her voice strained.

After we talk for another fifteen minutes she tells me she doesn’t think there’s anything she can do, not really, and that is where her distress stems from. Lindsey is a do-er, always has been, but the scientization and apocalypse narrative of climate change are paralyzing her. I tell her I’ll send her some articles that will cheer her up, but after we move on to talk about her new job and I eventually hang up to start making dinner, I forget about the articles.

For a long time, I agreed with Lindsey about the catastrophic nature of climate change, and I felt the same inability to address the issue, the same helplessness. We both believed that the world was coming to an end, that big-scale changes would have to be made and made now, but we weren’t really a part of that process of change. How could we be? We weren’t politicians or scientists. I came to realize that although the apocalyptic climate change narrative was useful for re-framing climate change, it was in fact politically debilitating. At this point, I will undertake the task of deconstructing that narrative, the climate change apocalypse script, by running it

through a shredder of contemporary philosophers and theorists. Once the narrative's flaws are laid bare I will sketch the parameters for a new theory, and apply my theory in the final act.

Mike Hulme, a professor of Climate Change (a teaching position that surprises me but probably shouldn't) at the University of East Anglia, is perhaps the most oft-cited individual in critical discussions of climate change. His name appears in every journal article on the subject, bracketed by parentheses. Fittingly, Hulme provides us with a good place to begin the discussion of the flaws within an apocalypse framing. In his chapter "Presaging Apocalypse," Hulme argues that the apocalypse myth is one of four myths we employ when considering climate change. The other three myths are the myth of Eden, which, "born of nostalgia, tells us of our desire—our yearning even—to return to some simpler era when the domains of Nature...seemed clearer and unambiguous"; the myth of Babel, which, "born of pride, tells us of our desire for master and control [over nature]"; and the myth of Jubilee, which, "born of Justice, tells us of the inescapable call for human beings to respond to injustice."<sup>54</sup> All of Hulme's myths are important to climate change studies because they show how climate change can be presented as stories embodying fundamental truths. The climate myths transcend scientific knowledge while illuminating deeper-felt realities, but in the case of the apocalypse myth, science borrows from and supports the myth. Hulme suggests the four myths are important because they have roots in our instincts towards "nostalgia, fear, pride, and justice," but they are not the only myths that can be constructed around climate change.<sup>55</sup> My focus will remain on the myth of apocalypse, because of its relation to scientization and its pervasiveness in our contemporary time.

According to Hulme, the climate change apocalypse myth "appeals to our instinct of fear about the unknown future, but it also acts as a call to arms."<sup>56</sup> Hulme sees this call to arms as a call for avoidance of apocalypse. However, as we've seen in the cases of McKibben and other

media outlets, the apocalypse may already be here, rendering this argument essentially irrelevant. Nevertheless, the goal of changing the future does lend a “sense of danger, fear and urgency to discourses around climate change,” as I experienced first-hand with my sister, “yet the counterintuitive outcome of such language is that it frequently leads to disempowerment, apathy and skepticism among its audience,”<sup>57</sup> which I also experienced more recently. According to communication expert Susi Moser, “numerous studies show that...fear may change attitudes...but not necessarily increase active engagement or behavior change.”<sup>58</sup> Before we explore the role that scientization of the narrative plays, which Hulme discusses brilliantly, there are further implications of disempowerment by means of the apocalypse narrative.

In a paper titled “Apocalypse Forever?” Erik Swyngedouw delivers a compelling (albeit highly saturated and dense) argument about de-politicization and the apocalypse narrative. Swyngedouw, a professor of Human Geography at the University of Manchester, begins by discussing the deployment of the “apocalypse imaginary” (what Hulme called a “myth”) as sustaining the climate change debate, where there is a “consensus to be more ‘environmentally’ sustainable if disaster is to be avoided.”<sup>59</sup> “Consensus,” in this case, means that everyone agrees that companies and people should be more sustainable to avert disaster. This consensus is “performed” not only by environmentalists or explicitly “Green” companies, but even by the very people who are causing the damage, such as BP, who have rebranded themselves as “Beyond Petroleum” in order to fit into the sustainable culture. “This consensual framing,” presented by the apocalypse imaginary, Swyngedouw argues, “is itself sustained by a particular scientific discourse.”<sup>60</sup> The scientific discourse, which will be explained at length later, becomes entangled with apocalyptic imaginaries, in which the use of fear is employed as a central motivating factor for change. And then, interestingly, Swyngedouw argues that “sustaining and

nurturing apocalyptic imaginaries is an integral and vital part of the new cultural politics of capitalism.”<sup>61</sup> Put more simply, capitalism has co-opted the apocalyptic imaginary and its scientization. It has put them to use in the creation of a marketable good, “CO<sub>2</sub>...the ‘thing’ around which our environmental dreams, aspirations, contestations as well as policies crystallize.”<sup>62</sup> In other words, the consensual framing of climate change as *the* problem is based upon apocalyptic imaginaries and sustained by the global threat of a fetishized CO<sub>2</sub>. This framing, coupled with fear-mongering and fetishization of a molecule, leads to a deepening of “a post-political condition.”<sup>63</sup> Post-political means post-democratic, and in this case it is a politics of capitalism wherein “decision-making is increasingly considered to be a question of expert knowledge and not of political position.”<sup>64</sup> It is a managerial politics, as if bankers or businessmen are running our decision-making apparatus. The post-political world is entirely devoid of antagonism, dissent or conflict, which are the change agents in a society. Simply and reductively put, we are currently living in a post-political moment, brought to bear in part by the consensus of apocalyptic climate change, and also by the expertise now making political decisions in that arena: science.

To illustrate this point, Swyngedouw lists several facts about climate change, including this one: “The changing atmospheric composition, marked by increasing levels of CO<sub>2</sub> and other greenhouse gasses in the atmosphere, is largely caused by anthropogenic activity.”<sup>65</sup> This is taken by many to be a matter of fact, and so it is. What concerns Swyngedouw is “the complex translation and articulation between...matters of fact versus matters of concern,” and how this difference has been “short-circuited.”<sup>66</sup> Matters of concern are inherently political, raising questions like, what is to be done? How soon? Who should take part? Essentially, matters of concern prompt disagreement and debate, the foundation of politics. But in the climate change

debate, matters of fact are elevated through scientization “on to the terrain of the political,” becoming matters of concern without mediation.<sup>67</sup> When a fact is also a concern, that concern becomes indisputable, and the politics of disagreement—the necessary antagonisms—are erased. Science *becomes* policy, leaving no room for discussion of alternative imaginaries. Furthermore, the post-political populism of climate change (the current state of our agreeable, scientized public), does not identify specific subjects, such as the empowered women of the feminist movement, or the entrepreneurs of the capitalist system. There are no individuals to dissent because climate change requires “the need for common humanity-wide action, mutual collaboration and cooperation.”<sup>68</sup> Universalizing the issue erases tensions between people, homogenizes them into one group, and removes the need for democratic disagreement. If individuals do try to disagree with what is presented by scientists, they are pegged as “climate deniers” and shut out.

In the same way that no specific subjects are identified in terms of climate change populism, climate change also “has no positively embodied name or signifier,” problematizing what the future looks like.<sup>69</sup> For example, the gay rights movement’s positively embodied name is LGBTQIA (or some similar variation), a group fighting for representation and equal treatment. A future for LGBTQIA people is actualized through marriage rights, equal employment, and social acceptance. Climate change, on the other hand, has no similarly positive imagined future. Instead, a future on our planet is only presented negatively: “without promises of redemption, without a positive injunction that transcends/sublimates negativity and without the proper subject.”<sup>70</sup> Without a positive future we arrive at the creative question of Swyngedouw’s title: apocalypse forever?

If we recall Skrimshire's discussion of the eternal return of apocalypse, the promise of the end is forever postponed. Politically, postponement means that social issues are not solved, just moved elsewhere, keeping the capitalist, managerial politics functioning. Consider the prospect of geoengineering, a technological fix condoned by the IPCC.<sup>71</sup> Climate scientists have several projects in preliminary phases of development, one of which is Solar Radiation Management (techniques for SRM include introducing reflective aerosols into the upper atmosphere and cloud whitening), that would allow for immediate climate cooling. Ultimately, such projects will produce capital for some, but their broader effects are unknown. The implementation of geoengineering projects does not allow for a more hopeful, democratic process in the face of climate change. Instead, any political power is placed in the hands of scientists and engineers, and the future is only a series of desperate techno-patches.

In the face of a post-political populist climate change, framed apocalyptically, it is no wonder my sister has been rendered helpless. Apocalyptic climate change in our post-political world allows for the erasure of conflicting and alternative futures through the elevation of scientific fact to policy, the commodification of CO<sub>2</sub>, and the silencing of heterogeneous political thought. The combination of these factors eliminates the ability for productive thought and action in individuals. Swyngedouw's comprehensive argument concerning de-politicization at the hands of climate change is ultimately just one articulation of the problems of an apocalyptic frame.

Another theorist and scholar, Sheila Jasanoff, approaches the problematic framing of apocalyptic climate change from a sociological perspective. Instead of politics, Jasanoff focuses specifically on how scientific assessments of climate change "detach knowledge from meaning."<sup>72</sup> One of Jasanoff's major concerns is the tendency of scientific terminology to abstract from local and specific contexts, heightening objectivity and abstraction, but ultimately,

in the case of climate change, losing meaning. Jasanoff argues that “meaning emerges from embedded experience,” and that experience comes from “constant, mutually sustaining interactions between our senses of *is* and *ought*: of how things are and how they should be.”<sup>73</sup> A society’s options for how it currently perceives the surrounding world, and how that world will look in the future, are removed by climate science and replaced with a globalized vision. In this way, global fact is elevated over local values, forcing societies to forfeit their knowledge of the world as they’ve experienced it. Forfeiture entails not only relinquishing local understandings of place, but a simultaneous disconnection from the future of that space specifically. Instead, societies must now be concerned with the planet’s future universally; individual places mean very little on this scale. Jasanoff explains the impacts of this universalization by climate scientists on four interrelated levels: “communal, political, spatial and temporal.”<sup>74</sup>

The first break, between science and lived human experience on the level of the communal, is based in notions of “survival” versus “living.” In a community considered only through the global lens of climate change, especially one considered affected by climate change, the people living there are framed as survivors. Survival is “impersonal, detached from community, indifferent to life itself,” while living is “rich, grounded, particular to the experiences of specific peoples in identifiable places.”<sup>75</sup> Climate change science has simplified and aggregated human experience on the level of the communal until human life itself is extinguished, or at least made meaningless.

The second break, on the level of the polity, focuses on how science has been conflated with nationhood, a constructed community. Jasanoff’s portrayal of the polity as influenced by a politicized science bears a strong resemblance Swyngedouw’s. Where Jasanoff differs from Swyngedouw is in her acknowledgement that the knowledge produced by scientists in specific

societies is considered differently. No matter the society, some risks are deemed appropriate by the scientific community in one country, and inappropriate in another.<sup>76</sup> As examples, Jasanoff explains that nuclear power is embraced in France and South Korea, but not in the United States, and that Europe does not accept the American GMO crops.<sup>77</sup> However, the introduction of global, scientific political bodies, such as the IPCC, erases the social differences between nations and introduces a global politics “not answerable to particular national traditions of policy legitimation.”<sup>78</sup> In yet another way, this abstraction removes meaning from local experience and replaces it with global fact.

The third break between meaning and knowledge in society is on the level of the spatial. Environmental protection and care has historically been located in place. Aldo Leopold’s *Sand County Almanac*, for instance, is a catalogue, meditation, and deliberation about a specific place (Sank County, Wisconsin) and his cabin there. Of course, the arguments that fit one place are inevitably extrapolated onto others, but they were first formed with a place in mind, some local experience. As Jasanoff points out, “climate change, too, can be linked to a place, but that place is the whole Earth.”<sup>79</sup> This notion of a total view of the Earth is problematic not only because it is dislocating, but also because “the idea of the Earth as a single place is itself contingent on particular histories of exploration and dominance.”<sup>80</sup> The opportunity to see the whole Earth as a single entity is a privileged lens that some cannot look through, limiting their political capital in the climate change debate. A dislocated and privileged spatial view of climate change disrupts traditional meaning-making by physically abstracting it.

The final break between knowledge and meaning discussed by Jasanoff is temporal. Representations of climate change stretch the human conception of time beyond one’s life, hundreds of years into the future, until the projections lose meaning. While the apocalypse

narrative has revealed time to have an end, climate change projections attempt to depict when that end will happen, making the eschatological real. However, the time scales of these graphs are beyond ordinary human experience. We tend to operate on temporal periods of days, weeks, and, more typically, moments; decades and centuries are conceptually beyond us, but we are forced by climate science to think this way.

The scalar dislocation of climate science in the temporal, spatial, communal, and political aspects of ordinary human life removes local meaning via global knowledge-making. Humanity's dislocation is evidence of broader ramifications than Swyngedouw's political disenfranchisement. By accepting climate change as a global, knowledge-based issue, we forfeit our local stake and creative powers. In her conclusion, Jasanoff helpfully synthesizes her argument in a way that expresses the far-reaching significance of the issue:

Climate change confronts us with facts that matter crucially to the universal human destiny but that have not passed through complex processes of social accreditation on a global scale. The institutions through which climate knowledge is produced and validated (most notably, the IPCC) have operated in largely uncharted territory, in accordance with no shared, pre-articulated commitments about the right ways to interpret or act upon nature. The resulting representations of climate have become decoupled from the most modern systems of experience and understanding.<sup>81</sup>

Jasanoff's "process of accreditation" sounds remarkably similar to Swyngedouw's translation between "matters of fact versus matters of concern," but ups the stakes by declaring not only the polity to be under attack, but the entire framing of our relation to the world.

By returning full-circle to Mike Hulme, whose thoughts on the subject closely mirror Jasanoff's, we conclude our exploration of the scientized apocalyptic climate change narrative. Hulme, like Jasanoff, argues that "Science may be solving the mysteries of climate, but we have lost—or chosen to ignore—what climate means to us."<sup>82</sup> In fact, the notion of solvability is an idea that Hulme does not agree with. He says that climate change is a "wicked problem," a

problem that doesn't suggest any holistic solution: "a solution to one aspect of a wicked problem often reveals or creates other, even more complex problems demanding solution."<sup>83</sup> Because of a wicked problem's insolubility, the traditional methods of approaching problems, such as technology and science, will yield nothing but temporary fixes and patches.

However, unlike Jasanoff, Hulme sees the loss of meaning through scientific description as a failure to harness the narrative power of "the mythological, the metaphorical or the existence of memories of past disasters along the way."<sup>84</sup> If you recall, Hulme introduces four climate change myths, including the "Presaging Apocalypse" myth. These myths, while they engage with the science of climate change, transcend the hard physicality and "end up telling us richer stories about what these changes signify."<sup>85</sup> These myths are not meant to be prescriptive by any means (and we've seen the danger in a prescriptive apocalypse myth), but they are ways of confronting the problem, and ways of allying the physical, the cultural and the spiritual. Ultimately, the myths allow us to move climate change from the narrow confines of problem and into the expansive realm of imagination. And while I have shown that the Apocalypse myth is in itself problematic, the importance of the myth is the process of reframing climate change outside the purview of science: "We need to see how we can use the idea of climate change—the matrix of ecological functions, power relationships, cultural discourses and material flows that climate change reveals—to rethink how we take forward our political, social, economic and personal projects over the decades to come."<sup>86</sup> When framed in this manner, "climate change," the scientifically explained problem, becomes "Climate Change," an opportunity to imagine the deeper question that Hulme asks and believes everyone should be asking alongside talk of climate change: "what is the human project really about?"<sup>87</sup> In this way, Climate Change

becomes a creative opportunity, something to be embraced and interpreted as we move forward, rather than something to be feared and fixed.

The focus on narrative and imaginative reframing is also an important aspect of Sheila Jasanoff's suggestions at the end of her work. She argues that the social sciences can play a central role in addressing climate change: "It is to restore to the public view, and offer a framework in which to think about, the human and the social in a climate that renders obsolete important prior categories of solidarity and experience."<sup>88</sup> Her focus on the public view and frameworks is another way of making Hulme's point about the narrative importance in prompting action, only Jasanoff sees this as a concern for the social sciences, while Hulme frames it in the broader terms of rhetoric, art and politics.

Swyngedouw articulates a very similar step forward, a way to combat the fiction of "the post-political condition that combines apocalyptic futures with a hegemonic neoliberal view of social ordering."<sup>89</sup> This combat does not require the overthrow of the capitalist system or a proletarian revolution (at least, not yet), but something simpler: "there is an urgent need for different stories and fictions that can be mobilized for realization."<sup>90</sup> For Swyngedouw, moving forward requires the imagining of new futures and the recognition of conflict inherent in the actualization of such futures. The conflict, in turn, could rehabilitate the democratic process and open up a space for addressing the issues of our future.

Climate change has been framed through a scientized apocalyptic imaginary in an attempt to galvanize support for the issue. However, when the scientific method and apocalyptic lens are combined, the resulting narrative is an abstraction of meaning, a depoliticizing, and a crippling of action for the individual. That being said, the apocalyptic imaginary isn't problematic in-and-of itself—as a re-framing it is still a way of rethinking our relationship to climate change, and

that is a useful beginning. And while climate change apocalypse can and be has been a useful introduction to help us see imaginaries/myths/frames, as it was in my case, there are other more productive and more hopeful ways of framing the issue that warrant exploration.

## 6. Imagining a Hopeful Future

Sarah Amsler's essay, "Bringing Hope 'To Crisis'," begins the same way that many critical philosophical essays on the topic of climate change do: with references to glacial melting and graphs and shocking news headlines. In fact, Amsler's essay begins much the same way my essay began. Where Amsler differs from other works on apocalypse is in her use of the word "crisis" to refer to our climate change moment, but also to refer to a specific school of thought: "crisis-thinkers." Often, crisis thinking is considered, in-and-of itself, an objective form of critique and also a motivator for individual action.<sup>91</sup> As we've seen, however, and as Amsler also points out, what is usually theorized to provoke action typically elicits the opposite response in individuals. What Amsler seeks to foster is a new kind of thinking about crisis—an apocalypticism that is a part of our daily lives—highlighting ambiguity, unfettering the imagination, and reveling in uncertain futures.

Amsler presents three different ways that crisis-thinking is employed—"Involuntary Enlightenment," "Theoretical 'Translation'," and "Counter-hegemony"—before she explains her theory of "Critical Pedagogy." Essentially, each of these fields of crisis-thought is attempting to frame crisis in such a way that it is politically mobilizing, prompting some kind of action. The first school of crisis-thought, "Involuntary Enlightenment," claims that "a crisis is most transformative if it is materially lived," if it is experienced involuntarily by the individual.<sup>92</sup> In the case of climate change, this would require that every person be individually impacted by crisis and physically experience it. The theory of involuntary enlightenment posits that if we are able to experience crisis and overcome it, then we will have a reordering of priorities.<sup>93</sup> If you recall, Skrimshire argues similarly that in terms of nuclear holocaust, the crisis was felt and then overcome, but the same cannot be done for climate change. There is nothing to overcome in the

climate change crisis, and any action taken towards that goal would be poorly considered. Amsler articulates poor consideration as the issue with the crisis of involuntary enlightenment, stating; “unreflective action is precisely the problem.”<sup>94</sup> Unreflective action reduces people to one-dimensional reactionary bots without faculties for creative living with crisis. Another problem with involuntary enlightenment’s lack of reflection is that it “abandons hope in human agency,” hope that we could actually change fundamental structures or our future actions.<sup>95</sup> Involuntary enlightenment crisis-thought severely limits our ability to live with climate change creatively into the future.

The second school of crisis thought, crisis thinking as “Theoretical Translation,” hinges on the importance of people recognizing that “the worst forms of suffering can be averted if people learn to interpret their personal problems as consequences of structural injustice.”<sup>96</sup> If we were presented with a neutered version of Swyngedouw’s argument, one without the idea of fresh, imaginative narratives, we would be reading something much like theoretical translation of crisis. A portion of Swyngedouw’s work is focused on pointing out how we as a society are depoliticized thanks to our post-political, populist climate change moment. Had Swyngedouw argued that crisis would allow for a political reset, we would have an articulation of theoretical translation, but he did not. In order for theoretical translation to be at all impactful, people must actually experience the structure as a crisis before the injustice is recognized. Amsler argues this experience is impossible because of the difficulty in recognizing systemic crises as lived experiences.<sup>97</sup> Also, if the two can be equated—difficult in the case of a “wicked” problem like climate change—“energy is focused on finding ways to mediate” structural crises and lived experiences.<sup>98</sup> So, rather than prompting action, the theoretical translation of crisis is lost in translation as people are unable to incorporate structural crises into lived experience.

Finally, the third crisis tactic critiqued by Amsler is crisis thinking as “Counter-hegemony.” Crisis thinking as counter-hegemony is the creation of a compelling crisis narrative that will mobilize society “to topple the counter-stories in one’s culture.”<sup>99</sup> Amsler lists several examples of counter-hegemonic crisis narratives, including the teleological crisis (an apocalypse narrative), such as McKibben’s *Eaarth*. In the case of counter-hegemony, crisis is framed in order to eliminate the positions in a culture that spawn political fragmentation, abolishing what Swyngedouw refers to as a “the proper democratic political.”<sup>100</sup> Counter-hegemony therefore enacts the same populist politics of fear critiqued by Swyngedouw earlier. Populist fear is then used to exploit humanity’s hope for certainty that spawns from the ambiguities of crisis, “reducing the experience of crisis to a rhetorical catalyst for social reaction.”<sup>101</sup> This politics of fear, coupled with a desire for certainty, is precisely how many totalitarian regimes get their start. In terms of counter-hegemonic climate change narratives, not only will dissenting voices be silenced, but an ideological struggle for power will take place.

Amsler concludes her discussion of these three types of crisis thinking by asking the question of “whether these practices sometimes have the counterintuitive effect of closing down spaces of possibility by fetishizing action and devaluing practices of reflection, analysis and imagination that can emerge in periods of critical ambiguity.”<sup>102</sup> This question, which was the primary concern of the last chapter, then launches Amsler into what she perceives to be the best direction for crisis thinking: crisis thinking as “critical pedagogy.”

Amsler wants to shift the way we know and learn about climate change from “a didactic model...in which people are instructed in the dangers of a particular risk and the methods of its appropriate resolution”—a model that harkens back to McKibben, or to my ninth grade science teacher—and towards a “dialogical model in which it is ‘brought to crisis’ in the everyday.”<sup>103</sup>

The notion of “bringing something to crisis” is not to tell people what they ought to think about the crisis, as critiqued by Swyngedouw, Jasanoff, and Hulme, “but rather *how*.”<sup>104</sup> The redefining of crisis-thought allows Amsler to shift away from our societal tendency to organize, order, and manage crises. Instead, Amsler focuses on what the chaotic elements of crisis force us to consider, namely, “the limitations and possibilities of our own agency.” (142) Amsler’s redefined crisis—her argument for how we should approach the climate change issue—is a crisis of “critical pedagogy.” Her argument is that by employing critical pedagogy, crisis becomes an “inducement to thought,” a method for cultivating our ethical sensibilities, beliefs and politics.<sup>105</sup> She thinks that we can learn from crisis if we approach crisis through the correct mindset of openness. However, a critical sensibility for crisis “cannot be communicated linguistically from one person to another through rational argumentation.”<sup>106</sup> Simple explanation of how one ought to act in crisis does not allow for the necessary personal exploration and ambiguity. Instead, Amsler argues that only through “encounters with radically disruptive realities and imaginations that expose our own as partial and situated” may we be able to learn from and critique crisis.<sup>107</sup> Amsler’s argument is that this will involve “radical openness to ambiguity and a critical affection for messiness, awkwardness and contradiction in everyday life,” and also that this critical reflection is just as important as rapid response.<sup>108</sup> Simply put, Amsler wants us to recognize crisis in our everyday lives so that we may step back from larger crises with a critical lens. Critical pedagogy suggests how crises can be addressed and considered if their framing is viewed obliquely. Essentially, a critical crisis-thinker is one who stands up in a burning theater and tells everyone to remain calm, that everyone will be safer if they all exit gracefully. And finally, a critical crisis-thinker recognizes the potential of crisis, attuning oneself to the possibilities that emerge in struggles.<sup>109</sup>

Amsler's "critical pedagogy of crisis," which intends to look at crisis critically and obliquely, is a good theoretical entrance into a very strange book: D.H. Lawrence's *Apocalypse*. In *Apocalypse*, we see the realization of critical pedagogy of crisis as Lawrence argues for an imaginative and hopeful re-visioning of John's Revelation by articulating a counter-apocalyptic, paganistic spirituality.

What D.H. Lawrence attempts to do in *Apocalypse* is to upset the traditional apocalypse narrative and explore the unease he feels as "creative human values seem increasingly to be sacrificed to materialism," which impoverishes the individual and our human connections.<sup>110</sup> Most importantly, though, *Apocalypse* is a statement of hope, an imaginative reframing of an ancient text for a struggling modern age. In his writing, Lawrence seeks "to re-establish the living organic connections, with the cosmos, the sun and earth, with mankind and nation and family."<sup>111</sup> In this way, Lawrence's work should be carefully considered in our time, as we struggle with climate change and grapple with the apocalypse narrative our society has both inherited and endorsed.

Throughout his life, Lawrence struggled with bouts of pneumonia and published a mountain of short stories, essays, poems, plays, and novels. Many of Lawrence's works were censored for their anti-militaristic sentiments, leading to Lawrence's self-imposed exile and his eventual residence in France, where he worked diligently on *Apocalypse*. As Lawrence's personal Revelation, it is interesting (although probably coincidental) that he, like John of Patmos, was writing from exile. *Apocalypse* would fittingly be Lawrence's last work of any length before he died of complications from tuberculosis. As the book-end to his life, it presents his fullest thoughts on the human psyche, his strongest critique of Christianity and modernism, and the articulation of his hope for a brighter future.<sup>112</sup> *Apocalypse* is a work with many layers of

meaning and meandering philosophical probing. Nevertheless, two centrally important and related themes are the destruction of the pagan world by Christianity and the simultaneous translation of meaning from pagan symbolism into Christian allegory. Both themes are critical for understanding our modern climate change apocalypse, and both must be challenged in order to realize D.H. Lawrence's imagined future.

When the Book of Revelation was written by John of Patmos in the second century, paganism was still a strong religious force in the world. The Old Testament was widely distributed, and the author of Revelation was, according to theologian Brian Blount, a Palestinian Jew, but the presence of pagan imagery throughout Revelation is demonstrative of the power those beliefs continued to hold even in John's time. "As a matter of fact," writes D.H. Lawrence, "we are amazed at the almost brutal paganism of 'our author,' John of Patmos. Whatever else he was, he was not afraid of a pagan symbol."<sup>113</sup> These symbols dot the landscape of Revelation like cairns or ancient obelisks, mystifying the modern reader, but allowing the contemporary recipient of Revelation to grasp a depth of meaning now lost to us. D.H. Lawrence gives his interpretation of some of the pagan symbols in Revelation, so that the reader might understand their import, and therefore the extent of John's paganism. For instance, in between the seven trumpets and the seven bowls of God's wrath, there is a strange moment between a celestial woman and a great red dragon. The scene reeks of paganism:

Then a great sign appeared in heaven: a woman clothed with the sun; the moon was under her feet, and a crown of twelve stars was on her head. She was pregnant, and cried out in labor, in the agony of childbirth. Then another sign appeared in heaven: behold, a great red dragon with seven heads and ten horns, and seven diadems on its heads... And she bore a son, a male child, who will shepherd all the nations with an iron rod. But her child was snatched away to God and to God's throne. And the woman fled to the wilderness... (12:1-6)

“This myth is left as the centre-piece of the Apocalypse, and figures as the birth of the Messiah. Even orthodox commentators admit that it is entirely unchristian,” explains Lawrence; “we are down pretty well to pagan bed-rock.”<sup>114</sup> This image represents one of the earliest pagan goddesses, demonstrated by her celestial arraignment, her sun garments, and her eventual flight “to the wilderness,” where she can find some security and comfort. According to Lawrence, “this great woman goddess with a child stands looming far, far back in history to the eastern Mediterranean, in the days when matriarchy was still the natural order of the obscure nations.”<sup>115</sup> This image of the goddess returns in the narrative only as “the inverted form of the whore of Babylon: still splendid, seated on the red dragon, promising destruction.”<sup>116</sup> By recasting the pagan symbol as the Roman concubine, a Christian allegory for all that is rotten in that prejudicial empire, the original pagan goddess image is dealt with and neutralized. The evocation and neutralization of pagan symbols is no accident, according to Lawrence and the philosopher Gilles Deleuze, and it represents a broader neutralization of paganism itself. In this moment of translation from goddess to whore we can pinpoint the shift from pagan symbol to Christian allegory, and our thinking since that time has never been the same.

Deleuze, a modern philosopher who has written a fascinating essay on D.H. Lawrence’s *Apocalypse*, “Nietzsche and Saint Paul,” argues that the Christian apocalypse must destroy the world in order to found the celestial kingdom, and the world, the cosmos, is necessarily a pagan construct. Deleuze claims that John of Patmos evokes the pagan cosmos “only in order to finish it off, to bring about its hallucinatory destruction.”<sup>117</sup> Instead of a cosmic connection, Christianity will substitute a God with a chosen people, “the elect,” and the apocalypse will bring an end to the cosmos and paganism simultaneously. The destruction of the pagan belief system,

and simultaneously the world, is achieved not only through explicit annihilation, as with the annihilation of the goddess, but also implicitly by translating symbols into allegories.

D.H. Lawrence argues that the way ancient people understood symbols was a kind of “intricately developed sensual awareness,” arrived at through intuition and instinct, “not by reason.”<sup>118</sup> Knowledge wasn’t conveyed through words, but through images, “and the connection wasn’t logical, but emotional.”<sup>119</sup> Lawrence doesn’t cite any references to support these claims, and they do seem seriously generalized, but it is not the specificity we are interested in at the moment, only the theory. The best articulation of this theory of symbolic processing is Lawrence’s example of the sphinx’ riddle: *What is it that goes first on four legs, then on two, and then on three?* The answer is humans. To you or me this question may seem silly, as Lawrence claims it should for us living in modern times, but that is because we are not operating in a symbolic world. “In the uncritical ancient who *felt* these images, there would spring up a great complex of emotions and fears.”<sup>120</sup> According to Lawrence, the first clause of the riddle would make pagan people think of the animal, and when it is shown that the answer is a baby, “there springs up another emotional complex, half fear, half amusement, as man realises himself as an animal, especially in the infantile state.”<sup>121</sup> The second clause would bring up many images “of men, monkeys, birds and frogs, and the weird falling into relationship of these four would be an instant imaginative act, such as is very hard for us to achieve, but which children still make.”<sup>122</sup> Lawrence continues, stating that humans back then were far less foolish than we are today, “for stripping [our]selves of [our] emotional and imaginative reactions, and feeling nothing. The price we pay is boredom and deadness.”<sup>123</sup> And Lawrence concludes his argument with a symbol: “for now it is the riddle of the dead-alive man,” perhaps meant to tease us by forcing us to imagine something fearful and strange, to show that we can still relate to symbols if prompted.<sup>124</sup> In the

case of the “dead-alive man,” I see a zombie, or Frankenstein’s monster, or a comatose patient, or Jesus, but Lawrence is right—I do not *feel* any of these things, I only see them semi-realistically.

Symbolic understanding was destroyed in John of Patmos’ Revelation—destroyed by the Christian apocalypse—and replaced with the Christian allegory, where the meaning is still hidden, but there is only one meaning. Interestingly, the root of the word allegory is from the Greek ἀλληγορία (*allegoria*), meaning “veiled language, figurative.”<sup>125</sup> So, while the apocalypse is supposed to be an “unveiling,” a “stripping away and revealing,” in this case it actually works at cross purposes. The translation from symbolic to allegorical has recently undergone another shift, discussed by Swyngedouw and Jasanoff, to a data-based, realist rhetoric. D.H. Lawrence recognizes the advent of this shift as well: “the cosmos became anathema to the Protestants after the Reformation. They substituted the non-vital universe of forces and mechanistic order, everything else became abstraction and the long slow death of the human being set in. This slow death produced science and machinery, but both are death products.”<sup>126</sup> Lawrence’s sentiment harkens back to his comment that the modern riddle is of “the dead-alive man,” reinforcing the notion that we non-symbolists are essentially zombies plodding through a world devoid of connections and feeling. Neither Swyngedouw nor Jasanoff recognize the overthrow of symbolism as contributing to depoliticization or loss of meaning, but the outcome of helplessness is the same in all cases. However, Lawrence gives us some guidance for how to transcend this helplessness. In *Apocalypse*, Lawrence employs Amsler’s “critical pedagogy of crisis,” explores a new narrative, just as Swyngedouw and Hulme suggest, and reframes the human and the social in a way that would make Jasanoff proud.

What D.H. Lawrence desires and imagines is a return to our pagan past of connections and cosmos. “The Apocalypse shows us what we are resisting, unnaturally,” argues Lawrence, “We are unnaturally resisting our connection with the cosmos, with the world, with mankind, with the nation, with the family... *We cannot bear connection.*”<sup>127</sup> Connections manifested themselves in the non-linear, symbolic thought process of the pagans, but were realized spiritually as people related to their cosmos. At the time of symbolic thought, “a completed thought was the plumbing of a depth, like a whirlpool, of emotional awareness, and at the depth of this whirlpool of emotion the resolve was formed. But it was no stage in a journey.”<sup>128</sup> Deleuze explains this by stating that the symbol itself is “a *process of action and decision,*”<sup>129</sup> an imaginative connecting of emotional and intuitive feeling. Lawrence provides the example of an oracle to help describe this process: “The old oracles were not supposed to say something that fitted plainly in the whole chain of circumstance. They were supposed to deliver a set of images or symbols of the real dynamic value,”<sup>130</sup> and then these images are absorbed by the listener, the seeker, who contemplates them by rotating and whirling around them. “For this is how we make a true decision,” writes Deleuze, “we turn into ourselves, upon ourselves, ever more rapidly, until a center is formed and we know what to do.”<sup>131</sup> The entire process of seeking out an oracle, or oracles, and traveling to some temple or hermit-place, was also dynamic and contemplative, mirroring the actual thought process of pagans. Often the outcome of such a trip to the oracle was ambiguous or confusing, and with any difficult question, any “wicked” question, fittingly so. However, allegorical thought, which deposed symbolic thought, replaced the contemplative decision with powerful judgment.

In order to relocate ourselves in this world, in order to repoliticize and create an antagonistic populace, in order to relate new stories of people and place, and in order to foster

critical reflection and hope in this moment of climate change apocalypse, we must *reconnect*.

The very things that humanity values are the very things that Lawrence recognizes are destroyed by the apocalypse:

What man most passionately wants is his living wholeness and his living unison, not his own isolate salvation of his “soul.” Man wants his physical fulfillment first and foremost, since now, once and once only, he is in the flesh and potent. For man, the vast marvel is to be alive. For man, as for flower and beast and bird, the supreme triumph is to be most vividly and perfectly alive. Whatever the unborn and the dead may know, they cannot know the beauty, the marvel of being alive in the flesh. The dead may look after the afterwards. But the magnificent here and now of life in the flesh is ours, and ours alone, and ours only for a time. We ought to dance with rapture that we should be alive and in the flesh, and part of the living, incarnate cosmos.<sup>132</sup>

Reading this as a simple “return to nature” is problematic; what Lawrence desires is far more than that. He wants to “re-establish the living organic connections, with the cosmos, the sun and earth,” true, but he also wants to reconnect with “mankind and nation and family.”<sup>133</sup> Only in this reconnected, imaginative and creative mode can we truly contemplate wicked problems and elevate climate change to Climate Change. Lawrence shows us that the apocalypse narrative is important, not as a narrative for our future, but as a narrative for showing us what we have lost. In this way John of Patmos’ Revelation is truly revealing. And scientization, that next abstraction of language that follows allegory’s abstraction of image, must be replaced with more symbolic representations; the scientific method needs to be problematized in the whirling, ambiguous process of pagan symbolic thought.

And so, in the grand scheme of things, what does Lawrence’s symbolic, paganistic reconnection look like? If only it were as easy as pointing to James Lovelock’s *Gaia* and saying, “there she is, that’s the pagan symbol at work,” but Lovelock’s work actually has no paganistic symbolism or message aside from the title—it is the work of a scientist. No, what is needed is something both far simpler and far more complex than a well-named hypothesis. What is needed

is an articulation of the pagan thought process in action, an attempt to relocate oneself within that frame of mind, while also exploring our cosmic connections and arguing against the dominant scientized apocalypse narrative. I will attempt to articulate this pagan thought process, its connective effects, and a challenge of the scientized apocalypse narrative, as I construct a peculiar narrative about a science TV show: *Cosmos*.

In 1980, Carl Sagan published a book called *Cosmos*, which was eventually made into the most-watched science program on television at the time, reaching millions of viewers.<sup>134</sup> This is how I came in contact with Carl Sagan. The scientized apocalypse script is well-represented in *Cosmos*, as the show, narrated by an astrophysicist, was released at one of the hottest points in the Cold War. However, by approaching the TV series in a certain way, through a specific mode of thought, I will enter into a neo-paganistic reframing of the narrative. What may be deemed a “spiritual” take on *Cosmos* is in some ways a betrayal and bastardization of Carl Sagan’s message. However, there is simply no better way to disrupt the scientized apocalypse narrative than to address it directly, meet it face-to-face, and thoroughly complicate its message. That being said, Mr. Sagan did write a book titled *Carl Sagan’s Cosmic Connection*, he often refers to the beliefs of ancient civilizations and their impact on our own, and he constantly demonstrates linkages between humans and the universe, albeit all of this through the careful, rational lens of science. I believe that my grounds for exploring *Cosmos* in this manner are, nevertheless, fundamentally sound. Despite the fact that Carl Sagan believes in the sanctity of science, I think ultimately he would congratulate any work that brought people closer together and closer to their planet in the face of climate change. In fact, in 1990, Carl Sagan co-authored and signed “Preserving and Cherishing the Earth: An appeal to Joint Commitment in Science and Religion,” which prompted one of the earliest global forums on climate change and was cross-ideological.

Nevertheless, as I will be operating in the ambiguous realm of neo-paganistic narrative reimagining, this will be a strange venture, but hopefully provocatively strange, in the same way D.H. Lawrence's *Apocalypse* is strange. My intent in writing this narrative is to offer one example of what a symbolic relation to our world resembles. More broadly, however, I want to demonstrate a method of creative imagining and re-framing in the face of climate change, a kind of intellectual trail-blazing, so that others may follow and create narratives more effective than apocalypse.

## 7. Seeing *Cosmos* Symbolically

“The Cosmos is all that is or ever was or ever will be. Our feeblest contemplations of the Cosmos stir us -- there is a tingling in the spine, a catch in the voice, a faint sensation, as if a distant memory, of falling from a height. We know we are approaching the greatest of mysteries.”

—Carl Sagan, *Cosmos*

Our words condense and coalesce in clouds of smoke. They become ephemeral and tangible in the night air—hot thoughts on a cold spring evening. Shrouded in the dark shadows of an austere performance hall, six of us, the Cosmos Crew, stand in a circle and pass fire. We inhale harsh smoke—letting it into our lungs, holding it in our mouths—and then we exhale clouds that drift, like our vaporous breath, to dissipate among the distant light of stars. We have been brought together, brought here tonight to bear witness to the messianic teachings of an astrophysicist. This is our second meeting of thirteen; one for each of the episodes of Carl Sagan’s *Cosmos*. This is also the beginning of something bigger than any one of us.

As we inhale and exhale, Andrew remembers what Carl wrote as “Mr. X.”<sup>135</sup>

“It’s basically this anonymous marijuana manifesto,” he tells us, gesturing emphatically with the joint between his fingers, “the man loved to smoke.” For Carl, cannabis was a way to access spirituality and creativity, to remove his mind from science and address the world’s social issues. At that moment we decide he would want us to do this. With every toke, every crackle of the rolling paper, every hand-off to the left, every thick out-breath and every cough, we are reaching a point of comprehension otherwise alien to us.

When we hold the fire between our own fingertips, we think of Carl warming his hands over a 55-gallon drum fire, talking about prehistoric man and the stars. Early fire was more than something to cook your deer or mammoth over, it was safety from the dark and comfort in

vastness. Each star represented the cook fires of ancestors, a mirror for the early humans that provided a future and a symbolic nightlight. Carl told us this, but only now, with our own fire, do we understand.

The smoking circle is a ritual within our ritual, like burning incense at a Buddhist temple, or the ornate, swinging thurible in Catholic mass. It is a moment of cleansing, where the day before is burned away with the *flick-flick-flick* of a bic and everyone is elevated to the same level of perception. It brings us outside into the presence of Carl, whose matter is a part of every rock and blade of grass and air molecule. When the joint begins to smolder and die, the pinched embers are lifted to the sky as an offering to the spirit.

“To Carl,” one of us says, smiling.

“To Carl,” the rest of us respond. Then the smoking butt is ground into the cement with a reverent toe.

As the circle breaks, it becomes a place of prelude and beginning. We walk from the shadows into the glow of the streetlight, and our hearts are pounding. Our legs feel weightless and light, our heads are full of helium gas, floating. The credits are rolling. We can hear the music of *Cosmos* and the music of the cosmos swelling—all wind, flutes, chimes and piano. We feel as if we are soaring skyward on a sonic wave, even as we punch in the five-digit code to the apartment door. When we enter the warm hallway, our smoky words are no longer visible; swallowed by the doors and walls, contained by the ceiling and carpet. But we are transcendent, resplendent, and moving down the hallway we feel like astronauts walking to launch.

Someone turns on the TV and reads this episode’s teaser synopsis to a captivated audience:

Sagan reflects on the future of humanity and the question of "who speaks for Earth?" when meeting extraterrestrials. He discusses the very different meetings of the Tlingit people and explorer Jean-François de La Pérouse with the destruction of the Aztecs by Spanish conquistadors, the looming threat of nuclear warfare, and the threats shown by destruction of the Library of Alexandria and the murder of Hypatia. The episode ends with an overview of the beginning of the universe, the evolution of life, and the accomplishments of humanity and makes a plea to mankind to cherish life and continue its journey in the cosmos.<sup>136</sup>

We have prepared snacks that make us think of the Eucharist. The chips are the body and the salsa is the blood. We dip and crunch and smack excitedly, brushing salty fingers on our jeans, anxious to hear what wisdom our messiah of science will impart. How will we be saved?

The six of us are a part of Carl's pagan cult although we know he would deny us, like Peter. We feel captivated by this hawk-eyed man with feathery dark hair, who wears red turtle necks and camel hair jackets, and who speaks deliberately in a strange but careful voice, lingering over massive words. We meet him on the crashing shores of a beach, "the shores of the cosmic ocean," he tells us. He is beaming in the sunlight as the wind tousles his hair. He speaks:

"The surface of the Earth is the shore of the cosmic ocean. On this shore, we've learned most of what we know. Recently, we've waded a little way out, maybe ankle-deep, and the water seems inviting. Some part of our being knows this is where we came from. We long to return, and we can, because the cosmos is also within us. We're made of star stuff. We are a way for the cosmos to know itself."<sup>137</sup>

He pulls from a water-worn rock a dandelion seed, one seed of that most common plant in the most impossible place. He holds it between his fingertips and asks us, the six of us directly, if we would like to go on a journey with him, a journey of the imagination.

"Yes," we say to him, "we want to see the universe, to feel the universe, to understand the universe and ourselves."

“Then join me on a journey of the imagination, as we explore the great vastness of the cosmos.”<sup>138</sup> We climb aboard his ship. It is shaped like trees and lit like the moon on a cloudy night. He stands at the massive windshield, the space-shield, hands on the intuitive controls, his smiling face reflecting the light of stars as we hurtle through space and time.

He is our guide to understanding the world around us and the way in which that world sits in the fabric of the universe; a pale blue dot, a marble earth, a beautiful dust mote of life. He tells us this is a personal journey, and it feels like one. Carl’s imagination ship takes us through space and time. We visit Johannes Kepler, as he struggles to describe the geometric shapes of the solar system orbits. We sail with a Japanese emperor to his death during an exciting description of artificial selection. We anguish alongside superstitious monks as they try to make sense of a comet’s tail. We walk the halls of the library of Alexandria before it was burned to the ground. We become convinced that Carl’s world is a world we could inhabit, this world where history and the present blend seamlessly with the flight of a dandelion seed. We wonder where this world is, whether we can visit it, before we finally understand that we simultaneously cannot—it does not physically exist—but we can, through our imagination. The imagination binds the past, present, and the future. With a careful guide it can move us through the cosmos to deeper implications and understanding.

When Carl talks to us it is with a glimmer in his eye and a smile playing at his lips. And he is talking to *us*. We sit captivated by his eye-contact as he tells us that we are all made of star stuff; “you, me, everything is made of the stuff of stars.”<sup>139</sup> This is why we call him Carl. He is familiar to us, as we are familiar to him through our shared humanity and our shared connection in the cosmic fugue. Often when he speaks to us we smile and respond back to him.

“Thanks, Carl.”

“Carl, that’s crazy.”

“Preach it, Carl.”

Sometimes, his words impact us deeply and we cry. Moments like these are the moments of perfect beauty in the natural world, or when we are so overwhelmed by our relation to that world, and our implication in that world, that it is the only thing to do. Usually we feel a great relational awareness with Carl. When he becomes excited about the curvature of the Earth, so do we. When he sits in a Greek café on the island of Samos and revels in music and dancing, we also revel in it. When he speaks gravely about nuclear apocalypse, we feel horrified. In these moments of fear, Carl speaks to us from a Cosmos Update, twenty years in the future. He is old, wrinkled and very mortal, but his voice is the same: “Do not allow our hubris to destroy this planet, this one known place of life in the universe. It is too precious.”<sup>140</sup> We understand in these moments how we have been lead to a severing of connections and purpose—an erasure of everything we know and feel.

When the episode ends we sit in a contemplative silence—dwelling on the topic alone but together—not wanting the moment to end. Then, after refilling the chip bowl and bringing out the jar of salsa again, we discuss it passionately. “What did you think of...?” “I didn’t understand...” “That part was so incredible!” “My mind was absolutely blown. Oh look, here it is on the floor.” Eventually people start fading, there’s work to be done in the morning and we must go our separate ways. Before we leave, though, we look each other in the eye and say our favorite line: “you are a universe.”

The moon is bright and cold as I leave the apartment and walk home alone. I think about the dark side of the moon, the mystery of never knowing something that is so integral a part of our lives. I think about what it would have meant for ancient people if the moon had no dark side, if it rotated at a different speed than the earth, and how that would affect their understanding of constancy, of fixedness in the universe. I see the moon and I think of the tides, of menstrual cycles, of blood and birth and war, of a laughing man up there with round cheeks, of the leaping rabbit. I hear Neil Armstrong's voice in my head, I see the astronauts of Apollo 7 skimming over the surface, I wonder hopefully if I will ever go there, knowing I never will. I imagine wolves howling, werewolves changing, lions prowling, owls hunting, talons flashing and mice screaming. And then I pass by an oak tree sprouting fresh buds, whose branches dance in the light breeze, and I go through the image sequences again. For a moment, just after meeting with Carl, I have access to this world and I don't feel like I am alone anymore. My ego melts into the world as the world melts into me. I am a universe.

In a week we will come back together and do it all again, with devotion that resembles church-going or daily meditation. Knowing we will watch a new episode next week propels me through the seven days to come. When I daydream, I daydream about the imagination ship and gas giants. It's always on my mind. And it's on the mind of the rest of the Cosmos Crew. In passing we tell each other, "you are made of star stuff. You are a universe." We navigate parties like satellites, orbiting at the edge of the room, predicting what the next episode will discuss before we spin off into the loneliness of space.

But ever since it ended, ever since we floated through the last episode and ate the apple pie baked from scratch, the connections have faded away. We have all six of us lost the symbolic world that we inhabited temporarily, the world we grasped at desperately. This lost world was

one visited through imagination, created in the ambiguous and beautiful realm of human understanding and mystery. For a moment we felt bigger than ourselves because we were in fact not just ourselves, but everything at the same time. It has been lost but it is still there, I have felt it. I can access the realm of ambiguity and symbolic understanding of cosmos now when I make the effort, and it is quite an effort. Then again, I can only go there because I have experienced that world through multiple layers of meaning and weeks of practice. I have been exposed to the cosmos in a way that has opened up doors of understanding for me.

## 8. Moving Forward

The other day a filmmaker, Ethan Steinman came and talked to my senior seminar. He had made a movie called *Glacial Balance* that was a recapitulation of the traditional apocalyptic climate change narrative, but set in Latin America.<sup>141</sup> The screening was boring and obvious: who doesn't know the glaciers are receding? And the most surprising thing about Ethan is that he has no receptor cones in his eyes for the color green. Then again, there is one interesting part of the film. Ethan interviews a bald man wearing a tie, collared shirt and sweater—one of the top glaciologists in the world—and the man says something that brings into question Ethan's whole process: "In twenty to thirty years the glaciers won't be there anymore. Even if we were to stop carbon dioxide emissions today, which we won't, these glaciers will still disappear."<sup>142</sup> It is just a moment in the film, a sound bite, but it makes the viewer question the very thesis of the project. If climate change is a wicked problem, how does showing glaciers melting help anything? All it does is make people feel guilty and powerless. However, what this glaciologist says from his lab in Ohio also cements the scientized apocalypse narrative—there can be no political response.

So, since the problem is unfixable and the narratives are untenable, why not use this moment as an opportunity to address issues in our lives that have far more creative potential? Why not address the problems of abstraction and rupture and boundaries between people? This is the time to rethink our lives and our universe as symbolic, to imagine a better world, to foster connections with each other and our natural and built environments, to relish ambiguities and a re-politicizing ripe with potential.

It would be easy to discount the last chapter and my watching of *Cosmos* by saying it's just some kids getting high and nerding out, but humor me. If our vision of the earth and our

universe can become more cosmic, if we can lose more of our selves, let go of our ego, then perhaps opportunities for action will emerge organically. A creative, imaginative environment will no doubt produce more interesting ways of living with climate change and without fear. Connecting with our world and each other symbolically will open up new opportunities for discussion, potentially helping re-politicize our post-political world. A symbolic connection also helps imbue our contexts and experiences with meaning again, expanding our world-relation beyond pure knowledge. Finally, a new narrative framework of symbolism allows us to imagine a future of possibility that transcends eschatological terminus. This watching of *Cosmos* should not be taken as a prescription. I'm sure most people would find little-to-no value in it. Instead, it should be taken as, and illustrative of, a different way-of-thinking that moves away from our rational mindset; a new kind of narrative, answering the calls of reframing from Amsler, Swyngedouw, Jasanoff and Hulme. I do not mean to say people should not be rational, they should, but people should also privilege this new, symbolic way of living in the world and do creative work to discover their own narratives that build connections.

## Works Cited

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### 2. John's Revelation

<sup>1</sup> Catherine Keller, *Apocalypse Now and Then : a Feminist Guide to the End of the World / Catherine Keller* (Boston : Beacon Press, c1996, 1996), 5.

<sup>2</sup> Brian K. Blount, *Revelation : a Commentary / Brian K. Blount*, The New Testament Library (Louisville, Ky. : Westminster John Knox Press, c2009., 2009), 5.

<sup>3</sup> *Ibid.*, 6.

<sup>4</sup> *The Encyclopedia of Apocalypticism : The Origins of Apocalypticism in Judaism and Christianity*, vol. 1 (New York: Continuum, 1998), 386.

<sup>5</sup> Blount, *Revelation*, 8.

<sup>6</sup> *Ibid.*, 29.

<sup>7</sup> *Ibid.*, 12.

<sup>8</sup> *Ibid.*, 9.

<sup>9</sup> *Ibid.*, 13.

<sup>10</sup> *Ibid.*, 11–12.

<sup>11</sup> *Ibid.*, 12.

<sup>12</sup> *Ibid.*, 14.

<sup>13</sup> *Ibid.*, 13.

<sup>14</sup> *The Encyclopedia of Apocalypticism. 1.*, 1:411.

### 3. Secularization and Scientization of the Apocalypse

<sup>15</sup> “Apocalypse, N.,” *OED Online* (Oxford University Press), accessed April 28, 2014, <http://www.oed.com/view/Entry/9229>.

<sup>16</sup> Stefan Skrimshire, *Future Ethics : Climate Change and Apocalyptic Imagination / Edited by Stefan Skrimshire* (London ; New York : Continuum, c2010., 2010), 13.

*Future Ethics : Climate Change and Apocalyptic Imagination / Edited by Stefan Skrimshire* (London ; New York : Continuum, c2010., 2010), 13.

<sup>17</sup> *Ibid.*

<sup>18</sup> *Ibid.*, 225.

<sup>19</sup> *Ibid.*

<sup>20</sup> Stephen J. Stein, *The Encyclopedia of Apocalypticism, Vol 3 : Apocalypticism in the Modern Period and the Contemporary Age*, vol. 1 (New York: Continuum, 1998), 437.

<sup>21</sup> “Nuclear Winter,” *Encyclopedia Britannica*, accessed March 14, 2014, <http://www.britannica.com/EBchecked/topic/421885/nuclear-winter>.

<sup>22</sup> Skrimshire, *Future Ethics*, 226.

<sup>23</sup> *Ibid.*

<sup>24</sup> *Ibid.*

<sup>25</sup> *Ibid.*, 227.

<sup>26</sup> *Ibid.*, 14.

<sup>27</sup> Amy Molitor, “Ecological Footprint,” April 10, 2014.

<sup>28</sup> *Ibid.*

<sup>29</sup> Donella H Meadows, Jørgen Randers, and Dennis L Meadows, *The Limits to Growth : the 30-year Update / Donella Meadows, Jorgen Randers, Dennis Meadows* (White River Junction, Vt : Chelsea Green Pub., c2004, 2004), 10.

<sup>30</sup> Skrimshire, *Future Ethics*, 231.

---

<sup>31</sup> Ibid., 233.

#### **4. *Eaarth*: A Contemporary Example**

<sup>32</sup> Bill McKibben, *Eaarth : Making a Life on a Tough New Planet / Bill McKibben* (New York : St. Martin's Griffin, 2011, c2010, 2011), 2.

<sup>33</sup> Ibid., 3.

<sup>34</sup> Ibid., 41.

<sup>35</sup> Ibid.

<sup>36</sup> Ibid., 43.

<sup>37</sup> Ibid., 69.

<sup>38</sup> Ibid., 153.

<sup>39</sup> Ibid., 33.

<sup>40</sup> Ibid., 3.

<sup>41</sup> Ibid., 4.

<sup>42</sup> Ibid., 6.

<sup>43</sup> Ibid.

<sup>44</sup> Ibid., 8.

<sup>45</sup> Ibid., 9.

<sup>46</sup> Ibid., 35.

<sup>47</sup> Ibid., 37.

<sup>48</sup> Ibid., 24.

<sup>49</sup> Ibid., 33.

<sup>50</sup> Ibid., 19.

<sup>51</sup> Ibid., 10.

<sup>52</sup> Ibid., 27.

#### **5. Critique of the Scientized Climate Change Apocalypse**

<sup>53</sup> McKibben, Bill, "Global Warming's Terrifying New Math," *Rolling Stone*, July 19, 2012, <http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>.

<sup>54</sup> M. Hulme, *Why We Disagree About Climate Change : Understanding Controversy, Inaction and Opportunity / Mike Hulme* (Cambridge ; New York : Cambridge University Press, 2009., 2009), 358.

<sup>55</sup> Ibid., 329.

<sup>56</sup> Ibid., 347.

<sup>57</sup> Ibid., 348.

<sup>58</sup> Ibid.

<sup>59</sup> Erik Swyngedouw, "Apocalypse Forever? Post-political Populism and the Spectre of Climate Change," *Theory, Culture & Society* 27, no. 2/3 (March 1, 2010): 217, doi:10.1177/0263276409358728.

<sup>60</sup> Ibid.

<sup>61</sup> Ibid., 219.

<sup>62</sup> Ibid.

<sup>63</sup> Ibid., 225.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid., 217.

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- <sup>66</sup> Ibid.
- <sup>67</sup> Ibid., 215.
- <sup>68</sup> Ibid., 223.
- <sup>69</sup> Ibid., 224.
- <sup>70</sup> Ibid.
- <sup>71</sup> Nell Greenfieldboyce, “Climate Change Adjustments Must Be Fast And Major, U.N. Panel Says,” *NPR.org*, accessed April 28, 2014, <http://www.npr.org/blogs/thetwo-way/2014/04/13/302541260/climate-change-adjustments-must-be-fast-and-large-u-n-panel-says>.
- <sup>72</sup> Sheila Jasanoff, “A New Climate for Society,” *Theory, Culture & Society* 27, no. 2/3 (March 1, 2010): 233, doi:10.1177/0263276409361497.
- <sup>73</sup> Ibid., 236.
- <sup>74</sup> Ibid., 237.
- <sup>75</sup> Ibid., 239.
- <sup>76</sup> Ibid.
- <sup>77</sup> Ibid., 240.
- <sup>78</sup> Ibid.
- <sup>79</sup> Ibid., 241.
- <sup>80</sup> Ibid.
- <sup>81</sup> Ibid., 249.
- <sup>82</sup> Hulme, *Why We Disagree About Climate Change*, 355.
- <sup>83</sup> Ibid., 334.
- <sup>84</sup> Ibid., 356.
- <sup>85</sup> Ibid., 358.
- <sup>86</sup> Ibid., 362.
- <sup>87</sup> Ibid., 337.
- <sup>88</sup> Jasanoff, “A New Climate for Society,” 249.
- <sup>89</sup> Swyngedouw, “Apocalypse Forever?,” 228.
- <sup>90</sup> Ibid.

## **6. Imagining a Hopeful Future**

- <sup>91</sup> Skrimshire, *Future Ethics*, 129.
- <sup>92</sup> Ibid., 135.
- <sup>93</sup> Ibid., 136.
- <sup>94</sup> Ibid.
- <sup>95</sup> Ibid.
- <sup>96</sup> Ibid., 136–7.
- <sup>97</sup> Ibid., 137.
- <sup>98</sup> Ibid.
- <sup>99</sup> Ibid., 139.
- <sup>100</sup> Swyngedouw, “Apocalypse Forever?,” 223.
- <sup>101</sup> Skrimshire, *Future Ethics*, 139.
- <sup>102</sup> Ibid., 140.
- <sup>103</sup> Ibid., 146.
- <sup>104</sup> Ibid., 147.
- <sup>105</sup> Ibid., 141.

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- <sup>106</sup> Ibid., 142.
- <sup>107</sup> Ibid., 146.
- <sup>108</sup> Ibid., 147.
- <sup>109</sup> Ibid., 148.
- <sup>110</sup> D. H. Lawrence and Mara Kalnins, *Apocalypse : and the Writings on Revelation / D.H. Lawrence ; Edited with an Introduction and Notes by Mara Kalnins*, Penguin Twentieth-century Classics (London : Penguin, 1995., 1995), 11.
- <sup>111</sup> Ibid., 149.
- <sup>112</sup> Lawrence and Kalnins, *Apocalypse*.
- <sup>113</sup> Ibid., 83.
- <sup>114</sup> Ibid., 119.
- <sup>115</sup> Ibid., 120.
- <sup>116</sup> Gilles Deleuze, *Essays Critical and Clinical / Gilles Deleuze ; Translated by Daniel W. Smith and Michael A. Greco* (Minneapolis : University of Minnesota Press, c1997, 1997).
- <sup>117</sup> Ibid., 45.
- <sup>118</sup> Lawrence and Kalnins, *Apocalypse*, 91.
- <sup>119</sup> Ibid.
- <sup>120</sup> Ibid., 92.
- <sup>121</sup> Ibid.
- <sup>122</sup> Ibid.
- <sup>123</sup> Ibid.
- <sup>124</sup> Ibid.
- <sup>125</sup> “Allegory, N.,” *OED Online* (Oxford University Press), accessed April 28, 2014, <http://www.oed.com/view/Entry/5230>.
- <sup>126</sup> Lawrence and Kalnins, *Apocalypse*, 79.
- <sup>127</sup> Ibid., 148.
- <sup>128</sup> Ibid., 93.
- <sup>129</sup> Deleuze, *Essays Critical and Clinical / Gilles Deleuze ; Translated by Daniel W. Smith and Michael A. Greco*, 49.
- <sup>130</sup> Lawrence and Kalnins, *Apocalypse*, 93.
- <sup>131</sup> Deleuze, *Essays Critical and Clinical / Gilles Deleuze ; Translated by Daniel W. Smith and Michael A. Greco*, 46.
- <sup>132</sup> Lawrence and Kalnins, *Apocalypse*, 149.
- <sup>133</sup> Ibid.
- <sup>134</sup> Carl Sagan, *Cosmos / Carl Sagan* (New York : Random House, c1980, 1980).

## **7. Seeing *Cosmos* Symbolically**

- <sup>135</sup> Carl Sagan, “Mr. X,” accessed March 14, 2014, <http://marijuana-uses.com/mr-x/>.
- <sup>136</sup> Carl Sagan, Steven Soter, and Ann Druyan, *Cosmos*, DVD, *Cosmos: a Personal Journey* (Cosmos Studios, 2000).
- <sup>137</sup> Ibid.
- <sup>138</sup> Ibid.
- <sup>139</sup> Ibid.
- <sup>140</sup> Ibid.

---

## 8. Moving Forward

<sup>141</sup> Ethan Steinman, *Glacial Balance*, DVD (Daltonic Films), accessed March 14, 2014, <http://www.glacialbalance.com/video>.

<sup>142</sup> Ibid.

## Bibliography

“Allegory, N.” *OED Online*. Oxford University Press. Accessed April 28, 2014. <http://www.oed.com/view/Entry/5230>.

Amy Molitor. “Ecological Footprint.” PowerPoint presented at the Methods of Environmental Analysis, April 10, 2014.

“Apocalypse, N.” *OED Online*. Oxford University Press. Accessed April 28, 2014. <http://www.oed.com/view/Entry/9229>.

Blount, Brian K. *Revelation : a Commentary / Brian K. Blount*. The New Testament Library. Louisville, Ky. : Westminster John Knox Press, c2009., 2009.

Bull, Malcolm. *Apocalypse Theory and the Ends of the World / Edited by Malcolm Bull*. Wolfson College Lectures. Oxford ; Cambridge, Mass. : Blackwell, 1995, 1995.

Carl Sagan. “Mr. X.” Accessed March 14, 2014. <http://marijuana-uses.com/mr-x/>.

Carl Sagan, Steven Soter, and Ann Druyan. *Cosmos*. DVD. Cosmos: a Personal Journey. Cosmos Studios, 2000.

Deleuze, Gilles. *Essays Critical and Clinical / Gilles Deleuze ; Translated by Daniel W. Smith and Michael A. Greco*. Minneapolis : University of Minnesota Press, c1997, 1997.

Ethan Steinman. *Glacial Balance*. DVD. Daltonic Films. Accessed March 14, 2014. <http://www.glacialbalance.com/video>.

Gore, Al. “Climate of Denial.” *Rolling Stone*, no. 1134/1135 (July 7, 2011): 76–113.

Greenfieldboyce, Nell. “Climate Change Adjustments Must Be Fast And Major, U.N. Panel Says.” *NPR.org*. Accessed April 28, 2014. <http://www.npr.org/blogs/thetwo-way/2014/04/13/302541260/climate-change-adjustments-must-be-fast-and-large-u-n-panel-says>.

Hulme, M. *Why We Disagree About Climate Change : Understanding Controversy, Inaction and Opportunity / Mike Hulme*. Cambridge ; New York : Cambridge University Press, 2009., 2009.

- 
- Isham, Jonathan, and Sissel A Waage. *Ignition : What You Can Do to Fight Global Warming and Spark a Movement / Edited by Jonathan Isham and Sissel Waage*. Washington, DC : Island Press, c2007, 2007.
- Jasanoff, Sheila. "A New Climate for Society." *Theory, Culture & Society* 27, no. 2/3 (March 1, 2010): 233–53. doi:10.1177/0263276409361497.
- Keller, Catherine. *Apocalypse Now and Then : a Feminist Guide to the End of the World / Catherine Keller*. Boston : Beacon Press, c1996, 1996.
- Lawrence, D. H., and Mara Kalnins. *Apocalypse : and the Writings on Revelation / D.H. Lawrence ; Edited with an Introduction and Notes by Mara Kalnins*. Penguin Twentieth-century Classics. London : Penguin, 1995., 1995.
- Malone, Elizabeth L. *Debating Climate Change : Pathways through Argument to Agreement / Elizabeth L. Malone*. Science in Society Series. London ; Sterling, VA : Earthscan, 2009., 2009.
- McGrath, Alister E. *Science & Religion : an Introduction / Alister E. McGrath*. Oxford, UK ; Malden, Mass. : Blackwell Publishers, 1999, 1999.
- McKibben, Bill. *Eaarth : Making a Life on a Tough New Planet / Bill McKibben*. New York : St. Martin's Griffin, 2011, c2010, 2011.
- McKibben, Bill. "Global Warming's Terrifying New Math." *Rolling Stone*, July 19, 2012. <http://www.rollingstone.com/politics/news/global-warmings-terrifying-new-math-20120719>.
- Meadows, Donella H, Jørgen Randers, and Dennis L Meadows. *The Limits to Growth : the 30-year Update / Donella Meadows, Jorgen Randers, Dennis Meadows*. White River Junction, Vt : Chelsea Green Pub., c2004, 2004.
- "Nuclear Winter." *Encyclopedia Britannica*. Accessed March 14, 2014. <http://www.britannica.com/EBchecked/topic/421885/nuclear-winter>.
- O'Leary, Stephen D. *Arguing the Apocalypse : a Theory of Millennial Rhetoric / Stephen D. O'Leary*. New York : Oxford University Press, 1994, 1994.
- Rehill, Anne Collier. *The Apocalypse Is Everywhere : a Popular History of America's Favorite Nightmare / Anne Rehill*. Santa Barbara, Calif. : Praeger, c2010., 2010.
- Sagan, Carl. *Carl Sagan's Cosmic Connection : an Extraterrestrial Perspective / by Carl Sagan ; Produced by Jerome Agel ; with a Foreword by Freeman Dyson and an Epilog by David Morrison*. Cambridge ; New York : Cambridge University Press, 2000, 2000.

- 
- . *Carl Sagan's Cosmic Connection : an Extraterrestrial Perspective / by Carl Sagan ; Produced by Jerome Agel ; with a Foreword by Freeman Dyson and an Epilog by David Morrison*. Cambridge ; New York : Cambridge University Press, 2000, 2000.
- . *Cosmos / Carl Sagan*. New York : Random House, c1980, 1980.
- . *Pale Blue Dot : a Vision of the Human Future in Space / Carl Sagan*. New York : Random House, c1994, 1994.
- Sagan, Carl, and Ann Druyan. *The Varieties of Scientific Experience : a Personal View of the Search for God / Carl Sagan ; Edited by Ann Druyan*. New York : Penguin Press, 2006, 2006.
- Skrimshire, Stefan. *Future Ethics : Climate Change and Apocalyptic Imagination / Edited by Stefan Skrimshire*. London ; New York : Continuum, c2010., 2010.
- Staguhn, Gerhard. *God's Laughter : Man and His Cosmos / Gerhard Staguhn ; Translated from the German by Steve Lake and Caroline Mähl*. New York : HarperCollins Publishers, 1992.
- Stein, Stephen J. *The Encyclopedia of Apocalypticism, Vol 3 : Apocalypticism in the Modern Period and the Contemporary Age*. Vol. 1. 3 vols. New York: Continuum, 1998.
- Swyngedouw, Erik. "Apocalypse Forever? Post-political Populism and the Spectre of Climate Change." *Theory, Culture & Society* 27, no. 2/3 (March 1, 2010): 213–32.
- The Encyclopedia of Apocalypticism : The Origins of Apocalypticism in Judaism and Christianity*. Vol. 1. 3 vols. New York: Continuum, 1998.
- Urry, John. *Climate Change and Society / John Urry*. Cambridge, UK ; Malden, MA : Polity Press, 2011., 2011.