Why Do We Disagree on Climate Change?

with Mike Hulme, "(Still) Disagreeing about Climate Change: Which Way Forward?"; Annick de Witt, "Climate Change and the Clash of Worldviews: An Exploration of How to Move Forward in a Polarized Debate"; Lisa Stenmark, "Storytelling and Wicked Problems: Myths of the Absolute and Climate Change"; Jonathan Moo, "Climate Change and the Apocalyptic Imagination: Science, Faith, and Ecological Responsibility"; and Mary Evelyn Tucker, "Can Science and Religion Respond to Climate Change?"

CLIMATE CHANGE AND THE APOCALYPTIC IMAGINATION: SCIENCE, FAITH, AND ECOLOGICAL RESPONSIBILITY

by Jonathan Moo

Abstract. The use of apocalyptic and post apocalyptic narratives to interpret the risk of environmental degradation and climate change has been criticized for (1) too often making erroneous predictions on the basis of too little evidence, (2) being ineffective to motivate change, (3) leading to a discounting of present needs in the face of an exaggerated threat of impending catastrophe, and (4) relying on a pre-modern, Judeo-Christian mode of constructing reality. Nevertheless, "Apocalypse," whether understood in its technical sense as "revelation" or in its popular sense as "end of the world as we know it," remains a powerful way of creatively reimagining the world and of introducing questions of value and significance into discussions of climate change.

Keywords: apocalypse; book of Revelation; Christianity; climate change; ecology; ecomodernism; environment; hope

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In Cormac McCarthy's postapocalyptic novel *The Road* (2006), readers are confronted with a devastated, ruined world. Here, there is no longer anything green and growing, almost nothing living at all. The words "gray," "dark," "ash," or "ashen" seem to occur on nearly every page. Yet within the ruins of this lost world we witness with unusual clarity the love of a father for his son, a story of perseverance, faith, and love in the absence of all reasonable hope. And amidst the wearying scenes of McCarthy's gray and ashen landscape, a rare glimpse back at the world as it once was has a devastating beauty:

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> Once there were brook trout in the streams in the mountains. You could see them standing in the amber current where the white edges of their fins wimpled softly in the flow. They smelled of moss in your hand. Polished and muscular and torsional. On their backs were vermiculate patterns that were maps of the world in its becoming. Maps and mazes. Of a thing which could not be put back. Not be made right again. In the deep glens where they lived all things were older than man and they hummed of mystery. (2006, 286–87)

The immediate effect of the contrast is to heighten the sense of loss. Yet it also awakens readers to see again with a startling clarity the beauty of the present world. It stirs a longing to embrace a still rich and vibrant earth, teeming with life and mystery, to care and perhaps even to risk love beyond reason and hope. When glimpsed through the otherwise unrelenting darkness of McCarthy's postapocalyptic vision, the ordinary goodness of the given world shines out afresh with a piercing luminosity.

In this essay, I explore the potential of such apocalyptic and postapocalyptic visions, particularly those that seek to interpret the consequences of climatic and environmental change, to serve not merely as stereotypical fantasies of the "end" or guilt-inducing narratives of inevitable disaster but rather as dramas that invite us to consider afresh who we are, where we are, and what we value. Mike Hulme has observed that so-called "apocalyptic" ways of framing reality, whether explicitly religious or secular, often serve as yet one more reason for "why we disagree about climate change," to quote the title of his important study (2009). Yet I argue that it would be a mistake to dismiss the potential of the apocalyptic imagination to offer ways of re-envisioning and re-engaging with climate change and the questions of meaning and value that it raises for us.[1] This article thus explores both the challenges and the opportunities presented by the use of an apocalyptic narrative to frame climate change. I begin with a consideration of the use of "apocalypse" (in its popular sense of impending "catastrophe") by environmentalists, climate scientists, and activists, and the criticisms that have been leveled against this approach. I then turn to explicitly religious, particularly Christian forms of apocalyptic thinking, and acknowledge the ways in which such narratives have contributed to disagreements over climate change that are still especially virulent in North America. Finally, I offer a brief proposal for the ongoing value of "apocalypse," whether in religious garb or not, as a creative way of reimagining the world and our place within it.

Environmental Apocalypse and Its Cultured Despisers

In *Why We Disagree about Climate Change*, Hulme identifies four "myths" about climate change, by which he means four ways of interpreting or framing climate change within a larger worldview (2009, 340–55). He borrows his labels for these organizing stories from motifs found in the

Hebrew Bible and the New Testament: "Lamenting Eden"; "Presaging Apocalypse"; "Constructing Babel"; and "Celebrating Jubilee." "Lamenting Eden" involves equating the climate with wild nature, and therefore finding in anthropogenic climate change a reason to mourn "The End of Nature" (as the title of Bill McKibben's seminal book on climate change suggested [1989]) and to yearn for its restoration (Hulme 2009, 342–44). By "Presaging Apocalypse," Hulme means the claim that climate change portends disaster and catastrophe for human civilization or for all of life on earth (345–48). Incidentally, and I will return to this point below, Hulme recognizes that this use of the word "apocalypse" reflects its popular meaning of destruction and the "end of the world as we know it," which is not the same as the genre of early Jewish, Christian, and Islamic texts that scholars now label "apocalypses" (345, n25). By "Constructing Babel," Hulme refers to the way in which some thinkers welcome—or at least accept—humanity's new god-like role in the "Anthropocene" and envision ever-increasing means of controlling the climate, seen above all in the hopes some place in geo-engineering as a means of obtaining the climate "we" want (348–53). The fourth myth that Hulme identifies, "Celebrating Jubilee," envisions climate change as "an idea around which . . . concerns for social and environmental justice can be mobilized" and as a more hopeful response to the threat of apocalypse (353–55). Ban Ki Moon, the United Nations Secretary-General, gave expression to this view at the Climate Leaders Summit in April of 2014: "Climate change is the single greatest threat to a sustainable future. But, at the same time, addressing the climate challenge presents a golden opportunity to promote prosperity, security, and a brighter future for all."

Organizing myths about climate change, such as those Hulme identifies, are often borrowed from earlier interpretations of environmental challenges. In particular, the use of apocalyptic narratives to induce fear and wake people up to what is perceived as a dangerous present reality or potential future catastrophe has a long pedigree in the environmental movement, dating back as least as far as "A Fable for Tomorrow" in Rachel Carson's *Silent Spring* (1962). Frederick Buell has traced the history of such rhetoric, demonstrating the ways in which it has been appropriated by those on both the left and right and how it has been reconfigured over time to fit changing realities (Buell 2003, 177–322; 2010, 13–36). The potential scenarios involved in planetary climate change make for especially dramatic scenarios, akin to some of those used to warn about the threat of nuclear war and rivaling those on offer in the New Testament book of Revelation. To name only a few of countless examples, already in 1989 Bill McKibben could write of the *The End of Nature*; and more recently we have Elizabeth Kolbert's landmark *Field Notes from a Catastrophe* (2006) and Naomi Oreskes and Erik Conway's *The Collapse of Western Civilization* (2014). Politicians, climate activists, and sometimes scientists regularly

resort to the language of impending catastrophe to motivate action and build support for policies intended to mitigate climate change.

Hulme has been quite critical of this way of framing climate change, arguing, for example, that the findings of the Intergovernmental Panel on Climate Change (IPCC) are significant enough without resorting to what he considers to be the misleading language of catastrophe (2006). He and others have claimed that too often apocalyptic scenarios of climate change are based on dubious assumptions or are, at the least, severely underdetermined by the science. Moreover, Hulme would have us be more precise about what we mean when we talk about climate change; there are not good and bad climates, he suggests, but rather good and bad ways of living with climate. He would prefer, therefore, that we use the language of relative risk and opportunity. He is above all concerned that we not construct an absolutist version of "climate change" that leads us to divert resources away from caring for unmet human needs in the present. He also cautions against the growing enthusiasm to "solve" climate change by undertaking massive geo-engineering projects in a hubristic attempt to "control" the climate (2008; 2009, 352–53, 362–64).

The risk that the myth of "apocalypse" or any worldview that focuses attention on the future can lead to neglect of the present is perhaps a commonplace. Yet it is nonetheless important to acknowledge this risk in an essay dealing with the potential of the apocalyptic imagination to inform our engagement with climate change. As Wendell Berry points out, climate change may be "apocalyptic" and "big news," but we also live in a time of ongoing abuse of the land, which is both ancient and contemporary, and yet rarely noticed (2015, 172). "We are always ready to set aside our present life, even our present happiness, to peruse the menu of future exterminations," Berry observes; "If the future is threatened by the present, which it undoubtedly is, then the present is more threatened, and often is annihilated, by the future" (174). Berry challenges us to value and attend to what is at hand, to "give up saving the world and start to live savingly in it" (175). Such a perspective, I will suggest, may actually be consistent with an "apocalyptic" worldview, especially as it is represented in the early Jewish and Christian apocalypses. But just as economists debate what discount rate to apply to the future as they consider the costs of strategies to mitigate or adapt to climate change, Berry and others rightly warn against the temptation to discount the present. When this temptation is indulged, Berry points out, we can end up deferring responsibility and leaving decisions in the hands of others while failing to attend well to our own work and responsibilities in the present.

This leads us to one of the most common criticisms of apocalyptic portrayals of climate change, which is that they are quite simply *ineffective* if the hope is to motivate people to change their behavior or to enlist support for climate change mitigation policies. Apocalyptic scenarios on

their own are as likely to induce helplessness as action. After the initial terror of confronting an apocalyptic vision of the future, when we find ourselves back in the real world of our present in which the signs of impending apocalypse rarely seem evident, we quickly find ourselves re-adapting to what we consider normal life. Apocalypse can easily become merely another form of entertainment, a brief foray into fear and horror from which we return to our ordinary lives essentially unchanged or perhaps perversely missing the drama of apocalypse and hence even more deadened to the significance of present life.

In what has become a widely influential argument, Michael Shellenberger and Ted Nordhaus claim that the profound pessimism about human progress and technology that "doom and gloom" environmentalism has come to represent means nothing less than the "death of environmentalism" (2004). What they mean is the death of what they describe as an old, tired, backward-looking environmentalism that depends on often erroneous "apocalyptic" predictions of a dystopian future and which urges a fresh recognition of our dependence on nature and the limits of growth and an embrace of sustainability and restraint. In its place, Shellenberger and Nordhaus counsel instead optimism and faith in human technology, ingenuity, and progress as the "road to salvation" (2011; cf. 2007). The fear of exceeding natural limits or passing tipping points that traditionally inspired portrayals of environmental apocalypse or climate catastrophe have little relevance in their modernist vision, for, as they claim (citing an essay by geographer Erle Ellis), "Human civilizations rest not upon natural systems but human ones, like agriculture, cities, and industry, which have proven remarkably resilient to population and climatic pressures" (2011; cf. 2007). What is envisioned, as is spelled out most recently in "An Ecomodernist Manifesto," is the decoupling of humanity and nature so that we can all enjoy a "good Anthropocene" (Asufa-Adjaye et al. 2015). Acknowledging humankind's profound effect on the earth, this self-styled "ecomodernist" movement seeks not to limit or constrain human influence but rather to extend it and use it well.

A similar enthusiasm for the Enlightenment project informs Pascal Bruckner's scathing critique of the use of environmental apocalypse as a weapon of fear to browbeat individuals and societies into adopting the practices and policies urged by environmentalists (2013). Bruckner particularly disdains the premodern, religious, and Christian flavor of such narratives, suggesting that our carbon footprints have become the original sin of our age (2013, 2). He complains about how what he calls "ecologism" (the heir, as he sees it, of Marxism) insists on investing even the mundane details of domestic life with moral significance. "The slightest act — eating a cutlet, turning on a radiator, letting the water run while you brush your teeth (at school, children are taught that this is a bad thing for the planet)—is heavy with unexpected consequences," Bruckner observes

(137). He considers such rhetoric in any case to be finally ineffective for bringing about its desired ends, claiming that "[t]he ecology of disaster is primarily a disaster for ecology; it employs such an outrageous rhetoric that it discourages the best of wills" (184). Like Shellenberger and Nordhaus, Bruckner does not deny that there are profound challenges facing life on earth, but he dislikes the way "ecologism" blames civilization, technology, and human progress for our ills. His own hope, like that of the ecomodernists, is placed firmly in science and technology: "[T]he remedy is found in the disease . . . in the despised industrial civilization, the frightening science, the endless crisis, the globalization that exceeds our grasp: Only an increase in research, an explosion of creativity, or an unprecedented technological advance will be able to save us" (184–85).

Apocalypse in Jewish and Christian Tradition

Bruckner's critique of the religious tenor of contemporary environmentalism reminds us that there also remains plenty of explicitly religious apocalyptic narratives on offer. In popular religious culture, such apocalypses usually involve a divinely initiated cataclysmic end of the world. Given that this end is predetermined, brought about by God and often considered to be imminent, belief in such scenarios is unsurprisingly associated with a lack of concern about climate change and environmental problems in general (Barker and Bearce 2013). If we turn, however, to the ancient roots of apocalypse in early Judaism and later Christianity and Islam, we discover a genre of literature that is first and foremost about *revelation*, which is of course the meaning of the Greek word *apocalypsis*. Such literature involves the revelation of a transcendent reality that is given through visions, usually mediated by a supernatural messenger, and communicated in narratives rich with imagery and symbolism.

This emphasis on divine revelation, which in a more general sense stands at the center of the Abrahamic faiths, can of course be yet another reason for "why we disagree about climate change." If special revelation is seen to be in necessary conflict with scientific ways of knowing the world, then a believer in divine revelation may be predisposed to ignore or dispute what scientists or anyone else says about even the physical basis for our understanding of climate change. It is unsurprising, for example, that those who consider evolutionary biology incompatible with their revealed faith often discount climate science too.

But such conflict between divine revelation and scientific and other ways of knowing is not a necessary correlate of even apocalyptic faith. In the Jewish and Christian tradition, the God who is revealed to the apocalyptic seer is yet the God of creation and covenant, the creator of a good and ordered world about which at least some reliable knowledge is possible, for which human beings have been given certain responsibilities, and to which

the creator remains unconditionally committed (e.g., Genesis 9). At the center of Christian faith stands the "apocalyptic" event of the incarnation, death, and resurrection of Christ, himself the one through whom and for whom the world is said to have come into being and through whom all things are being reconciled back to God. There could be no stronger affirmation of the value of the material world, and there is here a basis for potentially constructive dialogues between scientific and even apocalyptic modes of knowing.

When we consider the evidence of the ancient apocalypses themselves, we discover in fact a striking interest in the natural world and in what might even be called cosmological "science" (cf. Stone 1976, 414–54; Rowland 1982, 124–26, 146–55; Himmelfarb 1993, 72–94). Admittedly, the knowledge about the cosmos that an apocalypse provides is predicated on the assumption that special revelation is necessary for the seer (and, by extension, the community of readers and hearers) to gain accurate, or at least more complete, knowledge about the world. Yet this interest in the natural world links apocalypses more closely than is sometimes appreciated to the prophetic and wisdom traditions. It tells against the stereotype of apocalypticism as necessarily world-denying and oriented toward the heavenly at the expense of the earthly. In some apocalypses, the order and regularity of the natural world serves as both a foil and a witness against the disorder within the human world, nature providing reliable and consistent testimony to the power, beneficence, and justice of the creator (Moo 2011, 71–96, 164–72). When the natural world is, on the contrary, seen as disordered or in upheaval, this is often—as in the prophetic tradition—considered a reflection of the disorder in the human realm and a sign of God's judgment on human evil and injustice. Many apocalypses reveal a fascination with the natural world and a belief in its integrity that is compatible with later scientific ways of describing reality; and some apocalypses can be seen to provide even the basis for a sort of environmental ethos (Hawkin 2003; Moo 2011; Woodman 2011), albeit one that is perhaps at times not far from the "ecologism" so roundly criticized by Bruckner.

In any case, the emphasis on the necessity of divine revelation that is at the center of apocalyptic literature can function as a salutary reminder of the limitations of human knowing and stand as a warning against scientific reductionism, or any kind of reductionism. The absolutism that characterizes some discussions of climate change and the failure to acknowledge uncertainty (both concerns of Hulme's, as we observed) is challenged by the assumption inherent in apocalypticism that there is often a profound gap between what we think we know about reality and reality itself, a gap that mirrors the gap between human beings and a transcendent God. Though this gap may be temporarily bridged by the apocalyptic seer and the unveiling of reality that is granted to the visionary, this unveiling can

never be complete, and nor can it be appropriated by mere human effort, being given only by the grace of God.

The deliberately enigmatic, symbol-laden form of apocalyptic narrative moreover engenders a necessary humility in readers and hearers, obscuring and invoking mystery and uncertainty as much as it truly "reveals." It invites, and indeed requires, interpretation, questioning, and participation. The combined effect of these two elements of apocalyptic—the assumption that human beings on their own are necessarily limited in their apprehension of reality and the opaque form of the revelation itself—is to challenge all human claims to absolute knowledge or power and to inculcate a suspicion of other totalizing narratives. Yet apocalypses encourage trust in the faithfulness of the creator God and a commitment to faithful action even in the face of uncertainty and upheaval. They hold out a vision of hope that is not finally dependent on human action or perfect knowledge. The transcendent source of this hope does not mean that it is an escapist fantasy that has nothing to do with the here and now or that excuses negligence of present responsibilities. In the majority if not all of extant Jewish and Christian apocalypses in which future eschatology is a prominent feature, hope is centered on a transformed life on earth, and the whole point is to give value and significance to how life is lived now (Russell 1996; Nickelsburg 2004; Hahne 2006; Moo 2011, 2014). Such a transcendent yet grounded hope may yet sustain religious believers as they grapple with the inherent uncertainties of future climate change and the efficacy of human action by enabling perseverance and a commitment to love and virtue whatever comes.

This is especially the case when we consider the purpose of an apocalypse like the book of Revelation in the New Testament. Revelation confronts the ideology of empire and what John considers to be an oppressive, violent and unjust political, religious, and economic power—an idolatrous system that his apocalypse reveals as a destroyer of the earth and of human lives. In place of Rome's imperial propaganda, John unveils a picture of a world in upheaval, its collapse into war, violence, and destruction a revelation of the emptiness of Rome's boast to have brought peace and order. (John would no doubt have agreed with Tacitus's Caledonian chieftain Calgacus: "They plunder, they slaughter, and they steal: this they falsely name Empire, and where they make a wasteland, they call it peace" [Tacitus, *Agricola* 30]). The disasters and de-creation that John portrays so vividly are at the same time a sign of God's handing the world over for judgment in anticipation of the renewal and restoration of all things (McDonough 2014, 169–85): "the time has come for destroying the destroyers of the earth" (Revelation 11:18). Yet judgment, deconstruction, and de-creation is not the final word. John also provides an alternative vision of the world centered on the slain lamb of God, a new world that is yet this world, with nature and culture renewed. As Richard Bauckham has argued, part of John's

purpose is "to purge and to refurbish the Christian imagination" (1993, 159), showing the world both as it really is and as it might become. With such a transformed view of reality, John hopes to enable his audience to maintain faithful witness to Christ and to embody alternative ways of life that challenge the regnant ideology of Babylon, despite the risks they face of persecution on the one hand and the temptation to assimilate to their culture on the other.

Such a transformation of the imagination through apocalyptic narrative has the potential to motivate a commitment to creative and alternative ways of being in the world that prosaic arguments and mere consideration of scientific data does not. Readers of Revelation are presented with a choice about which visions of the world they want to orient themselves toward. The risk, as John perceives it, is that they fall under the spell of Babylon and fail to perceive the tragic costs of its idolatrous trade and the violence inherent in its exercise of power. The hope is that they learn how to come out of Babylon even while living in it, to live as members even now of the New Jerusalem, where everything is being made new (Revelation 21:5) and the water of life is given without cost to all who are thirsty (21:6).

The difference between secular and religious versions of apocalypse becomes most acute, however, when we ask again what role they envision for human action. Secular versions of apocalypse ask us to save ourselves from impending doom. Apocalyptic seers like John expect God finally to bring about the redemption and restoration of all things. Yet the tradition as represented by John's apocalypse is intended finally to lend value and significance to human action in this world, even the action of those who in the eyes of the majority are powerless (cf. Moo 2014). Celia Deane-Drummond has suggested that the ability of apocalypse to provide space for genuine human action is particularly enhanced when it is considered as a drama, in which a multitude of human and nonhuman actors have voices and roles and where the outcomes and perspectives are more open-ended than in narrative rhetoric (2010, 242–259). This is especially apropos in the case of Revelation, where a voice is given to everyone from the four living creatures to the beast from the land, from the mourners over a fallen Babylon to the angelic choir to "every creature in heaven and on earth and under the earth and on the sea and all that is in them" (5:13). John's own temptation to "marvel" at Babylon (17:6) and the contrasting responses to Babylon's fall—lament (ch. 18) or celebration (ch. 19)—invite readers to enter the drama as actors themselves and to confront the question of where and with whom they will choose to stand.

The transcendent hope of an apocalypse such as Revelation can, as suggested above, sustain perseverance in virtuous lives of ecological responsibility over the long haul, even when the world does seem to be falling apart. A hope that is not centered in ourselves as supposed saviors of the world can foster an appropriate humility that challenges pretensions

to be completely in control and the saviors of the planet. In other words, apocalypse challenges Hulme's myth of "Babel," a myth that the author of Revelation would no doubt associate with idolatrous Babylon. This is the myth that Hulme links to the naïve confidence placed today in geo-engineering or technology to "save" us from dangerous climate change, the same myth that has too often enabled a discounting of the costs of "progress," and a myth which, some might say, has found a new champion in the ecomodernist movement.

Sleepwalking into Apocalypse

I want to conclude where I began and suggest that even the so-called "end of the world as we know it" scenarios that popular culture embraces and which ancient apocalypses such as John's Revelation do in fact often include, have a constructive role to play in our framing of climate change. The risk, as Hulme observes, is exaggeration—just as misunderstandings of metaphor and hyperbole have often defined the reception history of the prophetic and apocalyptic traditions in the Abrahamic faiths. But, when properly qualified, stories of potential catastrophe may sometimes be necessary to wake us out of our slumber, to prompt us to consider just what it is that we value about life and our world, and what it is that we don't want to lose.

If Jan Boersema is correct that the traditional story of the "collapse" of Easter Island (popularized by Jared Diamond [2004]) gets it wrong, and instead the story is one of gradual environmental change and human adaptation (Boersema 2015), we may draw a lesson of encouragement about the resiliency of the earth and of human culture and civilization. On the other hand, we might also be reminded of the risks not only of spectacular collapse but of gradual decline, of sleepwalking into "apocalypse." One of the roles of apocalyptic and especially postapocalyptic drama is to call our attention to the consequences of a long accumulation of losses that might, from some perspectives, constitute catastrophe. Catastrophe, after all, is relative.

Though predictions of the imminent end of Western civilization may be overblown, even the most conservative projections of our future climate involve scenarios that may indeed be considered catastrophic for many species, ecosystems, human communities, and ways of life. As Buell argues, it is perhaps too easy in our time to acquiesce to environmental decline and a diminished world. This is above all the case when in practice environmental and climatic changes, no matter how rapid they may be in the context of geological or natural history, usually accumulate relatively slowly when considered in the context of human time scales. In our age of "hyperexuberance" as Buell calls it (2003: 211–46), we need at times to be confronted with other visions of reality, other versions of the story of

our time and of the potential consequences of carrying on with business as usual.

Apocalyptic and postapocalyptic narratives can thus reveal what is being lost and what may be lost, providing company for Aldo Leopold's ecologist, who otherwise "lives alone in a world of wounds" (1972, 165). But more importantly, perhaps, apocalypse can serve to awaken us to the goodness and beauty of our present world and ask us again what it is we value and cherish and love.

Note

1. The title of this essay was chosen to echo John J. Collins's popular introduction to the Jewish apocalypses, *The Apocalyptic Imagination* (1998), though I discovered during my research that "Climate Change and Apocalyptic Imagination" has already been used as the subtitle for a fascinating volume of essays edited by Stefan Skrimshire (2010), which includes two essays cited above.

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