

A “joke-filled romp” through end times: Radical environmentalism, deep ecology, and human extinction in Margaret Atwood’s eco- apocalyptic *MaddAddam* trilogy

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Abstract

Canadian writer Margaret Atwood has spent years thinking and writing about the existential threat humanity now confronts in an era of an exponential growth in the global human population, accelerating environmental and habitat destruction, mass extinctions of plant and animal species, and ever-worsening ecological degradation. Like her 2003 novel *Oryx and Crake*, which Atwood describes as a “joke-filled romp through the end of the human race”, her 2009 novel *The Year of the Flood* and her 2013 novel *MaddAddam* are admonitory satires. In *MaddAddam*, Atwood moves forward from *The Year of the Flood* and *Oryx and Crake* as she retells and reconsiders her dystopian eco-apocalyptic account of what leads up to and what follows mass human extinction. In her account of the apocalyptic and millennial environmentalism of Crake and the God’s Gardeners, Atwood draws on the philosophy of deep ecology, and she also invokes the type of radical environmentalism embraced by activist green movements like Earth First!. Intent on environmental consciousness-raising, Atwood offers a horrific and darkly satiric account of the gruesome final days of humanity in the twenty-first century. By wryly suggesting that the remedy to humanity’s ills lies not only in interspecies cooperation but also in interspecies breeding, Atwood engages her readers in an unsettling thought experiment as Crake’s genetically modified hominoids, which are presented in *Oryx and Crake* as a kind of mad scientist joke, become the best hope for the genetic survival of some vestige of homo sapiens in the future Craker–human hybrid.

Keywords

deep ecology, Earth First! movement, eco-apocalypse, environmental apocalypticism, human extinction, *MaddAddam* trilogy, Margaret Atwood, millennial environmentalism, shallow and radical environmentalism

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“Humanity’s determination to transform the planet for its own material benefit is now backfiring on us in the most spectacular way, so that the climate crisis is for the human species now an existential one”, writes public ethicist Clive Hamilton, who is distressed by our culture’s short-sighted and self-destructive avoidance of the truth about the diminished future we face because of climate change (2010: xiii). Explaining that the “driving force behind the deterioration of the environment” is the exponential increase in the global human population, scientist and ecologist Rob Hengeveld worries that, while we were warned in the early 1970s that we must reduce our population growth and resource use, we have failed to act (2012: xi). “Our numbers are spiraling out of control, with the result that our resources are being depleted faster and our waste is polluting and destroying our environment at matching rates”, writes Hengeveld, who expresses concern about the “long-term survival of humans on Earth” (2012: xvii). Aware of the global environmental dangers we face because of our failure to act, Canadian writer Margaret Atwood has spent years thinking and writing about the existential threat humanity now confronts in an era of an increasing global human population, intensifying resource extraction, accelerating environmental and habitat destruction, mass extinctions of plant and animal species, and ever-worsening ecological degradation. Like her 2003 novel *Oryx and Crake*, which Atwood describes as a “joke-filled romp through the end of the human race” (Coulson, 2003: n.p.), her 2009 novel *The Year of the Flood* and her 2013 novel *MaddAddam* are admonitory satires.¹ Intent on environmental consciousness-raising, Atwood critiques so-called shallow environmentalism and reflects in a sustained way on deep ecology and radical environmentalism as she communicates in her *MaddAddam* trilogy her alarm about the future human and environmental costs of our heedless destruction of nature, even as we are now living through a mass extinction event caused by humans.² What lies behind the at times grim, even perverse, humour of Atwood’s *MaddAddam* trilogy is the very real fear that not only is human civilization in jeopardy, but also that the survival of the human species itself may be at risk as the planet becomes increasingly unable to support life.

“The rules of biology”, comments Atwood, “are as inexorable as those of physics: run out of food and water and you die. No animal can exhaust its resource base and hope to survive. Human civilizations are subject to the same law” (2005b: 285). Expressing her concern about the “exponential” growth of the global human population and wondering if we will see “a sudden, enormous crash” in the global population, she cautions: “We must slow our growth rate as a species or face a series of unimaginable environmental and human catastrophes” (2005a: 311).³ In *MaddAddam*, Atwood moves forward from *The Year of the Flood* and *Oryx and Crake* as she retells and reconsiders her dystopian eco-apocalyptic account of what leads up to and what follows mass human extinction, aware as she is that the trope of the apocalypse, as Lawrence Buell has commented, “is the single most powerful master metaphor that the contemporary environmental imagination has at its disposal” (1995: 285). In her account of the radical environmentalism of Crake and the God’s Gardeners, Atwood draws on the philosophy of deep ecology,⁴ and on the apocalyptic and millennial environmentalism that emerged in recent decades in radical activist movements like Earth First!.⁵ Deep ecologists, who argue that a paradigm shift is necessary because of the global ecological threat now confronting the planet,

reject anthropocentrism, which accords humans special status and defends the right of humans to exploit natural resources and to control nature in order to serve humanity's material needs. As advocates for biocentrism, deep ecologists believe that all nature — human and nonhuman — has intrinsic worth; that nature has the right to exist and to flourish independent of human interference; and that in order for nature to flourish, there must be a long-term reduction in the global human population. The biocentric-biodiversity faction of the Earth First! movement, which emerged in the 1980s, similarly has argued that all life forms have a right to exist and that the earth must be placed first, ahead of human welfare, in all human decisions. Fearful that an impending human-induced ecological catastrophe and biological meltdown threaten not only the earth's biodiversity but also the basic processes of life itself, Earth First!ers have also advocated a reduction in the global population at a time of exponential population growth. In a more misanthropic vein, some radical environmentalists view the human species as an “eco-pathological threat” to the planet (Garrard, 2012: 105) and so have called for a *drastic* reduction in the global human population.

Drawing on the eco-apocalyptic sensibility found in radical environmentalism's belief in the certainty of an imminent ecological crisis and biological meltdown in her *MaddAddam* trilogy, Atwood returns, again and again, to the genocidal act of the genius-scientist Crake as she chronicles the pre- and post-plague histories of Jimmy-Snowman and Glenn-Crake in *Oryx and Crake* and Ren and Toby in *The Year of the Flood*. Responding to the radical environmentalist belief that humanity represents an “eco-pathological threat” to the planet, Crake bioengineers a pandemic hemorrhagic supervirus, which he uses to kill off humanity, and he creates the Crakers — genetically modified, environmentally-friendly and peace-loving hominoid creatures — as a posthuman replacement species. In *Oryx and Crake* Atwood focuses on the Compound world of Jimmy and Glenn — gated and fortified communities where elite scientists and wealthy technocrats work under the control of a ruthless private security force, the CorpSeCorps. In *The Year of the Flood*, in contrast, she centres on the world outside the Compounds, the pleeblands, as she tells the story of the God's Gardeners, a green eco-religious cult led by Adam One. Moving her story forward in *MaddAddam*, Atwood brings together the few human survivors of Crake's pandemic plague — including Jimmy-Snowman, Ren and Amanda, the middle-aged Toby, MaddAddam scientists and members of the MaddAddam eco-terrorist group, including Zeb — and describes their attempt to survive in the devastated post-plague world and form a cooperative relationship with the Crakers. Even as Atwood offers an account of the lives of the human survivors of the plague, she also urges readers to speculate on the future by forcing us to wonder at the end of *MaddAddam* whether humanity will survive (as homo sapiens or as a new hybrid human-Craker species). Thus, in *MaddAddam* Atwood returns to a question that she first gave voice to in her 1979 novel *Life Before Man* through her character Lesje. “Does she care”, as Lesje reflects at one point, “whether the human race survives or not? She doesn't know. [...] In her bleaker moments [...] she feels the human race has it coming. Nature will think up something else. Or not, as the case may be” (1979/1987: 24). In her darkly satiric account of end times in *MaddAddam*, Atwood provokes her readers to think the unthinkable by seeming to find a remedy to humanity's ills not only in interspecies

cooperation but also in interspecies breeding as Crake's genetically modified hominoids, which are presented in *Oryx and Crake* as a kind of mad scientist joke, become the best hope for the genetic survival of some vestige of homo sapiens in the future Craker-human hybrid.

Does the human race deserve to survive?

As Atwood attempts to answer the question that drives her trilogy — whether or not the human race deserves to survive — she voices her very real concern about a trend in contemporary culture that she finds deeply troubling and morally abhorrent: the mainstreaming of violence and pornography into the mass culture. In *Oryx and Crake*, Jimmy-Snowman and Glenn-Crake grow up in a cyber-culture where violence and pornography have become cheap, and readily available, forms of entertainment. During their web-surfing sessions as adolescents, the two friends enjoy visiting sites that provide live coverage of executions or assisted suicides as well as porn sites, and the pair also entertain themselves playing computer trading games like *Barbarian Stomp* and *Blood and Roses*, which turn mass destruction into an enjoyable spectacle. In *Barbarian Stomp*, one player has the cities and wealth and the other the hordes: “Either the barbarians stomped the cities or else they got stomped. [...] Rome versus the Visigoths, Ancient Egypt versus the Hyksos, Aztecs versus the Spaniards” (2003: 77).⁶ In *Blood and Roses*, the Blood side plays with human atrocities and the Roses side with human achievements: “the exchange rates — one *Mona Lisa* equalled Bergen-Belsen, one Armenian genocide equalled the *Ninth Symphony* plus three Great Pyramids — were suggested, but there was room for haggling” (79). In a similar way, in *MaddAddam* Atwood takes umbrage at our contemporary culture of sadism and pornography in her account of “Feel-iT-enabled porno installations” that use haptic feedback to enable users to experience “true, stimulating flesh-on-flesh sensations”, thus giving users who visit historical reenactment beheading sites the “sensation” of what it feels like to decapitate a woman with an axe (2013: 117; 118).⁷

In an even more strident critique of the contemporary culture of violence, Atwood conjures up a barbaric, cannibalistic world of human cruelty and predator-prey in *The Year of the Flood* as she describes the brutality of the Painballers, vicious, bloodthirsty men who have survived the horrors of Painball, a gruesome sport in which condemned criminals are divided into two teams and then placed in the Painball Arena — an enclosed forest that contains hidden cameras — where they hunt down and slaughter members of the opposing team. In a brutal and sadistic ritual, the Painballers hang their human victims — their “kill” — on trees and mutilate the corpses to intimidate the opposing team: “Cut off the head, tear out the heart and kidneys. [...] Eat part of it, if food was running low or just to show how mean you were” (2009: 98–9).⁸ In *The Year of the Flood*, Rennie and Amanda are sexually brutalized by the Painballers, and *The Year of the Flood* draws much of its abject horror from its vision of male sadism and human degeneration.⁹ Similarly, in *MaddAddam*, Atwood emphasizes the sexually predatory and sadistic behavior of the Painballers, who have been “reduced to the reptilian brain”: “Sex until you were worn to a fingernail was their mode; after that, you were dinner. They liked the kidneys” (9). Atwood's dark pessimism about the future of humanity

becomes evident in *MaddAddam* as she describes a world taken over by the degeneracy instilled by the culture of violence and greed which fosters the cutthroat business practices and hyperconsumption of the corporate elite side by side with the ruthless behavior and predatory cannibalism of the Painballers. Atwood makes this connection clear in describing how the upper echelons enjoy watching Painball because “duels to the death involving skill, cunning, ruthlessness, and cannibalism” portray Corp life “in graphic terms” (296).

Through her mixture of harsh satire and degenerationist discourse, Atwood expresses alarm about and moral disgust for our contemporary culture of sadism, and she also sets out to expose the misuse of religion in *MaddAddam* as she tells the story of two characters who are raised as brothers by an abusive and sadistic father, the Rev: the God’s Gardener Adam and the MaddAddamite Zeb. In her account of the Rev’s theology, Atwood offers caustic commentary on our twenty-first-century corporation-driven oil-based global economy. Just as the Commanders in *The Handmaid’s Tale* find biblical justifications for their enslavement of women, so the Rev finds a “scriptural foundation” for his “nailed together” theology of Holy PetrOleum in a New Testament verse: “Thou art Peter, and upon this rock I will build my church” (Matthew 16:18). Even as Atwood sets out to entertain readers as she gleefully skewers the fundamentalist zeal and canting hypocrisy of the Rev, she expresses deep indignation at our contemporary cult-like worship of oil. Spouting his anti-environmentalist theology so he can “rake in the cash”, the Rev is a pious fraud as he acts as a crusader for corporate oil interests:

It didn’t take a rocket-science genius, the Rev would say, to figure out that *Peter* is the Latin word for rock, and therefore the real, true meaning of “Peter” refers to petroleum, or oil that comes from rock. “So this verse, dear friends, is not only about Saint Peter: it is a prophecy, a vision of the Age of Oil. [...] My friends, as we all know, *oleum* is the Latin word for oil. And indeed, oil is holy throughout the Bible! What else is used for the anointing of priests and prophets and kings? Oil! It’s the sign of special election, the consecrated chrism! What more proof do we need of the holiness of our very own oil, put in the earth by God for the special use of the faithful to multiply His works?” (112)

In the Rev’s church, as Zeb recalls, “we didn’t pray for forgiveness or even for rain” but instead “prayed for oil”. One of God’s “divine gifts” for his “chosen” people, oil “put the food on the table” because it fuelled the tractors plowing the fields, the trucks delivering the food, and the cars used to drive to the stores to buy the food, and it also supplied the power that produced the heat used to cook the food (113). Even as Atwood critiques our culture’s unsustainable, energy-intensive and consumption-driven lifestyle, which keeps us dependent on and in thrall to energy companies, she also gives voice to a deep fear that has come to haunt environmentalists: that multinational capitalism’s plundering of natural resources and its accelerating use of greenhouse-gas-emitting fossil fuels to meet the ever-increasing material demands of a growing human population will lead humanity not to a progressive utopian future but instead to the dystopian horrors of a global eco-catastrophe and societal collapse, and, as the planet becomes increasingly uninhabitable for humans, to a massive die-off — or even extinction — of the human species.

“Bulldozing the planet flat and grabbing anything of value”: Shallow and radical environmentalism in Atwood’s eco- apocalyptic trilogy

Even as Atwood satirizes anti-environmentalism and the cult-like zealotry surrounding our multinational oil-based global economy in her account of the Rev’s theology of Holy PetrOleum, she also asks pointed questions about the contemporary green movement. At a time when environmentalism has become “widespread and, in certain respects, very powerful”, as Greg Garrard remarks, radical critics have attacked the mainstream environmental movement — or so-called shallow environmentalism — because of “the compromises it makes with the ruling socio-economic order” and because “shallow” environmentalists, despite their concern about environmental issues such as global climate change and pollution, want to “maintain or improve their standard of living” and so do not “welcome radical social change” (2012: 22; 21).¹⁰ In *The Year of the Flood*, Toby reflects on the failure of mainstream environmentalism in the pre-Flood days, recalling how, when radical critics discussed the “wrongness” in the world — “*We’re using up the Earth. It’s almost gone*” — people “tuned them out, because what they were saying was both so obvious and so unthinkable” (239; emphasis in original). In *MaddAddam* Atwood offers pointed commentary on shallow environmentalism in her account of the good-intentioned city people who contribute to “scam” causes like operation Bearlift (59). Capitalizing on people’s desire to rescue an endangered species, operation Bearlift urges people to donate to the cause of saving polar bears in order to avoid being “guilty of bearicide” (69). “The concept was simple”, as Zeb recalls. “The polar bears are starving because the ice is almost gone and they can’t catch seals any more, so let’s feed them our leftovers until they learn to adapt, ‘*adapt*’ being the buzzword of those days ...” (59; emphasis in original). Despite their dislike of Bearlift, the Corps tolerates it, aware that such a cause sounds “a note of hope” and thus distracts people from the “real action, which was bulldozing the planet flat and grabbing anything of value” (69).

If through Zeb’s sardonic voice in describing Bearlift as a “scam” environmental cause, Atwood critiques shallow environmentalism, she also reflects in a more sustained and complex way in her *MaddAddam* trilogy on the radical environmentalist movement, in particular on the Earth First! movement, which drew on the fears of a looming environmental crisis that began to surface in the culture in the 1970s.¹¹ “The understanding of radical environmentalism”, as Christopher Manes commented in his 1990 book *Green Rage*, “begins at the end, the end of the world as we know it, the meltdown of biological diversity that our industrial culture has recklessly set in motion” (1990: 22). Describing the “ecocidal tendency of civilization”, Manes maintained that the biological meltdown is a direct result of the values fundamental to our technological culture — “economic growth, ‘progress,’ property rights, consumerism, religious doctrines about humanity’s dominion over nature, technocratic notions about achieving an optimum human existence at the expense of all other life-forms” (1990: 29). Calling for a reevaluation of humanity’s anthropocentric approach to the world, radical environmentalists like Dave Foreman, a co-founder in 1980 of the Earth First! movement, embraced deep ecology. Describing himself as an “enthusiastic” follower of deep ecology’s biocentrism, Foreman asserted in his 1991 book *Confessions of an Eco-Warrior* that “all living creatures [...]

possess intrinsic value, inherent worth”; that “all living beings have the same right to be here”; and that humans “have no divine mandate to pave, conquer, control, develop, or use every square inch of this planet” (1991: 26–7; 3; 4). Insisting that all decisions should consider “Earth First!” not “People First!” and calling for direct political action on the part of Earth First!ers, Foreman famously described the Earth First! movement as “a warrior society” that refuses to “compromise” in the “defense of life” (1991: 26; 34; 35).

Involving readers of her dystopian trilogy in a prolonged and unsettling thought experiment, Atwood presents a bleak vision of the near future as she draws on the eco-apocalyptic fears of radical environmentalists, who have warned that we may soon face an environmental collapse that could put humanity’s own survival as a species at risk. In *Oryx and Crake*, Crake tells Jimmy that “as a species” the human race is “in deep trouble”: “Demand for resources has exceeded supply for decades in marginal geopolitical areas, hence the famines and droughts; but very soon, demand is going to exceed supply for everyone” (295; emphasis in original). Jimmy also hears “harangues and oblique sermons” from Amanda’s radical environmentalist friends, who say that the “human experiment” is “doomed” to “extinction” and who not only describe human society as “a sort of monster, its main by-products being corpses and rubble”, but who also liken humanity to “a giant slug eating its way relentlessly through all the other bioforms on the planet” (242–3). Similarly, in *MaddAddam*, Zeb recalls catchphrases from the fundamental “message” of the radical environmentalists: that “man is obsolete”; that we are “dooming ourselves to extinction”; that we must “restore the balance of nature” (57–8). In *The Year of the Flood*, Atwood uses Adam One’s sermons to give voice to her deeply held concerns about our culture’s short-sighted destruction of the natural environment and accelerating extraction of natural resources to satisfy our unbridled greed in an era of rampant consumerism and a rapid increase in the global human population. “Ours is a fall into greed: why do we think that everything on Earth belongs to us, while in reality we belong to Everything?” as Adam One states. “God’s commandment to ‘replenish the Earth’ did not mean we should fill it to overflowing with ourselves, thus wiping out everything else. How many other Species have we already annihilated?” (52–3).

Calling to mind deep ecology’s belief in the interconnection between humanity and nature, Adam One tells his followers that humanity’s “appetites”, “desires”, and “more uncontrollable emotions” are all “Primate”, and he also confirms that “knots of DNA and RNA [...] tie us to our many fellow Creatures” (52; 53). Like the apocalyptic faction of the early followers of Earth First!, who viewed themselves as “elites whose awareness of the biological meltdown impart[ed] to them a special role in saving the planet’s biodiversity” (Lee, 1995: 62), Adam One’s followers believe that their purpose “in respect to the Creatures is to bear witness” and “to guard the memories and the genomes of the departed” (253). “Consider the wholesale slaughter of ecosystems”, Adam One tells his followers, but he also calls the Gardeners a “plural Noah” who “will cherish [...] the knowledge of the Species” when the Waterless Flood destroys humanity (90; 91). The eco-religion of Atwood’s God’s Gardeners recalls not only the apocalyptic environmentalism of Earth First! but also its millennial vision of life in the post-apocalypse found in the belief that Earth First!ers were “chosen people” whose “ecological consciousness” would allow them, after the biological meltdown of the coming environmental apocalypse, to “create a

new, perfect, and ecologically sustainable world” and thus to aid in the recovery of the “Pleistocene, the golden age when ‘humans knew their rightful place in the big picture’” (Lee, 1995: 83–4).¹² Unlike the peaceful God’s Gardeners, Zeb’s splinter MaddAddam group of environmental activists are eco-warriors, who want to “destroy the infrastructure” so that the earth can “repair itself” before “everything” goes “extinct” (333). Just as the public acts of ecosabotage practiced by Zeb’s MaddAddamites recall the monkey-wrenching tactics of Earth First!ers, so the motivation behind Crake’s ultimate act of ecoterrorism calls to mind the radical environmentalist call for a drastic reduction in the human population in the face of a looming ecological crisis.

Fearing “an imminent apocalypse”, a “biological meltdown” that would lead to “the disappearance of one-third to one-half of the earth’s species” and would result in an “ecocatastrophe” that threatened all life forms, Earth First!ers looked for a solution to the problem of human overpopulation, which they saw as one of the root causes of the coming ecocatastrophe (Lee, 1995: 40; 41–2). In a series of articles in the 1980s, Earth First!ers infamously argued that diseases like AIDS might help solve the problem of human overpopulation.¹³ Even more misanthropic was the claim that the emergence and spread of viruses like the hemorrhagic Ebola virus is nature’s way of defending itself by trying to “rid itself of an infection by the human parasite” — the “flooding infection of people” that threatens “to shock the biosphere with mass extinctions” (Preston, 1994: 288; 287).¹⁴ If in *The Year of the Flood* Adam One insists that the Gardener way is the “way of peace” (252), in *MaddAddam* readers learn that Adam One knew about the coming plague and massive die-off of humanity because he passed on to Crake the HelthWyzer pills containing the prototype of the hemorrhagic plague supervirus, even though he had first-hand knowledge of the gruesome way that his father died — the Rev “dissolved” into a “red foam” (306) — when he was given pills containing the virus. When Toby realizes that Crake must have used the experimental HelthWyzer virus as the basis for his genocidal plague supervirus and she questions Zeb about this, he tells her: “All the real Gardeners believed the human race was overdue for a population crash. It would happen anyway, and maybe sooner was better” (330). Just as Atwood draws on the ideas of radical environmentalism in her account of the eco-religion of the God’s Gardeners in *The Year of the Flood*, so Crake can be understood as an adherent of deep ecology and a radical and apocalyptic environmentalist who, in the face of an imminent human-created ecological catastrophe, determines to use his genius at bioengineering to save the biosphere by replacing destructive humans with his non-aggressive and primitive tribal hominoid species, the Crakers.

Crake as an extreme environmentalist and ecotopian thinker

Atwood scholars have often associated Crake with the mad scientist figure in literature — indeed he has been called a contemporary Dr. Frankenstein or a Doctor Moreau character.¹⁵ And yet, Atwood herself has remarked on the altruism of Crake. “From a certain perspective”, as Atwood has commented, “Crake is the most altruistic person around” because he looks at the deteriorating environment and the hard-wiring of humanity’s monkey brains and acts to get rid of the destructive features (Bethune, 2003). Countering

the mad scientist view of Crake, Greg Garrard asserts that when we consider “the plague of humans” inhabiting Jimmy-Snowman’s dystopian world, “Crake’s decision to replace us seems merely rational rather than dementedly misanthropic” (2010: 238). For Hannes Bergthaller, Crake is motivated by “a genuine desire” to change the world as he, through his Paradise project, “attempt[s] to cut the Gordian knot that is human nature” (2010: 735). Drawing a connection between Crake’s environmental ethics and deep ecology, Roman Bartosch describes Crake as “a fervent — if misanthropic — thinker whose ethical stance, for example the idea that human overpopulation needs to be controlled and that the world needs a new, ecological utopia, closely resembles deep-ecological thinking” (2012: 119). Also commenting on Crake’s “affinities with environmental activists”, Allison Dunlap calls Crake both “the ultimate scientist” and “the ultimate ecotopian thinker” (2013: 4; 10). Rejecting the idea of “human exceptionalism that might offer humans a special status and afford them privileged ethical treatment”, Crake, instead, “embraces [...] a biological determinism that categorizes all animals, humans included, as similar kinds of life forms” (Dunlap, 2013: 7). Thus, in designing his hominoid creatures, Crake “seeks to create a world where the human-over-nature hierarchy no longer exists [...] and where human/animal distinctions are utterly untenable” (Dunlap, 2013: 10).

Atwood herself seems to view Crake, at least in part, as an ecotopian thinker. Commenting that she “situated the utopia-facilitating element” in her futuristic world not in a new type of social organization or a mass-brainwashing programme but “inside the human body”, Atwood remarks that the Crakers are “well behaved from the inside out not because of their legal system or their government or some form of intimidation but because they have been designed to be so” (2011: 94–5). Aware that humans are doomed to near-term extinction, Crake uses his bioengineering talents to save the biosphere by ridding the earth of humans who, because of their inherent greed and violence, are heedlessly consuming and destroying the planet. Thus Crake’s “virulent misanthropy unexpectedly becomes transformed into something like a virtue”, writes Gerry Canavan. “If this is not genocide as humanitarianism, exactly, then it is at the very least genocide as environmental policy: global death, in the name of preserving life” (2012: 150). By replacing humanity with his environmentally friendly hominoid species, the Crakers, Crake also seeks to bring about the radical environmentalist post-apocalyptic vision of humanity’s return to a utopian Pleistocene world inhabited by small tribes of pre-technological humans. That Crake bio-engineers a hemorrhagic supervirus to destroy humanity also seems telling, since he uses his scientific know-how to create an infection that rids the earth of “an infection by the human parasite”. Just as Crake can be read as an extreme environmentalist in his determination to save the planet by drastically reducing — or in Crake’s case, eliminating — the human population, so Crake’s bioengineered Crakers can be read as a literal embodiment of deep ecology’s belief in the interconnection between earlier humans and the natural world. Thus, ironically enough, Crake uses his technological genius to create a primitive, pre-technological, and tribal band of hominoids.

Yet while Crake can be read as a radical environmentalist and ecoterrorist, Atwood’s account of Crake’s genetically engineered, ecologically-friendly, vegetarian creatures reads like an extended joke in *Oryx and Crake*. Designed to survive in their harsh globally warmed twenty-first-century climate, the Crakers have UV-resistant skin, a built-in

citrus-smelling insect repellent, and an ability to digest the unrefined plant material — the leaves, grass, and roots — that sustain them. Borrowing from animal adaptations, Crake gene-splices various animal features into his hominoids: dog-like, the men urinate to mark their territory; cat-like, they heal their wounds by purring; rabbit-like, they produce and re-eat their own dung-like caecotrophs. Rather than being tormented by sexual jealousy or existing in a state of perpetual fertility, female Crakers come into heat once every three years, and their condition is signaled by their bright blue colour, a feature Crake borrowed from the baboons. With their altered ancient primate brains, the Crakers lack the destructive human features of racism, hierarchy, and territoriality, and because they are perfectly adapted to their habitat, they will never have to build houses or develop tools and weapons or create “harmful symbolisms, such as kingdoms, icons, gods, or money” (305).

As Crake plays God with the genetic building blocks of life, he is presented to readers of *Oryx and Crake* as the scientist-imperialist whose “eco-philosophy” is a “violent form of techno-ecological utopianism”, as Graham Huggan and Helen Tiffin remark, and the Crakers, who are products of Crake’s “warped eugenicist fantasy”, are “ironically hybrid products of the latest form of technological purism, whose natural innocence has been artificially created” (2010: 210). Clearly, Atwood’s method in presenting Crake and the Crakers is, in part, satirical, especially in *Oryx and Crake* where she lampoons the ongoing project of bioengineering and the biocommodification of life through her tongue-in-cheek descriptions of the Crakers, and in *MaddAddam*, some of the scientist-survivors who worked on Crake’s Paradise project call Crake a “lunatic of a creator” and refer to the Crakers as “Frankenpeople” (44; 19). But this mad-scientist characterization of Crake is also challenged in *MaddAddam* in an exchange between the MaddAddam scientists. A scientist and environmentalist who was aware that the biosphere was being depleted, Crake, according to this view, created the Crakers as a “solution” to the unfolding ecological crisis, and he wanted humanity to “go extinct” because he viewed the Crakers as “indigenous people” and “*Homo sapiens sapiens* as the greedy, rapacious Conquistadors”: “If the Crakers were his solution, he’d have known he’d need to protect them from the likes of us, with our aggressive if not murderous ways” (140). When told the story of their origins in *MaddAddam*, the Crakers learn that Crake heroically acted to save the planet from the ecocidal humans who could not understand and would not stop what they were doing to “the sea and the sky and the plants and the animals” even though, by killing nature, they would end up “killing themselves” (291). Just as readers of Atwood’s eco-apocalyptic trilogy may come to question whether Crake is misanthropic or altruistic — or if he is, at once, *both* misanthropic and altruistic — so we may come to question whether the human race in Atwood’s pre-apocalyptic dystopian world, given its rapacious greed and murderous ways, deserves to survive. Is Crake a mad scientist and eco-fascist? Or is he a radical environmentalist using the tools of science to save the planet from the ecocidal humans bent on killing nature and, in the process, destroying themselves?

Environmental apocalypse and human extinction

“Funny old thing, the human race. [...] Wasn’t it?” remarks Zeb in *MaddAddam*, as the few remaining human survivors of Crake’s plague face their own near-term extinction (228). As Atwood encourages her readers to draw a connection between the pre-plague

days of her characters and our contemporary world, she expresses, in her darkly satirical way, deep moral outrage at the reckless destruction of nature as humanity, in an era of increasing population growth and resource extraction, bulldozes the planet flat and grabs anything of value. Atwood's cynicism — or is it her gallows humour? — runs deep. There are many targets of Atwood's caustic satire in her eco-apocalyptic trilogy, from the global corporate culture and the global oil, pharmaceutical, and biotech industries to the shallow environmentalism of the mainstream green movement. Yet even as Atwood sets out to entertain us with her darkly satiric tale of end times, she also insists that her eco-apocalyptic novels are speculative fiction, cautionary tales that she has written in order to warn us about what could happen in the near future. "Climate disruption has the smell of death about it", writes Clive Hamilton, who feels that by "clinging to hopefulness" we forestall facing the truth about humanity's "diminished" future (2010: 215; 211). Intent on environmental consciousness-raising, Atwood, in her *MaddAddam* trilogy, imagines the diminished future of a nearly extinct human race. While in Crake's posthuman world those plants and animals that did not go "extinct under the human domination of the planet" thrive "unchecked" (209), Toby and the other Gardener and MaddAddam human survivors are aware that human "history is over" (33). As they struggle in their day-to-day existence to stay alive, they are forced to live utterly degraded lives. "What to eat, where to shit, how to take shelter, who and what to kill: are these the basics?" as Toby asks herself at one point. "Is this what we've come to, or come down to; or else come back to?" (98).

Nature is resurgent in Crake's post-plague world, yet the human survivors of Crake's plague face near-term extinction, and the corpse-littered world they inhabit has the smell of mass human death about it. In a sort of storyteller's ploy, Atwood partly deflects reader attention away from the dark pessimism of *MaddAddam's* account of the petty jealousies and rivalries and feuds of the human survivors and its horrific description of the Painballers and the gruesome final days of humanity in the twenty-first-century by offering a utopian animal tale about interspecies cooperation, for not only do the Crakers psychically communicate with the pigeons but the pigeons and humans form an alliance in order to hunt down and capture their common human enemy: the Painballers. But Atwood also seems intent on reminding readers of *MaddAddam* about Crake's "warped sense of humor" (92) as she wryly recounts the "major cultural misunderstanding" (13) that leads a group of Craker males to copulate with Ren and Amanda. "*We joined our blue to their blue but we did not make them happy*", the Craker males realize after their "rambunctious group copulation" with the two women (100; emphasis in original). After the birth of the first generation of green-eyed human-Craker hybrids, the human survivors are left to wonder about the genetic inheritance of these hybrid creatures: "Will they have built-in insect repellent, or the unique vocal structures that enable purring and Craker singing? Will they share Craker sexual cycles?" (380). Atwood has called her *MaddAddam* novels "ustopias" — that is, dystopian works that, true to the form of the classic dystopian novel, contain "utopic" elements (2011: 91).¹⁶ In yet another wry sideways glance at her readers, Atwood plays with the "ustopic" form by finding millennial hope not in a future human civilization but instead in an imagined future utopia inhabited by Crakers and green-eyed Craker-human hybrids.

Atwood's *MaddAddam* trilogy is a dark satire, an Atwoodian "joke-filled romp" through end times. Yet by suggesting that the remedy to humanity's ills and near-term extinction may lie in interspecies breeding, Atwood asks us to think the unthinkable, and she also forces us to confront a question posed by biocentrism's challenge to ecocriticism and literary practice: "What sort of literature remains possible if we relinquish the myth of human apartness?" (Bartosch, 2012: 116; see also Head, 1998: 33). Through the story of the Craker Blackbeard, who becomes Blackbeard as he takes over Toby's storytelling function, Atwood re-envisioned her account, in both *Oryx and Crake* and *The Year of the Flood*, of the final days of the last human survivors by indicating that, if humanity does not survive, something essential to humanity — the act of storytelling — will somehow be kept alive. But Atwood's story of humanity's near-term extinction ultimately does not reassure us since, as we come to recognize at the conclusion of *MaddAddam*, the human voices we have been hearing while reading the novel — in particular those of Toby and Zeb — are voices of the dead. For Roman Bartosch, literature has the potential to help us "return to the 'ego' within the 'eco'", which is something we need to do in order to "address the crisis of imagination" evident in our current environmental crisis (2012: 125). Atwood may offer some comfort to readers as she suggests that storytelling will survive in the culture of the Crakers. But *MaddAddam* ultimately chills us, offering as it does cold comfort to those who would wish for a more hopeful sign that, if the radical environmentalists are right, humanity itself will somehow survive the coming eco-apocalypse as will the "ego" within the "eco" and the "ego" within "eco-literature".

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Notes

1. I offer a detailed assessment of Atwood's satiric view of scientific imperialism and the biocommodification of life in *Oryx and Crake* in "'It's game over forever': Atwood's satiric vision of a bioengineered posthuman future in *Oryx and Crake*" (2004). In "'We're using up the Earth. It's almost gone': A return to the post-apocalyptic future in Margaret Atwood's *The Year of the Flood*" (2011), I discuss Atwood's strident critique of our contemporary culture of violence and unbridled consumption. In it, I show how Atwood draws on and literalizes the trope of corporate cannibalism in describing the corporation-controlled world of her dystopian future; how she invokes the idea of degeneration as she expresses her concern about environmental and social decline; and how she, in describing the God's Gardeners, looks to eco-religion for evidence of our ethical capacity to find a remedy to humanity's ills. What has driven me to write this essay is my need to make sense of the closure of *MaddAddam*, which has forced me to reassess Crake's genocidal act and to take a closer look at the environmental politics of Atwood's eco-apocalyptic trilogy.
2. This mass extinction event is variously called the Holocene extinction or the Anthropocene extinction or the Sixth extinction (see Kolbert, 2014: 265; Barnosky et al., 2011).
3. "'They knew!' [...] 'They knew back then in 1972! Why didn't they do something, when there was still time?'" exclaims Atwood's Scrooge in *Payback* (2008: 196–7) when he learns that a 1972 scientific study commissioned by the Club of Rome had alerted society to the dire consequences of continued population growth on the earth's limited resources. "'Because

there is only a finite supply of land and natural resources”, as the report warned, the continuation of unlimited population and economic growth would lead to a “collapse” of the world economy within 70 years, causing “widespread pestilence, poverty and starvation” (2008: 196). In a similar way, Rob Hengeveld worries that we have lost valuable time by ignoring the Club of Rome report, which was published in 1972 under the title *The Limits to Growth*. “What have we been doing since 1972?” asks Hengeveld. “How can we have forgotten?” (2012: 279). Remarking on the conservative attack on, and demonization of the report, Clive Hamilton writes: “Orthodox economists led the attack; after all, hadn’t the free market always provided a timely response to any shortage?” The report has been subjected to such harsh criticism over the years that “today critics of any environmental warning need do no more than intone ‘Club of Rome’ to summon guffaws from conservatives” (2010: 36).

4. Growing out of the philosophy — or “ecosophy” — of the Norwegian environmentalist Arne Naess, the deep ecology platform includes foundational ecological principles that reveal the biocentric, as opposed to anthropocentric, basis of deep ecology. Arguing that “the flourishing of human and nonhuman life on earth has inherent value” and that the “richness and diversity of life-forms are also values in themselves”, Naess writes that humans do not have a “right to reduce this richness and diversity except to satisfy *vital* needs” (2008: 111; emphasis in original). Naess also believes that there must be a “substantial decrease of the human population”, stating that while such a decrease is compatible with the “flourishing” of human life, it is *required* for the “flourishing of nonhuman life” (2008: 111). Aware that deep ecologists are sometimes accused of being “more fond of animals than of humans”, Naess insists that supporters of deep ecology recognize their “special obligations” to their “fellow humans” (2008: 311). But, indeed, some followers of deep ecology do express a radical biocentrism in their apocalyptic end-of-the-human-species scenarios.
5. The Earth First! movement, which was co-founded by Dave Foreman in 1980, was initially formed by environmentalists from groups such as the Sierra Club, the Wilderness Society, and Friends of the Earth, who believed that the traditional political system could not effectively deal with the unfolding ecological crisis. The early members of Earth First! had “a shared belief that modern society and its destruction of the natural world could only end in an apocalyptic crisis”, explains Martha Lee in her detailed history of the movement (1995: 37). As the belief system of Earth First! evolved in the 1980s, deep ecology became an “integral part of the movement’s discourse”, as Lee notes (1995: 37). Between 1984 and 1987, Earth First! was involved in hundreds of protest actions, yet while monkey-wrenching and direct action events “raised public awareness”, they “saved little wilderness” (Lee, 1995: 78). Within 10 years, as Lee notes, the Earth First! movement had split into two factions. While the first faction stayed “focused on biodiversity but became apocalyptic in nature”, the second faction “emphasized both social justice and environmental issues, and it developed a doctrine that was millenarian in character. [...] Individuals in this faction hoped to convert as many adherents as possible to their cause, in order to create a just and ecologically sensitive community” (1995: 142). Although Foreman had originally served as Earth First!’s “prophet and leader” (Lee, 1995: 105), he felt that the continuing disagreement between the apocalyptic biodiversity and millenarian social justice factions threatened to compromise the movement, and so he left Earth First! in 1990. If by 1990 the movement “was in pieces”, many of those “pieces remained potent” since the movement “had remained decentralized and radical by design”, as David Peterson del Mar comments (2006: 141). “In the early 1990s Earth First! members in England created a still more decentralized group, Earth Liberation Front, that began damaging mining equipment and bulldozers. In 1997 Earth Liberation Front allied with the Animal Liberation Front in the US and, a year later, did \$12 million worth of damage at a Colorado ski resort” (2006: 141). In more recent years, North American members of Earth First! have protested the

- tar sand project in Canada, the Keystone XL pipeline, and fracking operations in the United States. For an account of the post-9/11 anti-terrorist governmental campaign in the United States against direct action environmental groups like the Animal Liberation Front (ALF) and the Earth Liberation Front (ELF), see Will Potter's 2011 book *Green is the New Red*.
6. Subsequent references are to this (2003) edition of *Oryx and Crake* and will be cited parenthetically in the text.
 7. Subsequent references are to this (2013) edition of *MaddAddam* and will be cited parenthetically in the text.
 8. Subsequent references are to this (2009) edition of *The Year of the Flood* and will be cited parenthetically in the text.
 9. An explanatory myth, degeneration, as William Greenslade has observed, describes "the boundless capacity of a society to 'generate' regression: on the one hand, generation and reproduction, on the other, decline, degradation, waste" (1994: 16). Viewed through a degenerationist frame, the "post-Darwinian city" is a place of "moral darkness" where the "struggle for life" produces a "new species" of people — "menageries of sub-races of men and women" (1994: 38).
 10. Rather than offering sustainable solutions to our current ecological crisis, the new phase of capitalism — so-called green capitalism — is helping drive us toward "planetary ecocide", writes Ashley Dawson (2013: 78). Commenting on the 2012 US *National Bioeconomy Blueprint*, Dawson writes: "There is a wealth of evidence that the massive increase in production and use of biomass that is central to the bioeconomy model will trigger a cascade of problems including hunger, land grabs, and ecosystem collapse" (2013: 77). Green capitalism "does not seek to and will not solve the underlying ecological contradictions of capital's insatiable appetite for ceaselessly expanding accumulation on a finite environmental base. Instead, green capitalism seeks to profit from the current crisis. In doing so, it remorselessly intensifies the contradictions, the natural destruction and human suffering, associated with ecocide" (2013: 78).
 11. In tracing the recent history of environmental apocalypticism, David Peterson del Mar discusses the rise of "doomsday" environmentalism in the late 1960s and 1970s. Paul Ehrlich's 1968 book *The Population Bomb*, which was a bestseller, argued that "overpopulation was leading humanity to the brink of a massive die-off". In a similar way, a 1972 bestseller in Britain, *A Blueprint for Survival*, warned of the inevitability, if current trends persisted, of "the breakdown of society and the irreversible disruption of life-support systems on this planet" (2006: 125).
 12. As Earth First! co-founder Dave Foreman remarked in a 1984 speech: "In just a few generations, we and our forebears have taken the most magnificent and diverse of all the continents on Earth — in essence, the Pleistocene, with its great flowering of large animals, those thundering herds of biomass — and we have turned it into freeways and condominiums and Pac-Man and Pop Tarts. And we call that *progress*. We call that *civilization*" (Foreman, quoted in Lee, 1995: 84; emphasis in original). For Foreman, by defending the wilderness, Earth First!ers "could restore the Pleistocene, and in so doing redeem themselves" (Lee, 1995: 84).
 13. In the radical environmentalism of Christopher Manes, who published articles in *Earth First!*, human overpopulation is a problem that needs to be solved. Writing under the pseudonym Miss Ann Thropy, Manes argued that the "only real hope for the continuation of diverse ecosystems" was "an enormous decline in the human population". Believing when he made this argument that AIDS had the potential to quickly reduce the human population, Manes wrote that "if the AIDS epidemic didn't exist, radical environmentalists would have to invent [it]". To Manes, not only did AIDS have the potential to drastically reduce the human population without harming other species, but because of its incubation period one infected individual could spread the virus to many others before dying; moreover, the fact that AIDS is sexually

- transmitted was an advantage since sexual activity is “the most difficult human behavior to control” (Manes, quoted in Lee, 1995: 102–3; emphasis in original). Later answering the charge that he was an “eco-fascist”, Manes reiterated his biocentric belief that “what matters is [...] wilderness” (Manes, quoted in Lee, 1995: 109–10; emphasis in original; see also Manes, 1990: 231–4).
14. In his well-known 1994 book, *The Hot Zone*, Richard Preston argued that the emergence of viruses like AIDS and Ebola “appears to be a natural consequence of the ruin of the tropical biosphere” (1994: 287). To Preston, the spread of such viruses through human populations is nature’s way of defending itself: “In a sense, the earth is mounting an immune response against the human species. It is beginning to react to the human parasite, the flooding infection of people, the dead spots of concrete all over the planet, the cancerous rot-outs in Europe, Japan, and the United States, thick with replicating primates, the colonies enlarging and spreading and threatening to shock the biosphere with mass extinctions. [...] The earth’s immune system, so to speak, has recognized the presence of the human species and is starting to kick in. The earth is attempting to rid itself of an infection by the human parasite” (1994: 287–8).
 15. For example, Shuli Barzilai (2013) draws a connection between H. G. Wells’s mad scientist figure Doctor Moreau and Atwood’s Crake, while Sharon Wilson (2013) and Karen Stein (2010) compare Crake to Dr. Frankenstein.
 16. As Atwood explains, “*Utopia* is a word I made up by combining utopia and dystopia — the imagined perfect society and its opposite — because, in my view, each contains a latent version of the other” (2011: 66). Calling her *MaddAddam* works “ustopias”, Atwood states that in *Oryx and Crake* she offers “a little attempt at utopia” in her account of the Crakers, while she embeds a utopia within *The Year of the Flood*’s dystopian world in her account of the God’s Gardeners (2011: 91; 93). Commenting on the open-ended closures of the first two works of her trilogy, Atwood remarks that readers of *Oryx and Crake* and *The Year of the Flood* are left to speculate on whether or not the human survivors of Crake’s plague represent a “dystopic threat” to the “tiny utopia” being formed by Crake’s genetically modified “New Humans” (2011: 93).

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