

## Introduction

In September 2019, police arrested a 91-year-old man for blocking traffic on the A20 near Dover as part of an Extinction Rebellion protest against rising global temperatures and food insecurity. He told the reporter Emma Birchley that “the reason he was in Dover was because it was his generation that had caused the damage that led to climate change.” His internalized guilt reflects a popular strand of environmentalist rhetoric that exploits generational tensions.<sup>1</sup> These tensions resonate in António Guterres’s (2019) speech (in his capacity as United Nations Secretary-General) at the Youth Climate Summit: “My generation has largely failed until now to preserve both justice in the world and to preserve the planet.” Yet this narrative of a “guilty” generation relies upon stereotypes that situate older people as a homogenous group, careless of how their consumption habits impact the planet. In contrast, media coverage on climate change centers younger people as both activists and victims: Guterres continues by addressing youth, “It is your generation that must make us [older people] be accountable to make sure that we don’t betray the future of humankind.” For many, the urgency of climate change arises from the way it renders the future precarious for children alive and yet unborn;<sup>2</sup> in this narrative, older people tend to occupy the position of either the unscrupulous villain or the guilty ally. Where the unspent years of youth take the symbolic form of futurity, the accumulated years of the older person stand in for a past that continues to exert toxic agency over the present and future. Bill McKibben, the founder of the activist group for individuals over sixty called Third Age, rationalizes his demonstrations against bank investment in fossil fuels as a form of generational reparation: “If you’re 65 now, you’ve been on this planet for something like 80 percent of the carbon dioxide that’s ever been emitted. . . . There’s a debt to be paid, and there are ways to pay it” (Joselow). Suffused with the negative connotations of decline, older people take the fearsome shape of our extractive modernity, forming the planetary commons into the image of their own senescence. Now, both the planet and the older agents of environmental ruin share a dystopian fate, poised before the imminence of extinction.

Situating older people as the cause of the climate crisis draws on a long history of alarmist demography that represents older people as natural disasters.

<sup>1</sup> If an older person receives media attention for activism, age often overwhelms the message. The headline from the Sky News account of the Dover arrest – “Extinction Rebellion: 91-year-old climate protester arrested near port of Dover” – arises from the sensationalized incongruity of a 91-year-old in custody rather than the content of the protest or controversy about method.

<sup>2</sup> On the United Nations website, they observe that “Climate change has increased levels of uncertainty about our future. As its impacts intensify over time, one thing has become certain: We will leave the Earth to today’s children and young people, and to future generations.”

Age studies scholars such as Margaret Cruikshank (2009: 26–7) note the use of “disaster metaphors” such as the “flood,” “avalanche,” “tsunamis,” and “icebergs” to stoke fear of an aging “society that lies just ahead.” Drawing on the figure of the “grey tsunami” of older people in recent journalism, Andrea Charise (2012: 3) writes,

This ominous rhetoric of rising, swamping, tides, and disease – amplified by the authoritative tones of medical and health policy expertise – conceives of population aging as an imminent catastrophe. Conceived en masse, the elderly are naturalized as a liquid cataclysm whose volume exceeds the nation’s ability to contain, or even guard against, an abstracted human burden.

Older people have come to take on the destructive force of geologic and climatic proportions. Proscribed from the narrative of modern development as a burden, older people are, nevertheless, represented as a return of the repressed: the rising sea level made flesh. As a demographic group, older people absorb our collective ecological guilt: the threat of older age to progress, modernity, and capital paradoxically takes on the symbolic form of the environmental impacts of the processes they are imagined forestalling.

This figuration of older people as natural disasters gains force, in part, by the pervasive belief that our current climate crisis is a result of the depredations of previous generations. The imagery of tsunamis and floods registers the belief that older people are the greedy architects of the coming apocalypse, careless of a future planet that they will not experience. Research on the relations between older age and climate change sometimes reproduces this bias. A report from the Stockholm Environmental Institute (Haq, Brown, and Hards 2010: v) reports that “While older people are concerned about climate change, they do not feel they will be directly affected. Nor do they feel they can personally take action to stop it.” Baby boomers, they note, “have the highest carbon footprint of any other age group” at 13.5 CO<sub>2</sub> tons/per capita while seniors (between the ages of sixty-five and seventy-four) have the second highest at 12.9 CO<sub>2</sub> tons/per capita (3). The discourse of climate change contributes to an idiomatic form of alarmist demography regarding older people: the size of their carbon footprint translates the demographic block into the disasters they are imagined causing.

Yet even as older people are posited as the cause and imaginatively take the shape of the disaster, they are also registered as vulnerable. In the same report from the Stockholm Environmental Institute, the authors note, “Older people may be physically, financially and emotionally less resilient to the effects of climate change” (v). Another report, “Climate Change in an Ageing World” (Byrne et al. 2015: 4), suggests that older people are often the first victims of environmental disasters:

Older people tend to experience greater impacts from flood events and a greater incidence of flood-related disease and higher rates of mortality. Floods often result in higher mortality rates among older people than other age groups due to direct causes such as drowning, in addition to secondary health impacts, such as hypothermia and heart problems... There is growing evidence from national disaster loss data that older people are disproportionately more likely to die as a result of typhoons due to mobility difficulties, lack of evacuation assistance and inappropriate evacuation facilities, and disrupted access to essential health and medical support.

The representation of older people as cause and embodiment of climate catastrophe overlaps with their vulnerability to the environmental conditions they are accused of creating. While the tendency toward blame and vulnerability are not logically incompatible, this dynamic has given rise to a cultural narrative that frames older people as the instigator of intractable social and economic problems. The recriminatory structure of feeling that arises from this cultural framing – a deep sense of unfairness across generations, grudging allocation of welfare for “guilty” seniors, and a bitter sense of having to clean up someone else’s mess – positions older people as a destructive force that threatens the integrity of the planet as a whole.<sup>3</sup>

To some, the potential future that younger people stand to lose with a changing climate justifies the stigmatization of older people: if it takes the creation of a scapegoat to energize public opinion and policy, so be it. Others might not go so far but remain suspicious of a demographic group with less “skin in the game” than the younger generation. Martha Nussbaum and Saul Levmore (2017: 190) remain tethered to a problematic model of generational warfare that stereotypes older people as incapable of sympathizing with the future: “Climate change policy is about aging in the sense that questions of intergenerational equity can pit aging citizens against younger ones. The disasters that are projected by climate change modes are by and large things that someone now in his or her sixties will not experience. It is no wonder that schoolchildren care much more about the topic than do members of their grandparent’s generation.” While acknowledging the importance of experience-based commitments, I cannot agree with what, in my view, devalues the lives of older people by linking their imaginative and sympathetic potential to the time they are expected to live. As I note above, older people receive blame for rising temperatures while they are also vulnerable to the global effects of a changing

<sup>3</sup> The ageism that pervades contemporary culture evolved from a nineteenth-century idiom of Malthusian scarcity where older people were imagined to parasitically sap the vitality of the social body. In *The Aesthetics of Senescence*, Andrea Charise (2020: xxv) suggests that “After Malthus, aging began to acquire an unfamiliar biopolitical overlay” that “recast aging as a *state* of life, fluid and unstable, and inseparable from the broader health and future of society.”

climate. If we do not accept these as sufficient reasons for informing one's politics at an experiential level, then we unfairly stigmatize or infantilize older people based on our own unacknowledged ageist prejudices. By failing to take seriously the relation between older age and the environment, scholars participate in the denialism of a Western cult of youth that privileges strength, virility, fertility, family values, individualism, and ableism.<sup>4</sup> Thus, when the figure of youth occupies the cynosure of environmental reform, it tends to draw the cultural values of youth into a sphere of protection when these values are, in fact, the ones most in need of critique. Thus, I propose a senescent environmentalism to critique the manifold ways that youth shapes the teleology of environmental reparation and recuperate older age as a life stage that inspires alternative models of futurity.

In her work situating old age as a cultural construct, the age studies scholar Margaret Gullette (2004: 13) argues that decline ideology has shaped the “authoritative narrative” about the process of growing old. The decline narrative emphasizes subtraction over time: strength is replaced by weakness and frailty, memory with forgetfulness and disorientation, youthful beauty with wrinkles and mottled skin. “[D]ecline’s emphasis,” she writes, “falls like a bludgeon on what excludes old people from the human majority: weakness, closeness to mortality” (2017: 13). Opposed to the hegemony of decline, Gullette (2004: 17) proposes associating older age with the “progress narrative,” or “stories in which the implicit meanings of aging run from survival, resilience, recovery, and development, all the way up to collective resistance to decline forces.” Gullette’s arguments about age resonate with what Ursula Heise (2016: 8) has called “the environmentalist rhetoric of decline.” By this she refers to “the idea that modern society has degraded a natural world that used to be beautiful, harmonious, and self-sustaining and that might disappear completely if modern humans do not change their way of life” (7). In contrast to Gullette, Heise resists turning to the rhetoric of “progress boosterism”: “Is it possible to acknowledge the realities of large-scale species extinction and yet to move beyond mourning, melancholia, and nostalgia to a more affirmative vision of our biological future?” (12, 13). Both Gullette’s work on older age and Heise’s work on the extinction of non-human species attests to a shared investment in narrative and time: though they function at vastly different scales, the narrative we use to shape the arc of a human life draws upon the same structural and ideological conventions as the narrative we use to represent the planet.

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<sup>4</sup> I appreciate the feedback from the anonymous reader of this manuscript, who encouraged me to engage more deeply with the status of youth in Western culture.

The concerns of age studies have remained largely distinct from the concerns of the environmental humanities.<sup>5</sup> The lack of intersection arises, in part, from a mismatch of scale and time. Where youth occupies a privileged place in the environmental imaginary, urging us to act quickly on climate change to ensure that all young people will have a place to dwell in the future, age studies urges our attention to the overlooked experience of older age and the life course as a whole. Where age studies scholars tend to focus on more immediate institutional and domestic contexts – the intersubjective space of the care home, the latent ageism of medical triage, the inaccessibility of our homes and social spaces – ecocritics often use the analysis of a specific instance as a means of addressing problems on a massive scale: the impact of human intervention on millions of years of geological development, the acceleration of mass extinctions, the effects of climate change on the livelihood of marginalized people across the globe. In bringing the two disciplines into dialogue around narrative, this Element grapples with the productive dissonance that arises when the timescales of human aging and the planet briefly overlap. How does the intimate experience of growing older inform the way we understand the macrocosmic timescale of the planet? How does environmentalist discourse conjure urgency by framing the warming planet as decrepit and frail, metaphorically near the end of life? Can a senescent environmentalism help us to articulate new solutions to the manifold problems afflicting our planet?

To answer these questions that arise at the intersection of age and the environment, I focus on the sterility dystopia: a subgenre of science fiction where a global inability to have children results in aging populations and societal collapse.<sup>6</sup> Though usually not specified intradiegetically, the cause of universal infertility is tacitly connected to human influence: industrial pollution, genetic manipulation, nuclear testing, and so on. Significant works in the genre include Cousin de Grainville's *The Last Man* ([1805] 2002), Brian Aldiss's *Greybeard* ([1964] 2011), Margaret Atwood's *The Handmaid's Tale* ([1985] 1996), Octavia Butler's trilogy *Lilith's Brood* ([1987–9] 2007), P. D. James's

<sup>5</sup> Some recent scholarship has emerged at the intersection of age studies and ecocriticism, led by Kathleen Woodward. I discuss her (2020) article “Ageing in the Anthropocene” in my section “Queer Genre/ations” below, but she has also published an essay in 2022 titled “Old Trees Are Our Parents.” Kristi McKim's (2022) “‘Always the Same and Ever New’: Clouds, Aging, and Climatology in *Clouds of Sils Maria*” also attests to a burgeoning interest in the possibilities that arise at the intersection of the two fields.

<sup>6</sup> The sterility dystopia is an aspect of what Andreu Domingo (2008: 725) has called the “demo-dystopias,” or dystopias that make “demographic change or that make population matters a salient concern.” His work helps to historicize the rise of the sterility dystopia: the “social definition of youth and old age radically changed during the twentieth century. Youth lasts longer; old age sets in later. . . . These changes are reflected in the shifting treatment of youth and old age in the dystopias written over the decades since the 1960s” (733).

*The Children of Men* ([1992] 2018), and Louise Erdrich's *Future Home of the Living God* (2017). Arising from declining fertility rates and the specter of depopulation in advanced industrial nations, the sterility dystopia expresses the demographic fear arising from the relative shift in younger and older populations – not of a world lacking children, as we might expect, but of one catastrophized by the overabundance of the old and aging. Through its exploration of this demographic transformation, the novels in this genre tend to address the following: how to manage existential dread when confronting the lack of an anthropocentric future; how the bonds of society and political ideologies warp when confronted with demographic changes that disrupt the economic status quo; how crisis inspires the swift reversion to tyranny and prejudice. In contrast to other forms of writing on the demographics of the Anthropocene – ranging from popular non-fiction to scholarly articles and monographs – the sterility dystopia brings the reader into a thrilling anticipation of the end of humanity, giving imaginative shape to fears that might otherwise remain an amorphous, dull dread of imminent calamity.

The first section of this Element, “Revelations for an Aging Planet,” traces a historical narrative that links anthropogenic climate change to the development of “modern” attitudes toward aging. Beginning in the nineteenth century, anxieties about a surplus older population contributed to and amplified fears about the scarcity of planetary resources. I suggest that the last-man narratives of Jean-Baptiste Cousin de Grainville and Mary Shelley represent an epochal shift in the imagination of how older age impacted the environment and set the groundwork for the sterility dystopias I analyze in the sections that follow. The second section, “Queer Genre/ations,” examines the role of generational futurity in constructing existential and social value. While the passage of generations is one way to imagine temporal scale beyond the limits of the individual human lifespan, it also relies upon problematic heteronormative assumptions. Through a reading of P. D. James's *The Children of Men*, I argue that the sterility dystopia problematizes the future orientation of the science fiction genre by redirecting our attention to intergenerational kinship. Privileging contingency, extended immediacy, and temporal neutrality, intergenerational kinship contests the hegemony of generational futurity and challenges the slow, nearly invisible transformations that funnel “progress” to the privileged elite at the expense of marginalized groups. The third section, “Senescent Futurity,” focuses on the role of temporality and reproduction in regimes of racialized, gendered, and environmental violence. Taking Louise Erdrich's *Future Home of the Living God* as a case study, I theorize a relational, kinship model of temporality that I call “senescent futurity,” a relation to the future that draws upon Indigenous aging to activate our sense of care and

responsibility – not only to marginalized older people as a living symbol of that futurity, but to the older self we might one day become.

In its attenuation of youth and generational progress, the sterility dystopia entangles the end of the world with the end of life: the reader grapples with their own fears about the future alongside the distraught characters. Yet these novels do more than conjure dread. My close readings reveal the genre's investment in critiquing the way Western culture sutures the future to the reproduction of youthful, able bodies. In asking us to reckon with a senescent futurity, the sterility dystopia reveals that the "Future" in peril is only one possible future among many. The genre subtly displaces its horror, which does not arise from the lack of children, but from the tyrannical coupling of children with futurity. This coupling works against the very "Future" of the liberal society that holds it dear, as the figure of the child rationalizes the accumulative drive ("to create a more prosperous future") more often than it inspires a reparative one ("to create a more sustainable future"). More horrifyingly, however, the coupling of children with futurity nullifies all other possible futures: senescent futures, queer futures, Indigenous futures. This Element draws on literature as a form where these impossible futures effervesce into alternative social configurations that offer the possibility of dwelling and aging in more sustainable ways. The sterility dystopia makes a senescent future visible by suspending the ability to conceive children: older age serves as the limit case for imagining a future poised before the end, which makes the genre a timely way to reconceptualize our collective orientation toward impending environmental catastrophe.

### Revelations for an Aging Planet

In a 2000 article in the *Global Change Newsletter*, Paul Crutzen and Eugene Stoermer proposed the term Anthropocene to define a new geologic epoch where environmental change was driven by anthropogenic causes. Through industrial agriculture, the burning of fossil fuels, the release of chlorofluorocarbons into the atmosphere, and the destruction of ecosystems and concomitant extinction of species, humans have come to rival "some of the great forces of Nature in [our] impact on the functioning of the Earth system" (Crutzen et al. 2011: 843). Through these actions, humans have accelerated the process of global warming and triggered increasingly devastating climatic events: melting ice caps and rising sea levels, soaring temperatures, volatile and extreme weather, droughts in South Africa, wildfires across the west coast of the United States. The late eighteenth and early nineteenth centuries play an important role in Crutzen's and Stoermer's account, as they posit the beginning of the Anthropocene with James Watt's development of the steam engine in

1784.<sup>7</sup> But some scholars have questioned the Anthropocene concept, troubling both its historical narrative and the centrality of *anthropos* to the term: Jason Moore's (2015: 176) Capitalocene replaces a Eurocentric focus on "well-worn notions of resource- and technological-determinism" with the history of "the endless accumulation of capital" that began in the long sixteenth century. Donna Haraway's (2016b: 557) Plantationocene, which "makes one pay attention to the historical relocations of the substances of living and dying around the Earth as a necessary prerequisite to their extraction," also expands the historical narrative to the global networks of the sixteenth century. The Anthropocene and the other epoch making -ocenes that followed in its wake serve as interfaces for revealing the profound effects of certain humans (primarily white, male, capitalists) on the planet.

This section suggests that, alongside the anthropogenic focus on the industrial modernity of the nineteenth century, older populations were imbued with a newly devastating capacity to affect the functioning of society and, eventually, the planet as a whole.<sup>8</sup> For scholars of age, the nineteenth century marked a turning point in the cultural significance and institutional place of older age. Stephen Katz (1996: 76) writes that "pensions and retirement, and the social survey, together with the modern discourses of reform, the life-course regime, and alarmist demography" made the "elderly" newly visible "as an unproductive, dependent, and incapacitated population" (66). Older people became "a social problem requiring governmental response" (26). For Karen Chase (2009: 102), the Victorian drive to classify and define "old age" resulted in the nineteenth-century "invention of the elderly subject" – making the later years of life newly available for medical and juridical scrutiny. The new visibility of older age occurred against the backdrop of unprecedented demographic change as populations exploded across Europe: R. I. Woods (1996: 298) observes that from 1801 to 1901 the population in Britain grew from 8.8 million to over 32 million (for comparison, there was an estimated 4.4 million in 1601).

<sup>7</sup> As Jeremy Davies writes in *The Birth of the Anthropocene* (2016: 16), "three-tenths of the current CO<sub>2</sub> level is attributable to the development of industrial society since the late eighteenth century." Timothy Morton (2013: 7) similarly attributes the beginning of the Anthropocene to 1784: "It was April 1784, when James Watt patented the steam engine, an act that commence the depositing of carbon in Earth's crust – namely, the inception of humanity as geophysical force on a planetary scale."

<sup>8</sup> It is essential to acknowledge the profound geographic unevenness of the Anthropocene. This social and economic organization of life toward ever-increasing productivity and consumption, which found an early, forceful expression in nineteenth-century Britain, found idiosyncratic forms across the globe and at different times. As the transition to an industrial economy radically reshaped attitudes toward human aging, resistance to this narrative was registered most strongly by non-Western and Indigenous people, who often retained stronger intergenerational links and societal roles for older people. I will go on to explore this in the section "Senescent Futurity" below.

Nicholas Daly (2015: 1, 4) writes that as “life for most people began to be longer and more predictable” “ageing and longevity become a recurring source of interest.” The growth of older populations was also a source of irrational fear. While the population of older people increased over the course of the nineteenth century, the proportion of older people to young decreased.<sup>9</sup> Despite this demographic shift toward youth, older people – newly homogenized and subject to discourses of knowledge and power – became increasingly stigmatized as a non-productive burden on the economy.

A series of legislative and institutional changes in nineteenth-century British society both responded to and helped to shape the older population as a destructive demographic force. The most significant was the passage of the New Poor Law in 1834, which registered the fear that older people were burdens to society that stalled economic growth. In response to the problem of older age pauperism, the New Poor Law transitioned away from a system of outdoor relief (where funds were, sometimes, allocated to the “deserving” poor) to a centralized system where the older poor were deposited in workhouses. The workhouses, Pat Thane writes (2000: 166), were “embedded in the consciousness of poor people of all ages as pitiless ‘bastilles’.” As a deterrent against relying on state aid, the workhouses were a resounding success and after “1871 the percentage of people receiving poor relief (indoor and out, regular and irregular) fell” (171). Exiling the surplus older population to workhouses amplified the view of older people as a burden and drain to society, grafting the process of growing older onto a narrative of economic and environmental decline. Diana Coole (2012: 61) writes that

Ideas about the nature of work, productivity and the life cycle that still structure definitions of the elderly were forged in an earlier era of industrial capitalism and are now arguably obsolete. It was in that context that new rituals, roles and identities associated with a specifically modern life cycle were constructed, alongside ... the distinction between productive and unproductive labour that has remained central to modern economics and to the problematization of aging ever since.

While the historical conditions that “modernized” aging have changed, the social institutions and cultural narratives that arose to account for growing older remain powerful realities, though they have evolved in relation to our present crises. Nineteenth-century discourse did not imbue older age with the sting of environmental blame and generational guilt that has characterized its

<sup>9</sup> Ina Ferris summarizes Malthus’s anxieties about Ireland: “Quite literally, the margins of the nation begin to press on the centre, assuming a frightening gigantism, and the population-fact begins to exceed its strictly economic dimensions” (33).

representation in the twenty-first century. But the recriminatory structure of feeling has remained the same – translated from a nineteenth-century idiom of Malthusian scarcity where older people parasitically sapped the vitality of the social body to our current idiom of older people as a destructive force that threatens the integrity of the planet as a whole.

Thomas Malthus's *An Essay on the Principle of Population* (1798) plays an important role in this narrative of nineteenth-century demographics. In *The Aesthetics of Senescence*, Andrea Charise (2020: xxv) suggests that “After Malthus, aging began to acquire an unfamiliar biopolitical overlay” that “recast aging as a *state* of life, fluid and unstable, and inseparable from the broader health and future of society.” Malthus’s dire warnings of unchecked population growth – attributed, in part, to the moral failures of the working classes – also implied that youthful, reproductive bodies were to blame for demographic disaster: “Malthusian anxieties about population linked youth to an apocalyptic view of reproduction, viewing reproductive capacity less an antidote to national decline than its ominous, destructive wellspring” (34). Charise turns to Mary Shelley’s *The Last Man* as a text that frames senescence as a “socially renovating” means of controlling youthful profligacy (53): “the recuperative potential of older age,” Charise writes, “becomes the means by which community can be cultivated in the midst of the Malthusian crisis” (55–6). Contrasted against the youthful impulsivity and individualism that undergirds irrational population expansion, Shelley presents an image of older age that is “a viable, therapeutic, even consummate state of embodiment” that enables a sense of communal responsibility (35).

Building on Charise’s work, this section takes a broader look at the proliferation of last-man narratives at the beginning of the nineteenth century, beginning with Cousin de Grainville’s *The Last Man* and ending with Shelley’s volume. These narratives set up the extinction of humanity against the backdrop of an environment that reflects (in the case of Grainville) or contrasts (in Shelley) the caducity of the species. In Grainville’s depopulating world, universal infertility arises from the wrath of God and the depredations of human industry. The two remaining fertile people on earth are forced to make a choice – preserve the species or follow the will of God and trigger the apocalypse. While the latter choice results in the end of time and the extinction of all life, it allows the faithful dead to enjoy an eternal existence where temporal distinctions no longer signify. The planet – personified in the novel through the Spirit of the Earth – struggles for existence amid this battle between past and future generations. Though Shelley’s *The Last Man* is not a sterility dystopia in the strict sense of the term, as human extinction arises from the plague rather than infertility, the novel deploys the themes of intergenerational