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Conciliando o papel duplo dos humanos como seres biológicos e agentes geológicos no Antropoceno em *Weather*, de Jenny Offill

Coming to Terms with Humans' Double Role as Biological Beings and Geological Agents in the Anthropocene in Jenny Offill's Weather

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Resumo: O Antropoceno, a proposta geológica para nomear a presente Época e descrever o enorme impacto dos humanos na biosfera, precipitou uma mudança na forma com que os humanos compreendem a si mesmos. Não mais apenas um agente biológico, o humano é agora (também) um agente geológico, capaz de alterar os sistemas da Terra da mesma forma que as grandes catástrofes naturais o fazem, como enormes erupções vulcânicas, o impacto de grandes meteoros e o movimento de placas tectônicas. Em *Weather* (2020), da autora americana Jenny Offill, acompanhamos Lizzie, uma bibliotecária, na jornada de chaveamento cognitivo que a leva a refletir sobre seu papel no desenrolar de eventos como a crise climática, a sexta extinção em massa, o aumento do nível dos mares, entre outros. Neste artigo, exploro tanto a transição de Lizzie no romance quanto o papel da ficção realista em discutir a categoria praticamente impossível do Antropoceno.

Palavras-chave: Antropoceno; Mudanças Climáticas; Jenny Offill; Literatura Climática.

Abstract: The Anthropocene, the geological proposition to name the current Epoch and to describe the massive impact of the human on the biosphere, has precipitated a shift in the way humans understand themselves. No longer only a biological agent, the human is now (also) a geological agent, capable of altering the Earth's systems in much the same way as great natural catastrophes do, such as great volcanic eruptions, the impact of large meteors and tectonic shifts. In *Weather* (2020), by American author Jenny Offill, we follow Lizzie, a librarian, in her journey through the cognitive shift that leads her to ponder her role in the unravelling of events such as the climate crisis, the sixth mass extinction, and seawater rise, to name a few. In this paper, I explore both the cognitive transition of Lizzie in the novel and the role of realistic fiction in tackling the nearly impossible category of the Anthropocene.

Keywords: Anthropocene; Climate Change; Jenny Offill; Cli-fi.

> It doesn't stop; every morning it begins all over again. One day, it's rising water levels; the next, it's soil erosion; by evening, it's the glaciers melting faster and faster; on the 8 p.m. news, between two reports on war crimes, we learn that thousands of species are about to disappear before they have even been properly identified.
>
> (LATOUR, 2017)

Introduction: Once There was the Human, a Biological Agent

In the epigraph to Jenny Offill's novel *Weather* (2020), one reads "NOTES FROM A TOWN MEETING IN MILFORD, CONNECTICUT, 1640: Voted, that the earth is the Lord's and the fullness thereof; voted, that the earth is given to the Saints; voted, that we are the Saints" (no page, capital letters in the original). The quote sets the tone for the pages to come, in which the main character, Lizzie, who is also the narrator, gains consciousness of the impact of human actions on the biosphere. The humans, the Saints who wander the Earth with the hubris of landlords, are successfully pushing forward the sixth great extinction, freshwater depletion, climate change, ocean acidification, leading life systems to the tipping point and setting up the scenario for other biological and social catastrophes. Coming to terms with such dire facts is what leads Lizzie to a change in perspective, and I argue that, throughout her consciousness-raising journey, she gains insight into the shift of the human from biological agent to geological agent. In order to pursue this perspective transition, I will first briefly tackle the notion of the Anthropocene and the flourishing of discussions on the limits and possibilities of realistic fiction in addressing some of the most pressing issues in our changing world.

Weather is a novel about coming to terms with anthropogenic, that is, human-caused impacts to the world as witnessed by the character Lizzie. She is a librarian, a mother (to Eli), and a Ph.D. dropout. She is married to Ben, a Ph.D. in classics who, after running into an unwelcoming job market, becomes a videogame programmer. Lizzie also has a brother, Henry, who is an addict, and she watches over him like a mother, always fearful for his life, while he himself becomes a father in the course the story. Sylvia, Lizzie's former Ph.D. advisor, hosts a podcast called *Hell and High Water*,

which is a huge success among audiences across the political spectrum, from the left's most hard-core environmentalists to the right's denialists and evangelical Rapture-doomers. The show receives an enormous amount of mail from listeners, far beyond what Sylvia can manage, and she invites Lizzie to help her reply to it and to accompany her on some of the lectures and fundraising events she needs to attend. The podcast is about the ongoing and impending catastrophes that have a hand of the human in them, and Lizzie puts it that it is nice listening to Sylvia's show, "even though she talks only of the invisible horsemen galloping toward us" (OFFILL, 2020, p. 10).

As in the epigraph that opens this paper, where Bruno Latour (2017) describes the speed with which the climatic crisis is evolving, when Lizzie accepts the invitation to reply to Sylvia's mail, she descends into the throes of the very disturbing science of climate change and the doom that is tethered to the anthropogenic effects on the bio and social spheres. As a work of literature, *Weather* defies the overly descriptive, realistic narrative. Offill construes a story in which short paragraphs and minimal space depictions work as self-contained thoughts that are akin to how the mind itself works – chaotically, in a non-linear fashion, as the weather itself, and ever-changing. In the context of climate change, calling a novel *Weather* is symbolic. Oftentimes a distinction must be made between climate and weather, with time being the key factor in the difference between them. While weather is the manifestation of atmospheric conditions over a brief length of time, in what we call climate these conditions manifest over longer portions of time (JOHNS-PUTRA & GOODBODY, 2019).

The Holocene, which dates back to roughly ten thousand years ago, is precisely characterized by the stabilization of the climate in which humans have been able to develop agriculture and settle in determined places for civilizations to grow (ZALASIEWICZ *et al*., 2014). Humans have altered the Earth and its systems to such an extent that the graphs that illustrate the concentration of greenhouse gases in the atmosphere since the mid-twentieth century look more like a weather chart, with an astonishing jump from then to now, than a climate one, but no pronouncements have yet been made as to when the Anthropocene officially began.

When it comes to the possible beginning of the Anthropocene, the Anthropocene Working Group (AWG) considers three main inauguration dates. The first, which has been termed "early Anthropocene," coincides with the spread of agriculture, between 2000 years BP (before present) and

3700 years BP; or even all the way back to the late Pleistocene, around 11,700 years ago, with the "extinction of large mammals" by humans, which, in its turn, affected the vegetation (ZALASIEWICZ *et al*., 2014, p. 3). The second date coincides with the industrial revolution, when we humans began to employ fossil fuels at a large scale to potentialize human-power and turn it into machine-power. The problem with this second date is that emissions are not, on a global scale, uniformly present in the strata, the rocks upon which geologic Periods, Epochs, and Eras are grounded. That is where the evidence of global events is registered; the narrative of the Earth is literally engraved in stone.

In the third proposed date, however, in the Great Acceleration period of the twentieth century, which begins at around the end of WWII, evidence of human activity is easily identified in the strata. The rise in emissions of greenhouse gases is one of the elements that can be seen in the strata, as is the nuclear fallout from the over five hundred nuclear bombs that were exploded since the first nuclear bomb test in Alamogordo, New Mexico, in 1945. Plastic, aluminum, the construction of roads and dams are among the elements that have come to alter the climate, promote the acidification of the oceans, and play a part in provoking the sixth great mass extinction that is now under way (ZALASIEWICZ *et al*., 2014). Key to the nomenclature of the Anthropocene, of course, is that it implies that the undesirable changes happening to the biosphere are of our doing.

With events of such magnitude coursing through and effecting changes to the bio and social spheres, Dipesh Chakrabarty (2009) argues that one of the cognitive challenges the human faces right now involves coming to terms with our collective role as geological agents. Unlike the meteor that crashed onto Earth 66 million years ago and possibly led the dinosaurs to extinction, we humans have a conscience and are able to recognize the impact of our actions. Or are we? We seem to more easily, rather, have conscience of our individual actions (and not always, by no means), but we struggle to come to terms with the consequences of our collective ones; especially in the Anthropocene, Chakrabarty suggests.

To have consciousness of our collective actions requires the stretching of one's imagination to scales we are not habituated with, Chakrabarty argues, and for a number of reasons. Among them is the fact that we have come to think of ourselves as biological beings, often incapable of doing much harm to systems of great magnitude. Take Paul Crutzen

(2014), for example, one of the chemists who, in 2000, alongside Eugene Stoermer, proposed the term Anthropocene. He argues that, in the 1970s, when an ecological awareness was beginning to bloom in certain areas of the sciences, nature was taken by most scientists to be so incredibly vast that a commonly held belief among them was that human actions could by no means produce the effects that are currently so blatant, such as climate change, freshwater depletion, and land use, to name a few. The realization that our actions, summed up over space and time, has rendered us the role of geological agents is extremely recent and precarious.

As Chakrabarty and many others[1] have pointed out, the human of the Anthropocene is not at all an easily identifiable one, and the task of seeing oneself as a geological agent is far from simple. Chakrabarty (2009), himself a historian, explains that the discipline of history has conventionally focused on human history, leaving the matters of deep time and natural history to scientists, to geologists. The changes promoted to nature by the hands of humans has troubled the borders of the discipline of history, as humans are now enmeshed with the natural world in ways that, since at least the Enlightenment, when the official break of the human from nature was, in a sense, made official by Descartes's philosophy, they were not. The environmental historians, therefore, are concerned with the tensions between humans and the natural world. Still, these environmental historians, Chakrabarty puts forth, have tended to see humans as "biological agents" (2009, p. 205). In the eyes of climate change scholars, however, humans are no longer simply biological agents, but geological ones too (p. 206).

The intellectual exercise that is required of us in order to accommodate to this new figuration of the human is unprecedented. According to Chakrabarty (2009, p. 206-207):

> Humans are biological agents, both collectively and as individuals. They have always been so. There was no point in human history when humans were not biological agents. But we can become geological agents only historically and collectively, that is, when we have reached numbers and invented technologies that are on a scale large enough

[1] For an enlightening discussion on the human of the Anthropocene, see the collection of essays *Anthropocene Feminisms*, edited by Richard Grusin in 2017, published by the University of Minnesota Press, where Stacy Alaimo, Rosi Braidotti, and others explore this challenging question.

> to have an impact on the planet itself. […] Humans began to acquire this agency only since the Industrial Revolution, but the process really picked up in the second half of the twentieth century. Humans have become geological agents very recently in human history. In that sense, we can say that it is only very recently that the distinction between human and natural histories – much of which had been preserved even in environmental histories that saw the two entities in interaction – has begun to collapse.

The challenge is one of scale and import. What Chakrabarty (2009, p. 208) calls the calendars of the human, especially of the human who has acquired the role of geological agent, and of the natural world, are too far apart. The combination of the time of the world, with its 4,6 billion years of existence, and the time of the human as a geological force, leads to a cognitive disconnect in the human because there is no precedent of the human as a force of such magnitude in either human or natural history. Additionally, humans are not evenly responsible, across the globe, for this change in status in the first place. Colonial powers, the capitalist economic paradigm, the Western standard of consumption that was inaugurated in the mid-twentieth century, all of these events and systems play into the daunting task of identifying and troubling the human as a biological and geological agent in the Anthropocene.

Weather is thus an ingenious title because it renders what the novel is and what is does: it is a slice of Lizzie's life represented, embedded in vast, deep time, a time we hardly consider as belonging to. The novel conveys the dawning of reality that many of us have come to bear as the *sine qua non* of our age, the reality of climate change. Weather is a result of the changing climate that has come, as in Superstorm Sandy, and that will come, as Lizzie comes across the current data on climate change that says that "New York will begin to experience dramatic, life-altering temperatures by 2047" (OFFILL, 2020, p. 106). Whether one comes across first with the science or the reality of climate change, it will cross one's way in this lifetime, either matter-of-factly, as a result of suffering its implications, or through the news.

The aforementioned structure of the narrative, with short paragraphs that are often disconnected and offer a very brief portrayal of what is at stake at that precise moment are also like the clouds that manifest the weather and the way in which meditation instructors refer to thoughts[2]. In fact, Buddhist

[2] Pema Chödrön, for instance, often refers to thoughts as the clouds that obscure our access to the sun, which symbolically represents the basic goodness of living beings. For more

meditation and practice play a role in the narrative. Lizzie's shrink, Margot, is a Buddhist meditation instructor who keeps on inviting her to take part in the meditation and group discussion sessions. When she eventually accepts and joins the group, what she learns informs an understanding of the world that allows Lizzie to come to terms with the newly acquired conscience of us humans as geological agents. I will go back to this later in the argument.

As mentioned elsewhere, in this paper I explore Lizzie's process of gaining insight into our transition from biological agents to geological ones, and the character's growing – though not completely resolved – reconciliation with this reality by the end of the novel. One could argue that there are many layers of doom in the narrative. Climate change is one of them, but there is also her addict brother, her struggles with motherhood in a world that seems to be ending, and an election process in the works, one that only adds to the catastrophic buildup. The candidate who wins, it is quite clear, is Donald Trump, as Lizzie remarks that "He wants to build a wall. It will have a beautiful door, he says" (OFFILL, 2020, p. 93). From his victory on, Lizzie and her husband, Ben, begin preparations to make sure that they access the rights and social benefits that they might lose once Trump takes office, such as dental service and getting IUDs before the abortion clinics are shut down. The enormity of the Anthropocene and the mundane overlap and shape up the narrative that is a rumination on how to come to terms with being human at this moment in time.

The Realistic Novel is Put to Test in the Anthropocene

Offill's novel aligns with what has been recently termed cli-fi. Adeline Johns-Putra and Axel Goodbody (2019) insist on defining climate fiction not as a genre, but as a set of concerns that emerge first in genre fiction, such as science fiction and the disaster novel, and later in contemporary realistic fiction. Both Timothy Clark (2014) and Amitav Ghosh (2016) somewhat challenge the capacity of realistic fiction to represent the extent of the trouble the Anthropocene poses. Clark (2014, p. 81) argues that the implications of the Epoch are still "counterintuitive", that is, still too enormous for any one person to apprehend and represent it in a realistic

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on this, see *Welcoming the Unwelcome: Wholehearted Living in a Brokenhearted World*, published in 2019 by Shambhala Press.

fashion without falling into the anthropocentric narrative model, focused on the individual. For him, magic realism, the fantastic, and science fiction are more suited to tackle the play of scale that the Anthropocene demands. The conventions of these genres, he suggests, allow for a more credible blurred distinction between character and environment, "in which the thoughts and desires of an individual are not intelligible in themselves but only as the epiphenomenal sign of entrapment in some larger and not necessarily benign dynamic" (CLARK, 2014, p. 81). In other words, character and environment are enmeshed in representing both the subjective situation of the former and the material conditions of the latter. The human subjectivity in these genres, for Clark, is the product of his/her condition as a geological agent, more than a biological one.

Ghosh (2016, e-book, no page), in a similar vein, criticizes not simply realist fiction's representational potentialities within the Anthropocene, but also the coincidence between the rise of the novel, in the 18th century, and the mode of production that allowed for the "accumulation of carbon in the atmosphere [to rewrite] the destiny of the earth".

In tandem with Clark's (2014, p. 81) argument that one should be suspicious "of any traditionally realist aesthetic" that aims at representing the changing climate, and Amitav Ghosh's (2016) that often the simple mention of climate change is enough for some critics to place the literary work under the rubric of sci-fi[3], Johns-Putra and Goodbody (2019) put forward that realistic fiction does come against challenges when it comes to representing the climate crisis in its nonhuman scale. However, they argue that in the instances in which realistic fiction does the job of rising up to the counterintuitive notions that emerge in representing climate change, it "has the potential to provide a space in which to address the Anthropocene's emotional, ethical, and practical concerns" (JOHNS-PUTRA; GOODBODY, 2019, p. 229).

Among the challenges of representation are, first, the "invisibility of climate as opposed to weather"; second, the incorporation, in literary terms, of the science of climate change; and third, "the unprecedented scale of climate change effects and the human dimensions of fiction" (JOHNS-PUTRA; GOODBODY, 2019, p. 229). In other words, while genre fiction

[3] Ghosh argues that "[i]t is as though in literary imagination climate change were somehow akin to extraterrestrials or interplanetary travel" (2016, e-book, no page), demonstrating how climate change is somehow, in public imaginaries, still closer to fiction (ironically) than fact.

such as sci-fi and fantasy, for instance, might be better equipped with the conventional tools to represent the odd scales of the Anthropocene, and more integrated with scientific articulations of the world, be them potentially real (sci-fi) or not (fantasy); realistic fiction should not be dismissed for its established form. Instead, it should be used for what it is most regarded, for the exploration of subjectivity, time, and space. In their discussion, Johns-Putra and Goodbody add a brief caveat to the cli-fi nomenclature, as it only apparently excludes novels that make no direct mention of the words "climate change". One of the central novels in cli-fi discussions is, in fact, one that has no mention climate change at all, namely Cormac McCarthy's *The Road*, first published in 2016. It has, nonetheless, "been hailed by some as an expression of and for 'the globally warmed generation'" (JOHNS-PUTRA; GOODBODY, 2019, p. 231). What this means is that the authors include under the cli-fi umbrella novels that are both explicitly and even marginally concerned with anthropogenic changes, thus reinforcing the argument that cli-fi is not a genre, but instead a set of concerns that show up in fiction (realistic or not). They are also careful not to delimit a time-range for the appearance of these concerns:

> Although it is useful to identify the advent of public concern over global warming as a turning point in environmental fiction, one should not be too quick to discount the many earlier – and, one might say, prescient – representations of disastrous human interventions into global climatic conditions. (JOHNS-PUTRA; GOODBODY, 2019, p. 231)

The authors do argue, however, that what we now call anthropogenic climate change is a useful concept to "[narrow] the subject down to fictional engagement with the discursive history of this phenomenon in particular" (p. 232).

In keeping with these arguments, Bruce Holsinger, author of *The Displacements*, published in 2022, argues in an interview that cli-fi is a term with which he takes issue when it is tethered to the notion of genre, or even genre fiction such as sci-fi or fantasy; he considers literary representations of climate disruption to be more a description of the world as we now know it than fiction. He considers his novel, for instance, which follows a catastrophe caused in Southern US by a category six hurricane (such category is created in the narrative), not as a "climate novel", but as a "realist novel set in the very, very near future" (HOLSINGER, 2022).

In their research, Johns-Putra and Goodbody explore examples of realistic fiction where the aforesaid task of meeting the challenge of representing climate change is at least one of the characteristics of the novels. They put forth that, in whichever of the literary categories (character, plot, or setting) climate change appears, and whether it is portrayed as a collective or individual event or concern, it tends to impact the "psychological, emotional, physical, or political experience," and it tends to "[relate] directly to the readers' lives" (2019, p. 234).

Offill's novel is surely exemplary of the impact of climate change on an individual and a collective level. Although the world at large seems almost oblivious to the preoccupations that are taking over Lizzie's thoughts in what concerns climate change, she is immersed in information about how the climate crisis is affecting and will affect the world at large. At the same time, Lizzie grapples with what scholars such as Johns-Putra, Goodbody (2019) and Clark (2014) highlight as the "invisibility" of climate change. As a scientific category of analysis and prediction, climate change is too broad and abstract an issue, far removed from the individual way of knowing that, Johns-Putra and Goodbody (2019, p. 235) put forward, "tends to be associated with literature".

There is a sense in which *Weather* addresses precisely this schism. When Lizzie begins to unravel the science and the current and future impacts of climate change, she begins to offer, in bursts, mid-narrative, information such as "No more apples soon; apples need frost" (OFFILL, 2020, p. 106), or "There are fewer and fewer birds these days. This is the hole I tumbled down an hour ago" (p. 95). There are also thoughts on disaster psychology, preppers' guidelines, and survival techniques, signposting what has been on Lizzie's mind; as well as Buddhist vows, such as "*Sentient creatures are numberless. I vow to save them*" (p. 125, italics in the original). This conveys a powerful representation of the subjective effect of the Anthropocene precisely because there is no tipping point, or no scenario that would invite the reader to adjust her perspective of a likely event given our prognosis. One has to witness the transition from a relatively stable vision of oneself as a biological agent to an unstable view of oneself as both biological and geological agent, effecting changes so massive to the biosphere that preparing for the likely futures, materially and emotionally, seems like the only path forward.

Cognitive Shifts: They Come on Strong

When Lizzie comes into contact with the science of climate change and with the questions the podcast listeners pose Sylvia, the weight of things around her begin to shift. In her work, at home, in her family relations, in the social sphere, and in the future compromising of the place where she lives, everything becomes potentially exposed to the impact of anthropogenic effects and to the moral underlying of our current situation. In the first lecture by Sylvia that Lizzie goes to, the former argues that, once circumstances are critical, the parameters for what counts one as a "good person" are no longer valid. Sylvia argues the following: "Suppose you go with some friends to the park to have a picnic. This act is, of course, morally neutral, but if you witness a group of children drowning in the lake and you continue to eat and chat, you have become monstrous" (OFFILL, 2020, p. 21). The argument, which closes the lecture, leads to a question from someone in the audience, namely "How do you maintain your optimism?" (p. 21). Readers never learn the answer, but later in the novel it becomes clear that Sylvia holds no optimism regarding the future. After the lecture, Lizzie's mind offers a glimpse of who she was before, "Young person worry: What if nothing I do matters?" (p. 21), and who she is becoming now, "Old person worry: What if everything I do does?" (p. 22).

Indeed, Lizzie becomes hypervigilant about what she consumes, how she employs material goods, how doomed we are, what her "doomstead" will look like, and whom she would invite to be part of it. She has a mouse problem in their apartment, and as she is cleaning a cabinet where a mouse has been trapped, her use of paper towel precipitates a guilt-trip, as she claims that there has been "so much throwing away of paper that [she's] already undone all the good [she's] done in the world until now" (OFFILL, 2020, p. 166). The moral weight of individual action takes precedence over any trust that governments will do the job of course-correcting from the climate crisis, especially after the election results, when hope seems more out-of-reach than ever. Lizzie's friend, an Iranian who fled his country, family in tow, in the midst of a political crisis, tells her that "[her] people have finally fallen into history […] The rest of us are already here" (p. 113), implying both that Americans are about to witness what it feels like to have an ultraconservative president and that no one, no matter how privileged, will be able to escape the climate crisis.

Amitav Ghosh (2016) argues that one of the great triumphs of literature is that it is a suitable place to imagine how different choices might play out in the face of climate disaster. Imagining what he calls "other forms of human existence" is necessary because "if there is one thing that global warming has made perfectly clear is that to think about the world only as it is amounts to a formula for collective suicide" (e-book, no page). His following argument is that we should, instead, explore other scenarios. Lizzie's and Sylvia's disenchantment with the world of possibilities, however, seems to highlight how unwilling people in general are to engage in the exploration of these alternative scenarios.

At a dinner celebration with the podcast's sponsors, relevant issues are raised. First, the reason why Sylvia invited those who already support her podcast is that she wants to convince them to patron the institution she works at where they aim to rewild half the Earth. This is a scholar and an entrepreneur who understands the extent of the trouble humans find themselves in in the Anthropocene. The sponsors, however, have different plans: de-extinction. Instead of recuperating damaged natural spaces, engaging in the entrepreneurial commodification of species long lost seems more enticing and economically worthy an option. The sponsors have better plans, and the readers who mail Sylvia, as Lizzie puts it, have suggestions too; "Don't engineer the sun or the ocean, engineer us", she says, commenting on the question "What would it mean to bioengineer humans to be more efficient?" (OFFILL, 2020, p. 167).

Indeed, the genetic engineering required to bring extinct species back to life is akin to the technology that we have come to call geoengineering. Specifics aside[4], the premise of geoengineering entails remedying the symptoms of the illness without treating the causes. The sixth great extinction will not be hampered by de-extinction efforts. Greenhouse emissions will not slow down if geoengineering solutions happen to solve, even if temporarily, global warming, and the unintended consequences might be many. The capitalist and carbon economy logics that permeate arguments in favor of geoengineering entail maintaining the "business as usual" mindset

[4] For a discussion on the gendered aspects of geoengineering, see Diana Bronson's "Geoengineering: a gender issue?", in *The Remaking of Social Contracts*, published by Zed Books London in 2014.

which has fossil fuel extraction and use, as well as the Western standard of consumption, as the measure of progress and development, as Ghosh extensively argues in *The Great Derangement* (2016).

Instead of de-extinction and geoengineering, both of which delay the necessary work of dropping the overarching use of fossil fuels, Sylvia's foundation is arguing for the rewilding of lost natural spaces but finds no sympathetic ears. The podcast host shares with Lizzie that one of the dinner's attendants was speaking to her about how in the near future we will "shed these burdensome bodies and become part of the singularity", commenting that "'These people long for immortality but can't wait ten minutes for a cup of coffee'" (OFFILL, 2020, p. 39). The rush of reaching results instead of doing the work required to solve evident problems is implied here, echoing Buck, Gammon and Preston's (2014, p. 651) argument that geoengineering is appealing because it turns "an intractable social, economic, and political problem into a solvable technical and scientific one".

Technology as a quick fix is alluring because it promises the erasure of past deeds. As Ghosh (2016) puts it, anthropogenic climate change, the ongoing sixth mass extinction, ocean acidification, and such similar unfoldings are the result of our accumulated pasts and presents, and not just of the actions of the past and present, but of the stories we have been telling about ourselves throughout the times.

Ghosh illustrates how, in fiction, from the 19th century on and with the rise of the novel in the 18th century, writers have slowly started on the project of removing the uncanny from the pages of the novel. The uncanny is evident in real-life, and it happens among humans and in their encounters with nature and the nonhuman. The "mansion of serious fiction", as Ghosh puts it (2016, e-book, no page), has favored the personal, the individual life of the character much more than the social, collective histories. That is not to say that these collective narratives do not exist or even abound, of course, but Ghosh, like Chakrabarty, is teasing out of the conversation the role of literature in representing the shift of the human from the individual, the biological entity that we have thought ourselves to be, to the geological agents that we now are. He calls attention to the specific political, economic, and colonial setups that have allowed for the novel that is a portrayal of the individual life to inhabit the aforesaid "mansion of serious fiction" while those

that portray "men in the aggregate," a term he critically borrows from John Updike[5], get to watch the mansion from the outside (GHOSH, 2016, *e-book*).

Ghosh then moves on to show how science fiction was severed from "serious literature" little after the publication of *Frankenstein*, even though the novel was thoroughly enjoyed as serious literature at its time of publication, in 1818. Science fiction became the space in which the uncanny encounters with nature and the nonhuman took place and where the collective, the "men in the aggregate" literature, thrived. There are ordinary and notable exceptions, of course, and Ghosh explores them throughout his book, such as John Steinbeck's *avant la lettre*'s concerns with the collective in a sense that is quite similar with what we are currently experiencing with climate disruptions, but a thorough discussion on the uncanny and the collective in literature is beyond the scope of this paper.

The relevance of this argument here is to distinguish two facts. First, Ghosh's injunction that literature is the ideal testing ground for ideas, the optimal space for exploring *both* individual and collective concerns and solutions to our uncanny relationship with nature and the world at large in times of climate crisis. He argues that it is not exclusively, and perhaps not ideally, the role of scientists and politicians to imagine ways of being and solving our cognitive and practical crises. Ghosh explores the subjunctive quality of literature, which has been tackled before by writers such as Joanna Russ who, basing her arguments on Samuel Delaney's propositions for the role of literature, argues that "Subjunctivity is the tension on the thread of meaning that runs between world and object" (RUSS, 1995, p. 16). In this sense, for Ghosh (2016, e-book, no page), one of literature's triumphs "is that it makes possible the imagining of possibilities".

I will argue that much focus is granted to the imagining of alternative ways of being on this world, which is extremely relevant in and of itself. However, literature must also be put to the task of imagining how the process of coming to terms with the reality of anthropogenic changes might ensue. There is a period of cognitive disconnect when one realizes one's double

[5] Ghosh offers a fragment of Updike's critical review of the novel *Cities of Salt*, by Abdel Rahman Munif, where the American author criticizes Munif's portrayal of "men in the aggregate" instead of the exploration of any "individual moral adventure" which, in Updike's words, "since 'Don Quixote' and 'Robinson Crusoe,' has distinguished the novel from the fable and the chronicle".

role as biological agent and geological agent, which must be addressed, and here I come to my second point. Offill's novel, in having Lizzie come to terms with our double roles, allows us to explore precisely what "coming to terms" with our current reality could look like. Offill's novel is both a reckoning of our situation as geological agents and the realization of our unwillingness and stubbornness to course-correct and find alternative ways of being on this world. What she repeatedly witnesses are scenes such as the ones at the sponsors' dinner, or at the lectures where participants are mainly concerned with how they can keep their lifestyles, protect themselves and their loved ones without having to do the work of reshaping a way of living that they love and hone, or even fight for an economic paradigm that is not the capitalist one that is currently in place.

Lizzie herself is not exempt from these feelings. There are moments when she ironically comments on people's selfish wishes to fend for themselves in the case of a catastrophe, but she speaks to Sylvia about buying land "somewhere colder" to protect her son, Eli, and Iris, her niece, from the dire future that threatens New York. Sylvia replies with incredulity, asking "Do you really think you can protect them?", adding that then Lizzie should "become rich, very rich" (OFFILL, 2020, p. 127). The rich, of course, as Lizzie herself remarks elsewhere in the narrative, "are buying doomsteads in New Zealand" (p. 97).

Ultimately, the Anthropocene is not just about biophysical disruptions, but also about societal ones. Running climate-science numbers through one's mind, as Lizzie and her husband often do, and the election of a conservative candidate who is entrenched in carbon-economy alliances, leads to subjective suffering. A word often associated with the growing of one's knowledge about the extent of climate disruption in the present and in the future is grief, which is a fitting term to describe the road Lizzie embarks on, both because of the climate crisis and its implications and due to her brother's depression crises and her own sense of bewilderment before these mounting concerns.

Grief and a sense of despair start to build up from the podcast questions, such as "*How will the last generation know it is the last generation*" (OFFILL, 2020, p. 27, italics in the original) and "What are the best ways to prepare my children for the coming chaos?" (p. 93), as well as by the question often made in conferences: "What will be the safest place?"

(p. 52-53). Lizzie gropes for hope and offers answers that are both ironic and earnest. To the first and last questions, there are ultimately no answers. For the second one, she replies "You can teach them to sew, to farm, to build. Techniques for calming a fearful mind might be most useful though" (p. 93). That is precisely what she does when she gives in to Margot's invitation to frequent the Buddhist meditation and discussion sessions.

Margot introduces the notion of "groundlessness" in one of the sessions. In Buddhist practice, groundlessness can be defined as the idea that nothing is stable; there is nothing to hold on to. In a way it is akin to the title of one of the episodes of *Hell and High Water*, namely "The Center Cannot Hold" (p. 10), which is a line from William Butler Yeats's poem, "The Second Coming". The line is preceded by "Things fall apart" and followed by "Mere anarchy is loosed upon the world"; suitable lines for Sylvia's subject matter and for discussing groundlessness. In fact, there is a book by Buddhist teacher and author Pema Chödrön entitled *When Things Fall Apart* (1996), and Chödrön dedicates an entire chapter to groundlessness in another book, *The Places that Scare You: A Guide to Fearlessness in Difficult Times* (2001). She explains that "the Buddha knew that our tendency to seek solid ground is deeply rooted"; the realization of groundlessness, however, is the one that recognizes the truth that "nothing – including ourselves – is solid or predictable" and that suffering "results from grasping and fixation" (CHÖDRON, 2001, p. 99).

These are not simple statements to apprehend, indubitably. When Lizzie is meditating using Buddhist breathing affirmations, one reads "*Breathing in, I know that one day I will have to let go of everything and everyone I love*" (p. 45, emphasis in the original), to which she reacts, moaning, "Aw, c'mon, man. Everything and everyone I love? Is there one for beginners maybe?" (OFFILL, 2020, p. 45). The affirmation shifts the ground around Lizzie's feet.

On the concept of groundlessness, Margot distinguishes floating from falling, arguing that once one becomes accustomed to the idea of having no ground to feel safe on, floating can be faced "without existential fear" (OFFILL, 2020, p. 121). Floating would mean, therefore, that one is not necessarily comfortable with being without ground, without the guarantees that any one thing will remain stable or yield to one's will, but that the act of experiencing groundlessness would not translate as the disorienting reaction to falling.

And falling is very much what Lizzie has been tangled in both in what concerns the mail the podcast gets and in the university library where she works. She decides to read Disaster Psychology articles in order to help those who have been using the library in the wake of the election results, and cites a fragment: "*Much of the population was in a mild stupor, congregating in small unstable groups, and prone to rumors of doom*" (italics in the original), adding that "That's pretty much everyday [there]" (OFFILL, 2020, p. 124). Later, she ponders how we might "channel all of this dread into action" (p. 137).

The action Lizzie takes, ultimately, is to course through the stages of raising consciousness about what is at stake in the Anthropocene, experiencing grief, despair, and gloom over the realization that we, collectively (although unevenly), have produced such a predicament; and seeking and finding help in the contemplation of a perspective that allows her to come to terms with the notion of groundlessness that this realization brings. One of the outcomes of the recognition of the intricate web of actions that leads to the mere suggestion of an Anthropocene, an age of humans, is that this web of forces becomes more evident than ever. There are ultimately no discrete entities, no individual biological agents, but an interconnected web of agencies. At this time, with differing degrees of responsibility, we have forged something humongous, something we have trouble comprehending the scale of. Evidently, it is precisely the human exceptionalism mentality that, in the first place, is responsible for manufacturing a way of being on this world that instrumentalizes nature and biotic beings and abiotic matter and employs them at the service of the human subject.

For Sylvia, there is nothing special about the human; the importance we attribute ourselves is a matter of parameter. At a lecture, Lizzie explains that Sylvia "tells the audience that the only reason we think humans are the height of evolution is that we have chosen to privilege certain things above other things" (p. 46). Dogs, for instance, would be deemed greater than us had we favored the sense of smell. Had we privileged longevity, other beings would stand out and so on. For her, "the only thing we are demonstrably better at than other animals is sweating and throwing", and thus she closes the argument (OFFILL, 2020, p. 47).

Lizzie courses through an intellectual and emotional journey and, by the last chapter of the book, Margot asks a question, namely "What is the core illusion?" (OFFILL, 2020, p. 193). No one in the meditation session

has an answer. Meanwhile, life goes on and the thoughts that spring are no longer filled only with doom, but with a gleam of hope; she seems to be floating rather than falling. At some point, she thinks "*Do not believe that because you are a revolutionary you must feel sad*" (p. 194, italics in the original) and is reminded of what Margot explains about the other possible translation for Duḥkha, which is often rendered as suffering; it is the idea that things are not impossible, they are bearable, "barely possible" (p. 197). In the last paragraph, Lizzie awakens from a dream with a tentative answer to Margot's question: "The core delusion is that I am here and you are there" (p. 201). Precipitated by the climate crisis, the walls that separate her from all else are (at least temporarily) gone.

Concluding remarks: "The work is going well, but it looks like it might be the end of the world"

The words in the subtitle above were uttered by the scientist Sherwood Rowland who, with his postdoc Mario Molina, identified and reported on the risks of CFCs to the atmosphere in the 1970s, thus hastening the environmental movement (PRATHER, 2012). In *Weather*, the narrator brings this quote to illustrate how gaining conscience of the situation we find ourselves in calls for either a wish to escape the truth – and here Lizzie claims to understand why people are volunteering to go to Mars on the first mission to the red planet – or a blunt facing of the facts, as in Rowland's case. Further along the narrative, Lizzie asks Sylvia how she manages to sleep having full knowledge of what is currently at stake, to which Sylvia replies "I've known it for a long, long time" (p. 85). Lizzie herself is experiencing insomnia due to her recently gained consciousness and her brother's crises, and pondering Sylvia's only apparent nonchalance, she reasons that:

> It affects her in other ways, I think. Sylvia always wants to go see things, some nearby, some far away. The requirement is that they are disappearing faster than expected. The going, going, gone trips, I call them. She picks me up early, then we drive and drive until we reach the designated place. Then we walk around and look at things and I try to feel what she does. (OFFILL, 2020, p. 85)

There is no knowing what Sylvia feels, though, and she ends up retiring from the institute and the podcast. When Lizzie asks her about the idea that the world has always been ending in ways, implying that what we are going

through is not necessarily new, Sylvia replies that yes, in parts, but not the world in its entirety, like this time. "Am I crying?", Lizzie asks herself (OFFILL, 2020, p. 108), not knowing how to respond to such a dire diagnosis of our time.

Offill's novel is an example of what Johns-Putra and Goodbody (2019) refer to as the third great challenge of representing climate change (the first being the relative invisibility of climate change as a scientific concept and reality and the second the enormous spatial-temporal scale of the Anthropocene), namely the impracticality of narrative resolution or closure that might be expected of realistic literature. Ultimately, there is no definitive (even if temporary) closure, no grand resolution or witty plan to put an end to the problem at hand in what concerns the climate crisis, only the constant reassessing of oneself and one's relation to the world at large amid the ongoing crisis, and the speculation of alternatives to political, social, scientific, technological, and emotional present and future scenarios. The emotional focalization on Lizzie, whose company we keep in reading the novel, exposes us to her process of coming to terms with our dual role as biological and geological agents, and there is not, indeed, a resolution by the end of the novel, only a temporary stabilization of a knowledge of herself as part of an interconnected web of things instead of as a separate entity, individually responsible or disentangled from either the causes or effects of climate change.

We are not the saints of the earth, Lizzie realizes as the novel progresses, but we are surely part of it. Lizzie is reminded of a story in which a visitor to the monks of Mount Atos wants to learn what they do all day. "*We have died and are in love with everything*" (OFFILL, 2020, p. 201, italics in the original) is the monks' reply. So has she to her previous unknowing self and, far from wistful, the novel is a declaration of love for the world.

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