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Engaging complex temporalities in environmental rhetoric

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In this essay, we identify a temporal turn in environmental rhetoric. As field researchers, we have experienced different senses of time bumping against one another in intercultural, ecological situations. Although these micro-experiences of time provide a constant grounding for our lives, we are also aware of the macro-expressions of time and the ways that they order our world and understanding of environmental degradation. We detail three interrelated temporal themes in environmental rhetoric. First, we delve into the practical considerations of time, articulating it in relation to how humans address environmental crises. Second, we respond back to ourselves by discussing epistemological concerns of time that emphasize knowing as critical to appropriate action and recognizing the need for impatience in the face of colonial, sexist, and racist systems that have existed for far too long. Lastly, we unpack multiple conceptualizations of time—the ontological commitments of different entities, systems, and cultures—and ask how scholars should conduct their own work given the temporal challenges presented by environmental problems, the demands of the field, the need for radical change, and the necessity of intelligent and meaningful choices. We do not seek to resolve tensions between these three themes but deepen the field's engagement with multiple temporalities. The conclusion offers some pathways to stimulate further scholarship about environmental temporalities.

KEYWORDS

environmental rhetoric, temporality, praxis, urgency, impatience

Introduction

In the span of four years in the United States (2016–2020), environmental thinking, policy, activism, and daily measures to address environmental problems were in constant flux—overturned, upturned, and downturned from the Obama to the Trump to the Biden administrations. Land designations, policies, and contracts have been approved and undone while disasters have caused immense damage and worsened conditions for people living in precarity. This slice of time in U.S. American history reveals the complexities of temporality, both symbolic and material, in environmental rhetoric. In recent decades, scholars have started to attend to time as a particularly important feature of environmental rhetoric (see, e.g., Sowards, 2006; Cox, 2007; Schwarze, 2007; Foust and O'Shannon Murphy, 2009; Nixon, 2011; Phillips, 2014; Rifkin, 2017; Brisini, 2018; Houdek and Phillips, 2020; Reyes and Chirindo, 2020; Rife, 2020; Paliewicz, 2022). Thinking about time *per se* invites scholars to continue to interrogate underlying structures that function as barriers to positive environmental change. Like environmental issues, the ways time engages with environmental degradation pushes on ready-made distinctions between materiality and symbolicity, making both

more entangled even as we acknowledge these are mostly and uniquely human inventions revolving around the past, present, and future. For example, recognizing that climate change is happening compels us to make changes in our everyday lives. In other words, a problem that seems faraway needs to be addressed with immediate action. On the one hand, time functions symbolically as an indicator of future consequences; it is abstract. On the other hand, the materiality of time (and our cumulative pollution) is progressing with extreme weather events getting more frequent and severe, which offers immediate evidence that is more difficult to deny. Time thus brings ecology, symbolicity, and materiality together in ways that constitute a more complex sense of the present and critical awareness of how action *now* orients to different kinds of futures, and potentially those that are more ecological, caring, and just (Wells et al., 2018).

In this essay we focus our attention on time, even as, "Environmental discourse is a discourse of time and space" (Phillips, 2014, p. 452). Environmental communication scholars necessarily investigate issues of time when we analyze environmental rhetoric whether we do so directly and explicitly or not. The scale, urgency, and care needed to address environmental degradation warrant thoughtful engagement with time as an abstract concept and a functional—and possibly multiple—reality of the crises we currently face. For Morton (2013), calling this moment a "time of hyperobjects" emphasizes that humans are in the middle of overwhelming temporal processes (and disasters) and yet the very boundaries of our world are eroding. Hyperobjects such as: "global warming, nuclear radiation, tectonic plates, biosphere, evolution" have the capacity to figuratively and literally bend time because they are massive (e.g., the Earth itself) and so thoroughly entangled in everything (Morton, 2013, p. 39). In another essay, Morton (2012) wrote, "Hyperobjects are the true anarchists, the shock troops of ecological coexistence. Even relatively short-lived hyperobjects ruthlessly demolish 200 years of comforting (for some) anthropocentric domination of time and space" (p. 81). Humans must address what are, in fact, "massively distributed entities that can be thought and computed, but not directly touched or seen" (Morton, 2013, p. 37). We can use this concept to help explain why humans struggle so much to address the problems that will tear our societies apart. Waiting long enough means that everything will be changed; that is, it will be destroyed and become something else.

One major theme that has not only been threaded through environmental rhetoric but also has components of temporality associated with it is apocalyptic framing. Because the nature of environmental problems can have devastating results, rhetors use apocalyptic narratives to accurately portray potential consequences of continuing to prioritize short-term thinking. In cases where the consequences are not as dire or might not obviously impact humans, apocalyptic rhetoric is deployed to gain attention and garner support. In these different cases, the imagined (or slowly unfolding) apocalypse travels at different speeds and has varying endpoints as the start of the downfall of humanity. Foust and O'Shannon Murphy (2009) explained, "There are marked differences in the certainty of endpoints, with some fragments implying that 'the end' is happening now, and others suggesting that it could or will happen at some point in the (know or hypothetical) future" (p. 157). Such thinking becomes embedded in the way that we conceptualize and name problems as well as how we create and prioritize solutions. This is one example of how time manifests in environmental rhetoric. We have noticed that environmental rhetoric has taken a temporality turn, which reveals the multifaceted nature of this discipline and helps us unpack why environmental problems themselves are so seemingly wicked (Rittel and Webber, 1973).

In what follows, we detail three interrelated themes in environmental rhetoric returning to topics throughout to layer meanings onto familiar tropes. First, we delve into the practical considerations of time in relation to environmental crisis. Although framing environmental problems as crisis encourages action to some degree, it does not always specify what action, which can lead to hasty decisions that reproduce past and current oppressions. Second, we respond back to ourselves by discussing epistemological concerns of time that emphasize knowing as critical to appropriate action. While the first theme might seem to call for a more measured approach to urgency, we also recognize the need for impatience in the face of colonial, sexist, and racist systems that have existed for far too long. Lastly, we unpack multiple conceptualizations of time—the ontological commitments of different entities, systems, and cultures—and ask how scholars should conduct their own work given the temporal challenges presented by environmental problems, the demands of the field, the need for radical change, and the necessity of intelligent and meaningful choices. Taken together, these themes do not offer an answer to what the role of time is in environmental rhetoric. Rather, they highlight some of the tensions and complexities that emerge within the way that time functions in environments. There are inconsistencies, contradictions, and incommensurabilities, often based in differing orientations to time, or multiple temporalities. We do not seek to resolve these but to deepen the field's engagement with multiple temporalities by identifying these themes as tensions that might not have resolution. In doing so, we hope to expand environmental rhetoric as a field by connecting to other intersecting forms of social problems, injustices, and oppressions.

Environmental crisis

Crisis is ubiquitous in environmental communication. Not only do environmentalists and environmental justice advocates frequently highlight the many crises that must be addressed—climate change, species extinction, air pollution, and toxicity, to name a few—but environmental communication scholars routinely adhere to the notion that environmental communication as a field of research, teaching, and advocacy is a crisis discipline (Cox, 2007). Despite the fact, "that crisis is always a matter of perception," the inaugural issue of *Environmental Communication* takes the idea of being a crisis discipline as its focus (Killingsworth, 2007, p. 59). Leading scholars of the time discussed and debated Cox (2007) assertion that the field of environmental communication has an ethical duty based in the necessity of producing research that contributes to ameliorating environmental crises. Pezzullo (2017) has since added that environmental communication is not only a discipline of crisis, but also of care. She argued that a care frame "underscores and values research devoted to unearthing human and nonhuman interconnections, interdependence, biodiversity, and system limits. This means we have not only a duty to prevent

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harm but also a duty to honor the people, places, and nonhuman species with which we share our world" (p. 11). Although not all environmental communication scholars explicitly engage with the crisis and care frames that emphasize precarity, the notion that scholars, scholar activists, and scholar teachers working in this area are often motivated to work toward more just and caring ecological presents and futures is an undeniable influence (see also Pezzullo and de Onís, 2017). We are scholars who have sought to address a variety of environmental crises throughout our careers. Yet, as we reflected on what we wanted to address in this essay, we asked ourselves about these temporal implications of a crisis frame.

The articulation of crisis too often translates into appeals to urgency (Schwarze, 2007); we must act now to prevent environmental apocalypse. In some cases—such as an oil spill—an urgent response is required to prevent as much harm as possible. Yet are there situations when an urgency appeal can be problematic? As Carbaugh (2007) wrote, "To know environments, what they say, and what people say about them requires time, and patience" (p. 72). Urgency has not always worked, at least in the case of preventing climate change—frontline communities have already experienced disproportionate harms, species have already been lost, communities have already had to relocate, and global warming has already intensified wildfires, hurricanes, and other climate-induced disasters. Advocates have been making urgent appeals to address climate change since at least the 1980s. And, yet society has already surpassed or is very close to surpassing a variety of tipping points, such as limiting the concentration of carbon dioxide to 350 parts per million (it is now about 416 parts per million) and limiting warming to 1.5 degrees to prevent a series of disasters. Moreover, urgency is not always the right approach, especially to the extent that an urgent response may be more likely to uphold status quo structures of power. If we need to act fast then it may be easier to reform than to radically rehaul our energy systems, for instance. Whyte (2021a) tells us, "When responsive actions are taken urgently, certain harmful consequences of the actions to humans or any other beings, entities, or systems are considered to be unfortunate, but acceptable," thus maintaining systems of colonialism, racism, and the like. An urgent response, therefore, may not be able to uphold the tenet of care as honoring people, places, and more-than-human beings takes time, relationship building, and trust. Further, urgency and speed come to make sense through capitalist and neoliberal discourses (see, e.g., Klein, 2014; Malm, 2016; Fraser, 2022). To the extent that capitalism is one part of the root cause of climate change and ecological disaster, solutions require radically changing and dismantling that system. Slowing down, though it may seem counter intuitive as a response to crisis, may be exactly what is needed to actually address the root causes of environmental degradation in meaningful, just, and sustainable ways (Schwarze, 2006).

Urgency can be seen as part of a colonial temporal formation that centers linear time (Rifkin, 2017; Houdek and Phillips, 2020; Reyes and Chirindo, 2020; Whyte, 2021b; Paliewicz, 2022). As Rooney (2021) argued, "time signals and chronometers kept empires afloat" (p. 102). This is not to say that one cannot feel urgent or that urgency is always a problem. Rather, calls for urgency in environmental action that elide justice and reify the status quo reflect a dominant temporal orientation rooted in maintaining current systems of power. Freeman (2010) called this a form of chrononormativity. Importantly, our argument here assumes that temporality is pluralistic. As Rifkin (2017) put it, to use the plural form *temporalities* assumes that "there is no singular unfolding of time, but, instead, varied temporal formations that have their own rhythms" (p. 2). Rifkin wrote about how settler time is a particularly dominant orientation to linear time that denies Indigenous temporal sovereignty. Whyte (2021b)—writing about climate change and energy transition, in particular—highlighted how linear time works differently than what he called kinship time, which draws from Indigenous knowledges to articulate change in terms of relationships grounded in responsibility.[1] Urgency is a frame that focuses on linearity while taking responsibility focuses on kinship relations. Shifting from urgency to kinship centers repairing those inequitable, irresponsible, and problematic relations that are at the root cause of environmental degradation. Whyte (2021b) noted, "Kinship time does involve feelings of abruptness and escalation, but they are not taken the same way perilousness and urgency are in linear time" (p. 52). He continued, "Kinship time is no less adamant about mitigating climate change, but the adamancy aims at engendering better situations through establishing and repairing shared responsibilities, bringing about an interdependence that could lower carbon footprint in ways that support everyone's safety, well-being, and self- determination" (p. 54). This sentiment can be extended to other environmental issues beyond climate change to reveal how kinship time can function as a counter-temporality that resists dominant temporalities (Houdek and Phillips, 2020). The preponderance of urgency appeals as the response to environmental crises, therefore, is worthy of continued critical attention.

Urgency can also be connected with an apocalyptic frame, which is a "linear temporality emphasizing a catastrophic end-point that is more or less outside the purview of human agency" (Foust and O'Shannon Murphy, 2009, p. 151). As Foust and Murphy identified, an apocalyptic frame for climate change and other environmental problems can be tragic or comic, can send the message that nothing can be done or, conversely, that humans can urgently act to prevent a future apocalypse. Yet, the linear and future oriented apocalyptic frame generally assumes a dominant Western perspective focused on preventing future apocalypse. From the perspective of frontline communities who are already experiencing the devastation of climate change and other environmental disasters, the apocalypse is now (Whyte, 2017). As Whyte (2017) argued, "In the Anthropocene, then, some indigenous peoples already inhabit what our ancestors would have likely characterized as a dystopian future" (p. 207). One example from Oak Flat, Arizona is the "extractive temporalities that perpetuate asymmetrical violences against the land and its people (especially women)" (Paliewicz, 2022, p. 670). So, care must be taken within the field of environmental communication to contextualize urgent appeals to avoid a future apocalypse

1 This relies on a generalization that many Indigenous peoples, nations, and cultures revere kinship. In what is currently the U.S. continent alone, there are over 500 distinct Indigenous nations with their own cultures and beliefs. Kinship time includes the diversity within Indigenous peoples' conceptions while also recognizing some broad similarities. It is not meant to essentialize all Indigenous people into one monolithic group.

as discourses of privilege. For marginalized communities, particularly communities of color, residents are already living with environmental disasters; it is too late to avoid a future apocalypse. "As the impetus for climate action becomes more pronounced," Chaplain (2022) cautioned "against urgency, suggesting that what climate rhetoric truly needs is attention to alternative temporalities, spatialities, and affects-emotions" (p. 26). This sort of attention to a plurality of temporalities is essential in considerations of urgency, and for whom those appeals serve.

Beyond the link between urgency and crisis, it is also worth lingering on the connections between crisis and the Anthropocene—a common term for the articulation of the root cause(s) of environmental crises. The Anthropocene is a temporal phenomenon, marked by a moment in linear time when humans started harming the environment on a planetary and geologic level. While some mark the beginning of the Anthropocene as industrialization, others mark it with the first nuclear bomb test, and still others mark the beginning with imperialism and colonialism (Lightfoot et al., 2013; Lewis and Maslin, 2015; Monastersky, 2015). As Rife (2020) encouraged, when thinking of the Anthropocene as an era of human-caused environmental change, one must ask: what humans? Defining the beginning of the Anthropocene matters because assigning a timeframe helps us identify the main contributors of human behavior to the destruction of the environment. If the Anthropocene begins with agriculture, then the potential solutions are different than if it begins with the Industrial Revolution. Another concern is that the notion of the Anthropocene risks a flattening of humanity that elides the power structures that divide humans and define Black and Indigenous peoples as subhuman. Reyes and Chirindo (2020) challenged the narratives that the dominance of humans is to blame for enviornmental disasters and instead pointed out that, "race, gender, and capital are coconstitutive," creating the conditions for some people to freely operate while others remain caught up in systems not of their making (p. 430). They go on to explain:

> Within the context of colonialism and capitalism, then, time both enables and justifies the racialization of bodies and the asymmetrical distribution of death along racialized lines. In fact, the alienation processes of colonialism, capitalism, and sexism, as well as those that enable the plunder of earth's 'resources,' all depend on the asymmetrical distribution of social and material death. (p. 437)

The Anthropocene is a temporal concept that too often relies on a dominant white, western, and male supremacist default 'human' category and creates a narrative that all humans contributed to environmental degradation equally. Rife (2020) and Reyes and Chirindo (2020) highlight both the relationship of this concept to racism, sexism, and colonialism and also that oppression of the earth is linked with the oppression of humans. The Anthropocene is, like we discussed with kinship time, a series of relations and not simply a set of dates in a linear history. Pezzullo and de Onís (2017) also considered the ways in which culture influences and shapes "ecological imaginaries [that] have provided a compelling vocabulary to reimagine human relations in regenerative ways" (p. 6).

As rhetorical studies undergo a temporal turn (Houdek and Phillips, 2020; Ore and Houdek, 2020; Reyes and Chirindo, 2020; Bjork and Buhre, 2021; Gomez, 2021; Flores, 2023), we suggest that while environmental rhetoric has always been about time and temporality, it is important to reckon with the competing and multiple senses of temporality within scholarship and discourse about environmental degradation. Houdek and Phillips (2020) argued in their introduction to a special issue on the temporal turn in rhetoric, "The temporal turn reflects an emerging cross-disciplinary conversation in the humanities that views temporality as a site of power and resistance" (p. 377). And Bjork and Buhre (2021) contended in the introduction to their special issue on temporal regimes situated in power networks, we "must better account for the multiplicity and asymmetricality of the temporal regimes that structure rhetorical relations and, at the same time, work toward articulating and enacting more just temporal frameworks" (p. 177). The points we have made in this section about crisis, urgency, and the Anthropocene highlight the different ways that power relations undergird how time and temporality are engaged within environmental rhetoric. Power is, of course, complicated, multifaceted, and dependent on speaker, audience, and context.

While we have focused on critically thinking about appeals to urgency, it is important to also think about slowness as both a strategy and tactic. Can we slow down while also addressing environmental crises? Answering this question is not simple but rather exposes a key tension between pursuing social justice and preventing further environmental degradation. Slowing down to ensure justice, equitable relations, and systemic change can be an important response to a temporality of crisis and urgency. Our situation is terrible, but the answer is not the kinds of solutions that get proposed as quick fixes, urgency within linear temporality, or avoiding future apocalypse. We need long-term systemic change that is rooted in anti-racisms, anti-capitalisms, anti-colonialisms, and anti-patriarchies. This requires the slow but steady work of resisting dominant temporalities and imagining alternate presents and futures. Yet, climate change denialism is an example of corporate and government forces slowing down to prevent action, resulting in the harms that are already occurring. Marginalized peoples will continue to disproportionately experience the worst impacts of the Anthropocene, including climate change, while rich and predominantly white peoples and nations are likely to make it through relatively unscathed, especially when they can enhance their financial privilege through slowing the transition away from fossil fuels. Will too much harm to the most impacted peoples and the planet happen in the time it takes to dismantle the oppressions undergirding the Anthropocene? Is there value in stopping the harms of the Anthropocene now even if that means maintaining status quo systems for the time being? Evaluating the most just response to the Anthropocene is a complicated temporal dilemma that demands nuance in who and what is slowing down, who benefits from slowing down, and who is harmed from slowing down. As Whyte argued (2021b), this work is not about unreflexively acting quickly but about reconfiguring relationships so that we might actually have a hope of addressing root causes. In the next section, we think through some of the complexities

of slowing down and the importance of impatience as a possible alternative to urgency, particularly with regard to expanding on tensions between social justice and environmental temporalities.

The tensions between slowing down "urgency" and the need for impatience

Although some environmental problems are slow moving and accumulating, they demand action for their disproportionate and devasting effects. Nixon (2011) wrote about slow violence, the kind of environmental impact that toxins, exposures, situations, and living environs can have on people and their communities over extended periods of time. The problem with this slow violence is that it is often hidden, emerging over time and invisible, a process that people get used to, rather than a sudden shock, around which an event or occurrence can be organized. In the digital age, drawing attention to this kind of slow violence is even harder. How do we know it is happening? How can we prove it is happening? Nixon explained, "to render slow violence visible entails, among other things, redefining speed: we see such efforts in talk of accelerated species loss, rapid climate change, and in attempts to recast 'glacial'—once a dead metaphor for 'slow'—as a rousing, iconic image of unacceptably fast loss" (p. 13). However, attempting to reframe humans' perceptions of environmental violence from slow-moving to fast is difficult since we are bound within our own sphere of experience.

Similarly, Kafer (2013) contended that "crip time" requires a rethinking of temporality, re/orientation, and dis/ability. In thinking through futurity as both "crip" and "queer," along the lines of Muñoz (2019) work in *Cruising Utopia*, how might those futures and relationships to time change through different lens? That is, so much political and activist rhetoric centers around what is good for the future in consideration of the Child/children; the "future" often takes up narratives of reproduction, heteronormativity, whiteness, and abled-ness. Again, Kafer took up these questions engaging with those who explore queer futurity, in that "the futures we imagine reveal the biases of the present; it seems entirely possible that imagining different futures and temporalities might help us see, and do, the present differently" (p. 28; citing Lee Edelman's and Lauren Berlant's work). Kafer contended that not only is the future written in various problematic terms, but it also engages in "an ethics of endless deferral," in which we come to only live for the future, rather than in the present (p. 29). The focus on curative and prognostic rhetoric also reflects, as Kafer explained: "Living in 'prognosis time' is thus a liminal temporality, a casting out of time; rather than a stable, steady progression through the stages of life, time is arrested, stopped. Paradoxically, even as the very notion of 'prognosis' sets up the future as known and knowable, futurity itself becomes tenuous, precarious" (p. 36). In considering how time/temporality manifests in different ways for different kinds of bodies, Kafer's "queercrip time" is helpful in thinking through environments and the people who live in those spaces (p. 44). Kafer suggested, in fact, that queercrip time could inform environmentalism in important ways, such as how "the experience of illness and disability presents alternative ways of understanding ourselves in relation to the environment, understandings which can then generate new possibilities for intellectual connections and activist coalitions" (p. 131).

Drawing from Nixon's and Kafer's work, Samuels (2022) noted that we "have been trying to imagine a future in which more of us can survive, more of us must survive, but in which we do not forget or erase those who have not survived. And that future, I am discovering, moves slowly. It moves with a slowness that is not a choice, but neither is it an imposition. It is a tactic. And I call that tactic *slow futurity*." From slow violence to queercrip time to slow futurity, the value in understanding time/temporality within different frameworks is apparent.

In contrast, while we might value slow futurity and the important differences queercrip time can bring, the ongoing racial, gendered, and environmental traumas that communities around the world continue to face marks a need for immediate action, response, and movement. The Anthropocene has disparate burdens wherein historically marginalized peoples will suffer more and—unless international governing structures change—will face heavier burdens in responding to the problems they did not create. For example, Santiago et al. (2022) have written about the sense of despair and impatience in how the mainland U.S. has responded to Puerto Rico's hurricane disasters in recent years:

> It is past time for the reimaginings provided by our communities to be taken seriously to create new systems that transform power and advance justice... For immediate mutual aid in the aftermath of Hurricane Fiona, archipelago and diasporic collaborators have organized a call for donations directly to Jobos Bay communities. Puerto Rico and all its Caribbean island neighbors need energy justice now!

Their words here, especially "past time" and the "energy justice now," demonstrate that the governments of the mainland U.S. and of Puerto Rico have failed the people again and again. Slowness and slow futurity might offer different frameworks, but the urgency to take up social/environmental/energy justice demands remains relevant for those living on the frontlines in Puerto Rico. Five years passed from Hurricane María (September 20, 2017) to Hurricane Fiona (September 18, 2022). As Santiago, de Onís, and Lloréns noted, many Puerto Ricans still were without power and running water when Fiona made landfall, despite it being a much less intense hurricane. That is, very little progress had been made over that five-year period to improve people's lives; the lack of repair work caused further devastation to communities and the PR energy grid and infrastructure. This raises a question about whether focusing on dismantling oppression is compatible with the immediate and sweeping changes needed in Puerto Rico, and other beings and places who are suffering now.

We now turn to two other possibilities that might help us to reframe time within this tension: can we dismantle oppression and environmental degradation simultaneously? Our lives have been sped up, but we (perhaps) focus on the wrong things. Or we feel helpless, because we can only take small actions to respond to environmental catastrophes (e.g., donating money for those who live in Puerto Rico). The first is to value rhetorical impatience from a social justice/environmental justice perspective. While we must measure our impulse toward urgency lest we be reckless, we must also recognize the legitimacy of impatience in the face of

inaction. Urgency suggests a need for immediate action to address a crisis, whereas impatience is a response to lack of action that could have been taken already, as illustrated in the Puerto Rico hurricane disasters we discuss above. In that sense then, impatience is frustration with the past and present often rooted in feelings of disregard, dismissal, and disrespect, while urgency is a frustration for the future. Drawing from Black feminist thought, Carey (2020) described how the rhetorical impatience of Black women is needed and justified. Her argument is that social injustices, particularly for the Black women in her rhetorical analysis, have persisted mostly unaddressed for decades and centuries. While resistance, complaints, demands, and activism have always been present, it is as if no one is listening, resulting in Black women's impatience for action. As Carey explained:

> when Black women engage in instructional and discursive performances of urgency, they do so to disrupt the forms of misogynoir or disregard that lead to their disrespect. Rhetorics of impatience are performances of frustration or dismissal and time-based arguments that reflect or pursue haste for the purpose of discipline. Enacted through bodily, tonal, and verbal indicators and arguments of exasperation or displeasure, they reveal how rhetors perceive self and community interpretive mandates or black feminist/womanist ethics. (p. 270)

Importantly, Carey highlighted disrespect and frustration as key components of rhetorical impatience, and outlines four rhetorical strategies in response: dismissal (of threats), indignant agency ("keep it moving"), redress (disruption aimed at stopping bad behaviors), and repossession (of time).

These strategies are important for addressing social injustice, as Carey explained, citing the work of Cooper. Cooper (2016) argued that time has race, a past, present, future; that is, time is raced/racialized and implicated within racist frameworks and systems. As for the past, matters of racial injustice might be perceived as completed or over. In the present, white people control, manage, and dictate time. In thinking about the future, Cooper stated: "So if we're really ready to talk about the future, perhaps we should begin by admitting that we're out of time. We black people have always been out of time. Time does not belong to us. Our lives are lives of perpetual urgency." Carey labeled this system as "temporal hegemony where ideological and material structures converge into a culture of hostility that pushes equity for a group further out of reach" (p. 270). Adding to this conversation, Ore (2021) argued that temporal regimes that are bound up in various networks of power relations, "such as state time and white national time—as well as their variants...—function as time sucks that strip, take up, and waste time in ways that exhaust and deplete the life force, or the 'lived time' of others" (p. 238, citing Gomez, 2021, p. 186). Pezzullo and de Onís (2017) in fact, argued that voice should move from mere listening to a form of amplification, particularly for marginalized folks and communities. Further, Gumbs (2020) called for listening across species, for example, thinking about what kinds of lessons we can learn from how marine animals use echolocation to "see": "Listening is not only about the normative ability to hear, it is a transformative and revolutionary resource that requires quieting down and tuning in" (p. 15). As scholars, we can take up such calls for amplification of voice in the research work that we do, recognizing how time matters across temporal frameworks.

Both similarly and differently, environmental matters require such impatience and attention to time. Pezzullo (2007) highlighted how slowing down can be a tool of domination to prevent change. She wrote:

> Time in everyday life or political decisions may be fast-paced for those occupying dominant positions of power, as Binde describes; however, when 'convenience' for the government and corporations requires institutions to move slowly (because, to be honest, what is faster than doing nothing?), we are reminded to complicate the "tyranny of 'just in time"' by asking: "just in time" for whom? (p. 179)

As we think through environmental justice matters, particularly as connected to environmental racism, understanding the slow violence of toxins exposure, for example, or the lack (or slowness) of governmental response for building an effective and strong power infrastructure in Puerto Rico, the need for immediacy as expressed through impatience is apparent.

The second possibility for reframing time along the tension between urgency and slowing down is to focus on the perpetual potential of action. This offers an alternative to the risk of endless deferral that Kafer identified in apocalyptic and future-oriented rhetoric. One of us (Sowards, 2006) has highlighted the perpetual potential in the constant crisis of environmental disaster, particularly the slow violence of diminishing species, forests, and marine habitats. In building on the previous section, Cox's (1982) important essay on the irreparable identifies rhetorics that employ uniqueness, precariousness, and timeliness as ways to situate calls to environmental action. That is, a species or forest or marine ecosystem is unique, but extremely threatened, and now is the key time to act. Sowards, using orangutan organizations as examples, illustrated how moving to a rhetoric of the perpetual potential is perhaps more hopeful than doomsday, ideally inspiring audience action. "The rhetoric of the perpetual potential develops the possibilities and hopefulness for environmental successes. Unlike rhetoric of apocalypse and the irreparable, the perpetual potential establishes possibilities for discovering the unknown through appeals to uniqueness," and through precariousness that attracts new audiences, while timeliness indicates that "the crisis has become the present, and extinction will become the future" (pp. 124, 127). And yet, the perpetual potential also calls attention to how different groups of people want to protect (or not) orangutans for different reasons. Local communities in Indonesia have different interests in orangutans and their rain forest habitat than say environmental activists in Europe or North America. The palm oil trade (notably, the building of monoculture plantations for economic production) illustrates this tension quite thoroughly, reflecting themes of present vs. future focus, depending on the community.

Articulating rhetorical impatience and the perpetual potential may help us to reframe environmental temporalities, moving away from temporal and spatial hegemonies that Carey identifies, along with the structures of Western and Global North ways of thinking about time, and especially linear forms of time. Queercrip temporalities also inform different speeds of fast and slow, even

while rhetorical impatience might also be demanded within such epistemologies. Indeed, Meyerhoff and Noterman's (2019) title of their article, "Revolutionary scholarship by any speed necessary: Slow or fast but for the end of this world" illustrates the importance of rethinking temporality hegemonies in a variety of contexts and relationships. As Samuels (2022) concluded: "The work of slow futurity so often happens out of frame, between breaths, in the time we think we are wasting, the time we fear we are failing ourselves, our communities, our callings. And yet those broken spaces are where, in the end, we may find the tools we most need to survive" (n.p.). Like breath, time has a rhythm, which we discuss in more detail in the next section.

Environmental problems pose immediate and long-term threats that are amplified by race, sexuality, and (dis)ability among other forms of oppression. Although our reactions of impatience and even anger are justified, it is clear that we need to act with care, precision, and thoughtfulness. In doing so, we must tread carefully in managing the tensions between environmental degradation and human oppressions we have identified in this section. One response might be to ask whether one needs to be sacrificed for the other. In other words, must we sacrifice the planet in the pursuit of social justice? Or must we sacrifice social justice in the pursuit of preventing species extinction and harms to humans now? Yet, if we see oppression of the planet and of people as fundamentally interconnected structures, we move from a question of sacrifice to a question of how to best negotiate these tensions through some of the alternatives offered through kinship time, queercrip time, impatience, amplification, and the perpetual potential across cultures. It is helpful to examine the disparate ways that humans' and nonhuman entities experience time to demonstrate how a temporal turn in environmental communication offers resources for rejecting chrononormativity, along with other normative structures and privileges such as whiteness, Western/Northern-ness, coloniality, and settlerism (especially in the idea of who "owns" nature, property, land, and so forth).

Different experiences of ontological time

The focus on urgency in the first section asks practical questions about how to motivate action in response to ecological devastation and myriad crises. The questions about impatience in the second section are about how we relate to (or come to know) a condition like crisis and urgency, which points toward epistemological concerns. In this section, the turn is toward ontology, with broader questions about difference and multiple—possibly incommensurate—forms of time and how time relates to power as an ontological condition. Thinking through temporal dimensions of nature, environment, wilderness, and the longevity of the natural world reveals tensions between understanding how the Anthropocene has been a very short period of time, but also within that very short period of time, humans have wreaked havoc. Humans within the Anthropocene understand this time period as time that spans beyond and before their lifetimes, which feels long. The environmental impact of humans then is both a small blip in galactic history and perhaps the most monumental experience in human history. Time for the Earth and its nonhuman inhabitants is an ontological multiplicity, which means that the nature of time is fundamentally subjective and different depending on one's physiology, lifespan, culture, and experience. We see this as one piece of temporality tensions that we have highlighted in this essay, as perhaps symbolic rather than material. Changing ontologies is one part of how we come to work toward addressing material realities.

As noted above, there are multiple temporalities, all of which are linked with relations of power. Part of the challenge for environmental communication scholars is to adapt to and recognize such different understandings of time. Although scholars, scholar activists, and scholar teachers negotiate the consequences of such differences, they may not always be immediately obvious. Scholarship emphasizing the variety of approaches to time can help us connect with one another and make sense of our own efforts. For example, time and scale must be considered in concert for the perspective that one gives the other. Humans feel big; humans are big in terms of their impact on the Earth and compared to many other creatures. Yet humans also feel small; and humans are small compared to many of Earth's systems and creatures. Our time here is both short and long. The dialectical nature of our experiences of time and scale give us a perspective that can help us see the problems we are causing as well as possible solutions but also leave us floundering to implement solutions that require sacrifice. On the one hand, deep time encourages a kind of conceptualization for which we have no reference. As Brisini (2018) wrote, "The world, the climate, our species, and others are all constrained conceptually within this limited positional assessment that breeds a sense of fixity and stability. From a deep time perspective, conversely, the world is constant flux: drifting continents, rising and falling seas, emerging and vanishing species" (p. 127). McPhee (1998) put this in perspective: "Numbers do not seem to work well with regard to deep time. Any number above a couple of thousand years – fifty thousand, fifty million – will with nearly equal effect awe the imagination" (28). So vast is deep time that humans cannot fathom much less plan for such a scale, as concepts like the Anthropocene and hyperobjects demonstrate to us. On the other hand, we will never know what it is like to live a complete life in a day as some small animals do.

We experience our actions on the scale of the individual but can increase our impact by working together. Phenomenologically, our actions do not matter because they are so small compared to so many other things on Earth. Yet, again, our perceptions do not match reality. Through intensive consumption and waste production as well as our population, every small action "becomes a monstrous force when considered as an action employed across the human species" (Rife, 2020, p. 80). Indeed, Phillips (2014) contended that through a physical structure (such as a natural history museum) humans have been able to hide their destructive practices and shape our perceptions of time. He wrote, "Th[e] elision, performed by a building purported to embody the full depth of time, may flatten the deep time of the geologic past, thereby abetting the concealment of the ever-expanding extraction" (p. 452). Because we operate together, the impact that we can have in a short amount of time is big. Although the examples above seem more akin to happenstance, they are tied to a deep desire to control time and thus control people, resources, and land. Colonists realized that by working together they could have

an outsized impact and used networked time to increase the distance they could travel, extract, and exploit (Rooney, 2021). Sailors used marine chronometers to calculate their longitude, which allowed them to safety navigate around the tip of Africa and access people, land, and resources further afield. Networking time has had an enormous influence on the world and the course of history. In terms of ecology, networked time links the small and large; it shapes relationships between disparate parts of the environment, entangling them together. As Rife (2020) argued, "each entanglement is always only the latest iteration of an ongoing series of forces stretching across the depths of deep time" (p. 79–80).

The notion of "stretching across" is in some ways itself a metaphor of linear time, which is just one articulation of time. As an abstraction, time is flexible and can therefore be imagined in different ways. This in turn impacts how a culture experiences not only time but also their immediate environment, the seasons, aging, and the rhythms—like breath referenced above—of daily life. With the Industrial Revolution in the West came the quantification and economic associations of time, a construct that many people across the globe are still living with today. Adam (2003) linked clock time to standardization and capital. Adam (2006) expounded, "The clock-time-based shift from quality to quantity and from temporality to space (that is, time as measurable length) in particular, has enhanced control not just over processes of production and the organization of work but also over social life more generally" (p. 124). Both standard time and world time can be tied to the destruction of the environment insofar as they facilitate globalization (Adam and Allan, 1995).

In contrast to the constructs of time as economic product, Whyte (2018) explained, "The philosophies behind the seasonal round involve migratory concepts such as transformation, cyclical time (in the sense of spiraling time), and shape-shifting" (p. 130). Understanding time as nonlinear can produce varied ways of thinking and patterns of religion. The relationships that people develop with the land, each other, and time itself impact their spiritual practices and cultural impulses, and consequently their modes of relationality with people outside their groups. Deloria (1994) stated:

> Time has an unusual limitation. It must begin and end at some real points, or it must be conceived as cyclical in nature, endlessly allowing the repetition of patterns of possibilities. Judgment inevitably intrudes into the conception of religious reality whenever a temporal definition is used. Almost always the temporal consideration revolves around the problem of good and evil, and the inconsistencies that arise as this basic relationship is defined turn religious beliefs into ineffectual systems of ethics. But it would seem likely that whereas religions that are spatially determined can create a sense of sacred time that originates in the specific location, it is exceedingly difficult for a religion, once bound to history, to incorporate sacred places into its doctrines. (p. 71)

For Deloria, then, out of a linear sense of time come binaries of good and evil along with judgment and the need to confess and pray for forgiveness. Additionally, he argued that when a religion is bound to time rather than space, it becomes possible—even desirable—to evangelize. By contrast, a religion bound to a sacred space can really only be practiced in one place. Imposing or sharing that religion with another in different places would not make sense. Without this sense of spiral or circular time, developing a space-based religion might not have been possible. The multiple orientations to time are important for developing coalitional, intercultural solutions to environmental problems.

When approached differently, time can invoke different solutions. For example, cultures that think in a shorter scale might be more comfortable implementing technological projects, such as electric cars or solar panels, that turn a quick profit or address the surface level concerns of an environmental issue, as we argued above. However, with a longer time scale in mind, such as seven generations, people might be more comfortable with short-term losses to ensure their community's longevity. "For instance, the long-wave processes of time that many American Indian actors embody run against the grain of mining temporalities that sense time in terms of profit" (Paliewicz, 2022, p. 669). Whyte suggested, "Spiral or accordion conceptions of time (or temporality) can make transformation possible in different respects" (p. 130). This orientation to time emphasizes non-linear and ever-changing forms that are shaped within relations with people and places. For example, Kimmerer (2013) described how alder drip time is distinct from maple drip time as these drips trace different rhythms and relations between entities, including the raindrops hitting leaves as well as those who know how to listen and distinguish these differences. She tied this way of conceptualizing time directly to processing history, "In the way of linear time, you might hear Nanabozho's stories as mythic lore of history, a recounting of the long ago past and how things came to be. But in circular time, these stories are both history and prophecy, stories for a time yet to come. If time is a turning circle, there is a place where history and prophecy converge—the footprints of First Man lie on the path behind us and on the path ahead" (p. 207).

In a similar move to challenge dominant notions of time, one of us (McGreavy et al., 2021) in partnership with collaborators, learned to sense river time and to work with the Penobscot River to shape the temporality of one of their meetings, which they held on rafts. Shaping the temporality of this meeting with the river allowed the meeting to trace a non-linear "agenda" where the schedule was determined by the river itself. This then created an emergent opportunity to connect a raft-based discussion about alewife migration, led by researchers, with a temporal experience of this flow itself, led by alewives. Parking the rafts at a tributary stream, we waded into the water to follow the alewives on their cyclical return to this river and to orient toward future rivers that would continue to experience this temporal flow. Another of us (Sowards) was doing field work in a national park in rural Indonesia and found that the local Indigenous people's (Kenyah) sense of time was tied to river flow. That is, travel up and down the river (the only form of travel available), depended on how much it had rained and how much water was in the river. For Sowards and her research team of students, the "frustration" of having to wait for rains to come before being able to travel down river, demonstrated the clash of slowness/fastness in articulations of time, manifestations of material and ecological temporalities. Both of these examples highlight how time intersects with affects, here feelings of connection and frustration, that are tied to

power. In these experiences, sensing multiple temporalities disrupts the power, and in particular modes of control, that linear time organizes and required collaborators to change and negotiate their *pace* of field work and engagement (Manning, 2007).

Yet, following all of these diverse flows, and the discrepancies in the ways time manifests among varying groups of people and for different systems on Earth, presents a challenging task for scholars of environmental communication. The urgency of environmental problems, and the short-term logics of neoliberal capitalism are in conflict with the need for long-term solutions that take time to develop, the imbedded racism of past and current actions that needs to be unpacked and accounted for more carefully, and the potential for burnout among people who take on these projects even as other professional and personal obligations demand more time. For one of us (Endres), a form of burnout stems from the temporal magnitude of nuclear radiation. Some toxins are short lived and some are long lived. In the case of nuclear radiation, it can be overwhelmingly long lived. Some of the forms of nuclear waste stemming from the nuclear technologies humans have made will last for hundreds of thousands of years, longer, in some cases, than human language and humans themselves have existed. What can be accomplished in just one lifetime to address the human-caused irradiation of our planet? There is, in a sense, an exhaustion of thought that can come from working with toxins that pollute and alter the environment on geologic and planetary scales.

Our ontological orientation toward time is shaped significantly by our cultures and working lives. For one of us (Senda-Cook), working on a rural sustainable farm meant surrendering control of her time to the organization. The issue was not that there was a strict schedule or a loose one; it was a matter of someone else scheduling things—mostly chores—without asking. It was surprising when it happened to her and to see it happen to other people. The norm there was to ask people to do things at the last minute and expect there to be no conflicts. In one example, the staff at the farm scheduled a major welcome event and did not tell volunteers and participants until a few days before when staff handed out the calendar for the month. Working at a university had created the expectation that important events would be announced months in advance. At this organization, the expectation was that the needs of the farm would be accommodated.

Although we are describing temporal turns in environmental rhetoric, we are also holding space for all of these different conceptions of time at once as we are writing and working. Within our own profession, there are such vastly different understandings of time depending on the precarity of one's position and the expectations of the job. For the privileged who can step back, *The Slow Professor* offers some ideas that could help get this kind of work done. Yet, we must recognize that we are in a time of upheaval at universities. So many of us are underpaid and fed-up with administrations that lament faculty leaving while failing to offer tenure-track lines. These material complexities exist alongside the urgency of environmental crises and the impatience needed to address the problems of our current systems and ontologies.

Conclusion

The discussion thus far has underscored a couple of core points about time. First, time has always mattered for environmental rhetoric scholarship and, given amplifying and longstanding environmental precarities, attending to time is an increasing matter of care for all. Second, carefully attending to time requires giving space to the inherent tensions that arise in navigating the complexities of multiple temporalities, especially those that emerge at the intersections of urgent temporal needs associated with environmental crisis and structural oppressions and the more diverse and potentially slower temporal rhythms of kinship-based and relational, ecological, cyclical, riverine, spiraling, and many more forms of time. But these core points raise a further question: what does it mean to stay with the diversity, multiplicity, and constraints of time as praxis? Of course, these is no single answer to this question, but the above discussion begins to orient toward practice and is organized to emphasize three initial orientations to time that can serve as a guide, including a focus on the practical considerations, the epistemological concerns, and the ontological commitments for how multiple temporalities are shaping environmental rhetoric related praxis, including research, teaching, and related activities. In place-based collaborations attending to these orientations to time can help guide community-based collaborations focused on ecosystem restoration (McGreavy et al., 2021). Here we draw from our own praxis-based experiences with time to share examples of what it has meant for us to orient to time in these ways.

Working with different communities has prompted us to interrogate our own assumptions about time. Our first suggestion then is to activate an awareness of whatever temporal structures exist in our lives. How much control do they have over our own decisions and our society/culture more broadly? What are they? What are their key features? What is their history? Who first constructed them and for what purposes? How is power implied or circulating through them? How long have they been in place? How can we resist normative structures of time? These questions will help cultivate an understanding of time and its function for individuals and as a member of a larger social group and systems/structures. When we encounter a different time scale (e.g., by interacting with another culture or by encountering problems, plants, and animals that operate more slowly or quickly), we learn to adapt more easily. Finally, it gives another analytic approach with which to approach environmental rhetoric.

In another example, all of us have noticed how aging has prompted us to consider if we will be able to conduct physically intense fieldwork in the future. While on a rural sustainable farm, one of us (Senda-Cook) volunteered for farm work without hesitation, digging, bending, weeding, schlepping, and generally engaging in physical tasks. While this was tiring, it was still possible, and no one tried to stop her participation. However, other people's perceptions can also impact our fieldwork opportunities. When an older woman from town wanted to volunteer on the farm, staff members tried to steer her toward other work in the shop, office, and kitchen. When she insisted on volunteering with farm, they gave her a task of untangling some cord, which she could do sitting

down. As we age, the fieldwork we engaged in a decade or two ago (and even longer in some cases) may not be as accessible as it once was not only because of our physical limitations but also because of how others perceive us.

Second, we try to be reflexive about the ways that time and temporality become embedded in the very language that we use to describe threats to environmental and human health. While few would deny that we do face multiple environmental crises, does a crisis frame assume a particular mode of temporality that is linear, focused on a future end, and inclined toward reform instead of radical change? If environmental communicators call for urgency to prevent environmental apocalypse, what does that mean for frontline communities that are living in the apocalypse now or who have already overcome apocalypse? For example, two words we try to avoid when discussing the past are "discover" and "frontier" for the ways that they erase what were essentially apocalyptic events to Indigenous communities around the world but especially in the U.S. What happens when shifting from the language of urgency to the language of impatience? Environmental communication scholars might also attend to metaphors and other rhetorical figures that assume one way of thinking and doing temporality. Rhetorical scholars are trained to be attentive to language choices positioning the field to contribute by using language and other symbol systems that highlight and celebrate multiple temporalities rather than reifying status quo ways of thinking and doing. While environmental communication, as understood through apocalyptic lens, reflects a discipline rooted in crisis, such doomsday rhetoric feels hopeless. Turning to tropes of impatience, potential, hope, and expansiveness in thinking through the temporalities of our environments—as expressed in terms of the past, present, and future—might help us to think about action and activism in different and important ways.

Third, where we choose to publish matters as much as the timelines we follow in publishing. For example, Santiago, de Onís, and Lloréns's choice of publication venue also reflects urgency in that their article appeared three days after Hurricane Fiona and provided a fundraising link through GoFundMe so that funds could be made available immediately. In helping people survive and recover in the moment, slowness is not possible, desirable, or ethical. While the authors of *The Slow Professor: Challenging the Culture of Speed in Academia* (Berg and Seeber, 2016) advocate for slowing down in alignment with movements such as slow food, Santiago, de Onís, and Lloréns's article illustrated that sometimes academic scholarship must seek immediacy in publication. This tension between slowing down and responding with speed is a result of capitalistic, corporate, globalized greed for money and power, with little motivation to provide for the world's peoples. Meyerhoff and Noterman (2019) critiqued the privilege inherent in taking the time to slow down scholarship and research for various reasons. They name frameworks for these privileges as "unequal temporal architectures," "unequal spatial clockworks," hierarchies of labor, study, and knowledge, and bureaucracies of organizing (pp. 228–30). Slowing down can mean different things for different people and situations. Returning to the idea that time and temporalities are embedded within systems of power and resistance, it is crucial that the field of environmental communication be reflexive about the contextuality of time. In other words, the tensions we have identified demonstrate that the decision about whether to act quickly or slowly depends on the situation and who benefits. Returning to the notion of kinship time (Whyte, 2021b), these decisions are based not in an objective linear time but in relationships.

Additionally, Na'puti has also used public scholarship and op-eds as a way to comment more immediately on matters of concern for Guåhan. For example, in a piece for *Common Dreams* during the height of the COVID-19 pandemic Na'puti (2020) made the connection between the high transmission of COVID-19 in Guåhan due to military presence and the ongoing colonial militarization of Guåhan. She seized on this key moment to make this connection between an immediate crisis and the broader crisis of disaster militarism (Na'puti, 2022) and colonization in Guåhan. Rather than waiting for the time it would take for an academic publication, these scholars chose to publish in venues that would get read and disseminated immediately and quickly.

Although the COVID-19 pandemic heightened our awareness of time—in terms of moving slowly or quickly, where we spend it and doing what, as well as losing track of it—environmental problems are especially tricky. They challenge our ability to recognize and respond; they affect people disproportionately yet require cooperation to address them. We feel a sense of urgency even as we go through our daily lives with seemingly more immediate issues to address. Among and within cultures people not only see time differently, they also experience time as a multiplicity. In our own lives, we can feel time "dragging" or "flying"; we get excited around our favorite times of year and resigned about facing another start to the work week; we can feel the impacts of time on our own bodies as well as see the material manifestations in our neighborhoods and on natural places. In short, within ourselves, we experience the bending and rhythms of time. It is no wonder that when it comes to hyperobjects like climate change and the Anthropocene, we struggle to find solutions. Equally, when scholars attempt to address these rhetorical situations, we also grapple with the big and the small. But naming time as a factor and drawing attention to it can help us do this important work.

Data availability statement

The datasets presented in this article are not readily available because all datasets are confidential. Requests to access the datasets should be directed to samanthasenda-cook@creighton.edu.

Ethics statement

The studies involving human participants were reviewed and approved by our respective universities. Written informed consent

for participation was not required for this study in accordance with the national legislation and the institutional requirements.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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