Weathering: Climate Change and the "Thick Time" of Transcorporeality

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In the dominant "climate change" imaginary, this phenomenon is distant and abstracted from our experiences of weather and the environment in the privileged West. Moreover, climate change discourse is saturated mostly in either neoliberal progress narratives of controlling the future or sustainability narratives of saving the past. Both largely obfuscate our implication therein. This paper proposes a different climate change imaginary. We draw on feminist new materialist theories—in particular those of Stacy Alaimo, Claire Colebrook, and Karen Barad—to describe our relationship to climate change as one of "weathering." We propose the temporal frame of "thick time"—a transcorporeal stretching between present, future, and past—in order to reimagine our bodies as archives of climate and as making future climates possible. In doing so, we can rethink the temporal narratives of climate change discourse and develop a feminist ethos of responsivity toward climatic phenomena. This project reminds us that we are not masters of the climate, nor are we just spatially "in" it. As weather-bodies, we are thick with climatic intra-actions; we are makers of climate-time. Together we are weathering the world.

Introduction: Toward a New Imaginary of Climate Change

> If there is something like climate change, perhaps it takes this form: not only a mutation of this climate (warming, depleting, becoming more volatile) but an alteration of what we take climate to be. (Colebrook 2012, 36)

Grand Manan Island, New Brunswick. August. Spruce trees at Swallowtail, root-toes curled around the rocky outcrop in a resigned sort of precarity. Made to coexist with the credence of the Fundy weather, these timbered lives are permanently swayed, their strong backbones constantly giving way to the wind. The weather-archive of their multiply ringed existences has stories to tell: of a hurricane's landfall, or the eye of a maritime gale; of coastal droughts, and semidiurnal tides, and the Atlantic sun filtered through sea smoke and

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autumn fog and the clear-eyed blue of nothing at all. How has the hot breath of the earth, the battering of its rain, the reprieve of its gentle snows shaped my own sinews, my gait, the ebb and flow of my own bodily humors? Duration, spread across my skin with the slow sweep of the seasons. Like these trees, we are all, each of us, weathering.

Although framed in a language of urgency and impending crisis, "climate change" has taken on an abstract quality in contemporary Western societies. Melting ice caps and rising sea levels are "perceived as spatially and temporally distant" (Slocum 2004, 1) from our everyday lives. This distance is related to the time scale and global reach of the problem, but also stems from scientific discourses that "produce vast quantities of sometimes contradictory, abstract statistics and data" (Duxbury 2010, 295). Commentators repeatedly note that climate change has become "difficult to comprehend or connect with in an appreciable way" (294). Claire Colebrook has argued that we suffer from a "hyper-hypo-affective disorder" (Colebrook 2011, 45) whereby despite being surrounded by warnings of resource depletion, predictions of changing weather patterns, and a growing cinematic imaginary of the world's *end*, "there is neither panic nor any apparent affective comportment that would indicate that anyone really feels or fears [this threat]" (53). She describes this imaginary as one invested in the consumption of *affect* (transfixing news coverage of a "natural" disaster; the rush of an apocalyptic movie) without *intensity*—without any mobilization of responsivity or sense that *our bodies* and *our time* are mutually implicated in environmental changes. It is within this context that we recognize the need for a different kind of ethos in relation to climate change, one that would mobilize the responsivity and intensity of which Colebrook writes. We need to rethink the "spacetimematter" of climate change and our implication therein.

Like other climate change theorists and activists, we propose to bridge the distance of abstraction by bringing climate change *home*. As described in many climate change appeals, this home is a Western, urban, and domesticated home that more often than not seeks to extract itself from the weather-world. But we recall, too, that *oikos* is both "home" *and* another way of saying "eco." In this paper we thus also invite our readers to be interpellated into the ecological spacetime of a much more expansive home, at once as distant as that melting icecap, and as close as our own skin. This home is a transcorporeal one, "where human corporeality… is inseparable from 'nature' or 'environment'" (Alaimo 2008, 238). To bring climate change home, in this context, entails reconfiguring our spatial and temporal relations to the weather-world and cultivating an imaginary where our bodies are makers, transfer points, and sensors of the "climate change" from which we might otherwise feel too distant, or that may seem to us too abstract to get a bodily grip on. We propose that if we can reimagine "climate change" and the fleshy, damp immediacy of our own embodied existences as intimately imbricated, and begin to understand that the weather and the climate are not phenomena "in" which we live at all—where climate would be some natural backdrop to our separate human dramas—but are rather of us, in us, through us, we might ignite the intensity that Colebrook calls for.

To build this project, we draw on feminist new materialist and posthumanist approaches that help us to understand climate change and human bodies as partaking in a common space, a conjoined time, a mutual worlding that we call *weathering*. We maintain that this sort of concept-creation can help gestate the new imaginary we call for. Like the more immediately embodied interventions by eco-artists such as Kirsten Justesen, Basia Irland, or Roni Horn that have the ability to frame climate change in powerful and personally felt ways (Alaimo 2009; Duxbury 2010), we argue, along with Elizabeth Grosz, that philosophical interventions can also "move [us] beyond the horizon of the present" (Grosz 2012, 15): concepts can supply us with "the provocation to think otherwise, to become otherwise" (22). *Weathering* is one such provocation. In creating this concept, we draw on Stacy Alaimo's conception of transcorporeality to counter the fallacy of a bifurcated understanding of "nature" and "culture"—or of weather and humans—and propose instead an understanding of ourselves as weather bodies. The ebb and flow of meteorological life transits through us, just as the actions, matters, and meanings of our own bodies return to the climate in myriad ways. In order to better explicate the mechanics of these transactions, and the ontology they evidence, we also draw on Karen Barad's theory of intra-action. Barad's understanding of things as perpetually *worlding*—that is, as materializing from the intra-actions of always emergent things-in-phenomena—suggests to us the concept of *weathering*. With Barad, we recognize that relata do not precede relations (Barad 2007, 136): neither humans (replete with tools, products, and prostheses) nor the meteorological milieu of weather patterns, phases, and events can be understood as *a priori* relata. Instead, it is through *weathering*—the intra-active process of a mutual becoming—that humans and climate change come to matter.

Weathering, then, is a logic, a way of being/becoming, or a mode of affecting and differentiating that brings humans into relation with more-than-human weather. We can grasp the transcorporeality of weathering as a spatial overlap of human bodies and weathery nature. Rain might extend into our arthritic joints, sun might literally color our skin, and the chill of the wind might echo through the hidden hallways of our eardrums. But not coincidentally, the idea of weathering also invokes a certain perdurance—a getting on with, a getting by, a getting through. If transcorporeality is to be a meaningful theory for understanding climate change, then more careful attention to the temporalities that are an inextricable part of these relations is required. In part, we make this call because climate change as both phenomenon and discourse is thoroughly temporal: changing weather patterns, time-lines of the earth's rising temperatures, and charts mapping its slowly mutating climatic cycles remind us that weather and climate are far from static events. At the same time, neoliberal "progress narratives" of human-directed salvation jockey for position in the dominant climate change imaginary with environmental "sustainability narratives" of holding onto or even reverting to a pristine almost-past (the incompatibility of these temporal orientations most often going unremarked). Our proposal to reimagine climate change as a transcorporeal, intra-active phenomenon, then, is one that pays specific attention to the temporality of weather bodies—both human and more-than-human.

This intervention in our cultural imaginary of climate change would enable us to think the relationship between human bodies and climate according to what we call "thick time," a transcorporeal stretching between present, future, and past, that foregrounds a nonchronological durationality. This project shifts away from the dominant temporality of climate change discourse, where progress and sustainability narratives meld in the anticipatory mode of "what should we do to stop climate change?" and instead asks "how is climate change me?" We seek to cultivate a sensibility that attunes us not only to the "now" of the weather, but toward ourselves and the world as weather bodies, mutually caught up in the whirlwind of a weather-world, in the thickness of climate-time. In short, as *weathering*.

Importantly, this shift away from the "stop climate change" temporal narrative is not for us a weakening of possibilities for ethico-political engagement, but rather an opening up of a different sort of political and ethical orientation toward these questions: a politics of possibility and an ethics of responsivity. Whereas a politics of possibility rejects the idea that climate change can be stopped or solved according to predetermined actions, an ethics of responsivity recognizes that the dream of solution must give way to an ongoing engagement with a weather-world in flux: an engagement that must necessarily extend beyond our individualized "home" to the larger transcorporeal one that we share.

Nor does our proposal seek to denigrate other feminist analyses of climate change that underline the gendered, racialized, and colonial power politics at play in both how climate change is experienced and how responsibility should be attributed (for example, Alaimo 2009; Seager 2009; Cuomo 2011; Glazebrook 2011). In fact, it is in explicit recognition of the ways in which bodies are differently situated in relation to climate change that we call for greater attention to our own weathering. If climate change is an abstract notion, this is closely bound to a privileged Western life that is committed to keeping the weather and its exigencies *out*, and that is geared toward the achievement of a flat, linear temporality of progress undisturbed by those same exigencies. For academics (including feminist philosophers) and others similarly bound to a temporality of school terms, grant cycles, and publishing deadlines, we are pressed upon by the imperative to seal out the weather. Moreover, international air travel, transnational collaborations, and research or sabbatical stays are themselves weathermakers, and to live continuously across time zones can aggravate the cultivation of the sensibility of thick time we describe in these pages. Yet if such a life is the reality of our authorial we, and perhaps of your readerly one, too, we feel compelled to explore how an embodied existence more or less beholden to velocity, placelessness, and screen-based sociality can nonetheless nurture the sort of imaginary we call for. In other words, the interpellated "we" of this paper is fairly specific, even while weathering as a way of living this imaginary is not limited to this "we." Weathering is already lived, in nuanced and particular ways, by the subsistence farmer, the young person sleeping rough, the woman who collects household water from a drying reservoir miles from her home, the wheelchair-user on a flooded city street (not to mention the spawning salmon, the baobab tree, the algal bloom, the Arctic ice). Each of these bodies has its own temporality, its own rhythms of weathering, yet we

are all implicated in one another's spacetimes as weathermakers. The ethos of responsivity we call for demands attunement to and acknowledgment of these other temporalities, and a more humble, generous, and self-reflexive understanding of how our own weathering may bear upon that of others.

One final caveat is necessary before proceeding. In both scientific and common discourse, one will not find the easy flow between and interchange of the phenomena of "weather" and "climate" (or climate change) that you will find here. As explained by phenomenologist Julien Knebusch, whereas weather normally refers to a temporary state in the atmosphere, climate is more likely to refer to "large meteorological time such as seasons." When we sense climate, we do not sense only the immediacy of the weather, but the relative stability of the weather over time. As Knebusch writes, even if climate stability is, on a larger scale, a myth, "for human sensations such stability is not a myth at all" (Knebusch n.d., 5). Whereas climate illuminates patterns over time, weather events are often surprising, capricious, and (seemingly) isolated—they may fulfill these overall patterns, or not. Knebusch notes that the feeling of weather is in fact most palpable when it *contrasts* with or interrupts the "constancy over time" that climate suggests to us (6). Such distinctions promote a spatialized view of climate time (that is, as something that we are "in" and whose linear progression we are outside observers to), while also suggesting that weather has no temporality at all. We hope to show that these distinctions between climate and weather are tenuous. Attention to the material archive of weather in any body—a human, a starfish, a tropical storm—reveals the history of a lightning flash, or the thick present of a February heat wave. Excavating the thick time of a weather event also illuminates a patterning in the dense duration of all phenomena. Although we recognize the practical desirability of retaining a distinction between "climate" and "weather," in the context of our arguments here a loosening of this distinction is necessary. Our aim is to reduce the distance between the enormity of climate change and the immediacy of our own flesh. If we can hone a sensibility of ourselves as weather bodies in thick time, climate change can become palpable in the everyday, just as the duration of our bodies, prostheses, and projects becomes diffused through the thick time of the weather-world.

Transcorporeal Weather

Hamilton, Ontario. Early September. The seed plants are weathering; my body is still under siege in a sea of verdant sex. The microgametophytes of anemophilous seed plants ride the currents of the late summer air, impervious to the (at once too-porous) boundary of the skin. Bodily orifices signal like landing strips. Hyperpollinated thanks to a summertime drought (the lack of water has jogged a floral memory; the surrounding vegetation is madly trying to ensure its species' own survival), the weather burrows into me. I incorporate the direction of the wind, the slow simmer of the sun. But it is not only a hay-feverish me that embodies the weather. The allergy medicines I rely on when it all gets too overwhelming live a long life. Processes applied in wastewater treatment plants do not easily degrade

antihistamines. They persist, like other pharmaceuticals, in the flows of various waterways that lead back to aquatic environments beyond my skin (Kosonen and Kronberg 2009). Water pollution, rising water temperatures, weather events, droughts. These things are not unrelated. The weather also incorporates me.

Transcorporeality, writes Stacy Alaimo, emphasizes "movement across bodies" and "the extent to which the substance of the human is ultimately inseparable from 'the environment'" (Alaimo 2010, 2). Transcorporeality is, in other words, an ontological orientation that expresses the imbrication of human and nonhuman natures. It denies the myth that human bodies are discrete in time and space, somehow outside of the natural milieu that sustains them and indeed transits through them. Weather and the environmental elements are important collaborators in these transits.[1] When Luce Irigaray lyrically described our fleshy human corporeality in terms of "elemental passions," this was not a literary trope, but an extended material metaphor that drew its potency from a physiological reality intimately connected to a meteorological one. The transcorporeal body is indeed "a body of air filled by palpitating blue" (Irigaray 1992, 39), "eating the sun" (43); a body "animated throughout" and "changed by a cloud" (99); a body that is an "atmosphere of flesh" (24). Like all other bodies of water, human bodies are replenished by rain; the winds that whip around us also fill our lungs and feed our blood; the sun's warmth allows us, like sea algae and sunflowers, to flourish.

In our contemporary Western lives, this imbrication is undoubtedly muted, as we go to great lengths to keep our personal climates rather constant. We engineer walls and roofs, heating vents and cooling systems, but our weather bodies are still plugged in. We will never entirely protect ourselves from the elements that also move through our bodies. The electric charge of a storm can be mildly enervating or deadly; a change in air pressure causes us to feel sluggish and physically oppressed. In order to bring climate change home, it may well be that we need to recharge these experiences of transcorporeality, and remind ourselves of the fallibility of any protection. How we live in the world is contingent upon how we imagine that world to be. An ethos of responsivity thus begins by reimagining our literal inextricability from that toward which we are called to respond—in this case, the changing weather.

A transcorporeal orientation that foregrounds the bleed between the weather and our corporeal selves also enables us to reconsider the agency of nonhuman nature. On a transcorporeal view, humans are not actors on the passive backdrop of an instrumentalized nature; this nature is agential too. This claim is not an anthropomorphization of nature or the weather, where weather would be a "free autonomous subject" (see Alaimo 2008, 246); nor is it a granting of agency to biological actors, such as "higher" nonhuman animals who might be "close enough" to humans to warrant attributions of sociality and intention. Agency here is best described as responsivity (and thus is intimately connected to the ethics we also call for): the capacity to engage with other agents and respond by doing (or not doing, as the case may be) something. Any of us who have been flummoxed by a flooded basement or a camera battery that won't work in the cold knows that the weather—hardly inert—*does* something.

Alaimo's argument about the continuity between human and nonhuman natures thus not only disturbs the fallacy of an impermeable skin; it also disturbs more conceptual separations. Once enmeshed in a world of more-than-human, transcorporeal transits, it is impossible to maintain a human exceptionalism on the grounds of agency. For our argument here, acknowledging the agency of nonhuman natures increases the sense of our shared presence and shared making of the weather-world.

But importantly, even as transcorporeality posits a relational ontology between human and nonhuman nature, it is also a space of difference. We are not all swept up into some amorphous gust of wind and water. As weather bodies, we encounter boundaries of difference at every turn: a barrier reef, a mangrove swamp, a Gore-tex jacket. This membrane logic is what Nancy Tuana refers to as "viscous porosity": neither fluid nor solid, viscosity "retains an emphasis on resistance to changing form"; it invites attention to a material world replete with "sites of resistance and opposition" that temper any romantic notion of open-ended and undifferentiated fluidity (Tuana 2008, 104). For Alaimo, this maintenance of barriers is a question of ecological ethics. "It may still be best," she writes, "to embrace environmental ideals of wilderness, or the respect for the sovereignty of nature (as Plumwood puts it), both of which work to establish boundaries that would protect nature from human exploitation and degradation" (Alaimo 2008, 258). This is not incommensurate with transcorporeality, she insists: "it is still possible to argue both for the value of places in which nonhuman creatures are sovereign or wild and human impact is minimal and, at the same time, to reconceptualize various routes of connection to that seemingly distant space" (258).

When cast in terms of climate change, Tuana's and Alaimo's respective insistence on membranes and boundaries evokes a sense of hubris in relation to human bodies and weather events: even if we are the weather, there is sovereignty to a storm, a drought, a persistent drizzle that eludes our powers of persuasion. At the same time, there are "routes of connection to that seemingly distant space" that we need to account for. In other words, we are not arguing that humans, as weather bodies, are identical with the weather, or, taking this logic further, that they are its agent, controller, or master. Nor are we arguing that the weather, as expressive of nonhuman agency, is something that humans are powerless to influence (nor, it should be stressed, do we wish to lump all human bodies amorphously together: there are also vast distances between differently situated humans that affect their vulnerability and accountability in the face of climate change). Viscous porosity draws our attention to "the complex ways in which material agency is often involved in interactions, including, but not limited to, human agency" (Tuana 2008, 194). Denial of these interactions is too often what is paraded out in discussions of "natural disasters" that are oblivious to the far-reaching and long-standing ways in which human patterns of agency contribute to these phenomena (see Protevi 2006; Tuana 2008). We are arguing that humans and nonhuman climate and weather phenomena are co-constitutive. We are mutually emergent, coextensive. Together, we *weather* the world.

Karen Barad's concept of intra-action helps us clarify this claim. Extending beyond "interaction" as an encounter or reciprocal influence between distinct entities, the term "intra-action" refers to a fundamental entanglement whereby individual entities

cannot be said to exist as things-in-themselves and instead find meaning or expression only through their co-creative relations with other entities (Barad 2007, 128). Barad's thesis indicates that it is no longer the "thing"— "the weather pattern," "the molecule," or "the human"—that serves as the basic unit of analysis, but the *phenomena*: the *happenings* of multiple relations as they co-create "differential patterns of mattering" (140). This means that the body and the weathering seed plants above together make an allergic event, their intra-actions taking shape as a loud sneeze, a watery eye. Although our traditional mechanisms of understanding retroactively search for causes and effects (seed plants cause hay fever), in a world of intra-activity the *hay-feverish body* cannot be *traced back*. It was not once an autonomous body whose borders have been breached, but rather an expression of transcorporeal collaboration as plant and human orifices together weather a season's change. The body (a human body, a gust of wind, striations of rock) can no longer be understood as an autonomous entity, unaffected by (and ineffectual in) its environment. Instead, the very conditions of its possibility rely on its entanglement with a dynamic system of forces and flows, and as we shall see below, these forces and flows cannot be conceived of outside of a temporal frame.

Attention to the subtle differences among relations of contiguity, continuity, immersion, and co-constitution also helps clarify weathering in terms of Barad's concept of intra-action. Interestingly, where Alaimo explains her theoretical position on transcorporeality, she often speaks of contiguous or continuous spaces—human and nonhuman natures butting up against one another in a "literal contact zone" (Alaimo 2010, 2), or of "interfaces between human bodies and the larger environment" (4). At the same time, her concrete analyses belie a different sort of relation—where in Gauley Bridge, for example, lung, air, water, and rock all become co-constituted in lives of the miners poisoned by silica (44–59). This is not just adjacent living, but a mutual worlding through material overlap and transit, incorporations and excorporations of all kinds. In thinking about weather and climate transcorporeally, these nuances are important. Tim Ingold, for example, points out that scientific models of climate posit a total system outside of which we must stand in order to comprehend. As an alternative, Ingold sometimes writes about climate as milieu—where persons and things relate not as "closed, objective forms" but through their "common immersion" in the generative fluxes of the weather-world (Ingold 2011, 115). Although more reflexive than the distanced objectivity of climate science models,[2] in Ingold's account the weather is still something we are *in*. This is a model of transcorporeality in which various agents are relating while still maintaining their discreteness as bodies. It is an intimate relation, for certain, but it leaves intact the assumption that relata—what relates—precedes the processes of relating. In other formulations, Ingold comes closer to the ontology of human–climate intra-actions we are promoting when he reminds us that "to inhabit the open is to dwell within a weather-world in which every being is destined to combine wind, rain, sunshine, and earth in the continuation of its own existence" (115)—not unlike Irigaray's elemental passions. This literal incorporation of the "wind, rain, sunshine, and earth" as a matter of necessary sustenance is not a relation of contiguity, but of co-constitution. Here we should also bear

in mind that the weather incorporates us as well, in these same processes of worlding: we "make" the weather with carbon emissions from our cars, the concreted hotspots of our urban centers, and even more literally in harebrained schemes of "rainmaking" that send silver iodide crystals into the clouds! Nuanced this way—as incorporation that *engenders differences that matter*, rather than contiguity or immersion—transcorporeal relations reveal the enactments of weathering.

Moreover, continuity, contiguity, and immersion are all primarily spatial relations. They fail to capture the crucial ways in which transcorporeal weathering is also temporal. For Alaimo, a transcorporeal orientation is crucial for thinking through climate change because it reminds us of the "mutual vulnerability of both planet and people"; neither can evade a "sense of precarious, corporeal openness to the material world" (Alaimo 2009, 23). Pointing to a series of self-portraits by Danish artist Kirsten Justesen called "Melting Time," Alaimo illustrates how a human body's experience of a melting glacier is magnified and made visceral by the sight of Justesen's naked body embracing a block of ice. One objective of our paper is to argue that careful attunement to our own transcorporeal interactions with the weather will enable the experience of "insurgent vulnerability"—or, in Colebrook's words, the *intensity*—invited by Justesen's art. Another objective, however, is to argue that a felt sense of our mutual *weathering* demands that we think about time. Even though Alaimo acknowledges the "time-space" of transcorporeality, she refers to it primarily as a "site" (Alaimo 2008, 238; 2010, 2, 3), a "place" (Alaimo 2008, 238), or a "contact zone" (Alaimo 2010, 2). This prioritization of bodily spaces is not surprising, and is likely necessary, given Alaimo's focus on destabilizing the break between corporeal insides and environmental outsides in her critical discussions of environmental pollutions and bodily illness. Yet by bringing Justesen's photographs into a discussion of transcorporeality, Alaimo alludes precisely to *time*. Any vulnerability that this series invokes is contingent upon a sense of time passing—too quickly, too slowly?—as glaciers melt, as flesh freezes. If we want to theorize our own implication in climate change as transcorporeality, then the temporal dimension of this concept must be made more explicit. It is to this task that we now turn.

Trancorporeal Temporalities

San Diego, California. Late November. Sitting on a beach I am lightly dressed. There are no swimmers today, but the air is warm, the sun bright. My companion wears a light jacket, a scarf wrapped around her neck. She shivers and curses the low Fahrenheit temperature. The number means nothing to me; it feels like fifteen degrees Celsius. In spring fifteen degrees anticipates the heat of summer and in fall it still remembers warmer days. But here, the warmed-skin of my Canadian-prairie body feels out-of-time.

I look around at this California "winter": runners jogging along the boardwalk in shorts, sweat pouring down their faces; a lone soul in a wetsuit unpacking her surfboard from the car; warm, white sand that no amount of squinting will turn to snow. My memories of

winter don't sit alongside this warm breeze. They include the icy fingers of minus forty degrees Celsius gripping my car engine, bodies wrapped thickly from head to toe.

What would this thing called a "year" consist of without changing seasons? The calendar would move, but time would stand still, my memories piling up on top of one another. It is my skin's memory of spring rain that comprehends the movement to summer. My fleshy tissues archive the sun's warmth, making and unmaking a bodily memory of Novembers elsewhere, with biting winds and frosted lashes. It is the scale of differences that makes this time move, the material accumulation of temporality that is my northern weather-body.

When we hold onto the belief that we can separate our human bodies from climate (close our doors, resist the winds), we maintain a worldview of relating *to* the earth, rather than worlding *with* it. As Colebrook has argued, our attempts to externalize climate deny the fact that we are already entangled in its forces and flows: "As long as we think of climate in its traditional sense—as our specific milieu—we will perhaps lose sight of climate change, or the degree to which human life is now implicated in timelines and rhythms beyond that of its own borders" (Colebrook 2012, 36).[3] There is no escaping climate change, for our bodies are both the products and the vehicles of its iteration. Consequently, our ecological and environmental knowledges are already constructed around a politics of temporality. "Sustainability" calls for the maintenance of a particular present, or as the United Nations indicates, sustainability is a form of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (as quoted in Alaimo 2012, 562), whereas the language of "climate change" indicates that our future climatic conditions will be unlike those of the past. Although both of these paradigms have been troubled by feminist and other scholars (Cuomo 2011; Alaimo 2012; Markley 2012), their uptake in contemporary climate change discourse continues to call for present actions that will temper the coming future, human interventions into a global timeline. In our foregrounding of a transcorporeal temporality, we aim to further challenge this humanist linearity.

Although valuable work is accomplished by thinking about what effects present actions will have on future landscapes, such narratives rely on a linear earth time where past, present, and future make up a time-line of human progression, a chronos of self-actualization. Colebrook's call for an "alteration of what we take climate to be" (Colebrook 2012, 36) stems from a critique of the assumption that we are outside of climate, an assumption that she describes elsewhere as relying on neoliberal languages of "mitigation, sustainability, cap and trade, renewable resources," all of which "relate to the globe as the milieu for [human] survival" (Colebrook 2010, 61). Just as a climate change imaginary supported by neoliberalism enforces a "global view"—the distanced perspective from the everywhere-and-nowhere of globalism—Colebrook also notes that neoliberalism's *time* is that of a subject "for whom time is the passage towards complete actualization" (Colebrook 2009, 11)—an expression of human exceptionalism as it braves on against the chaos of nature. The abstraction of climate change from the felt immediacy of our bodies is echoed in the temporality of this abstraction: something we stand outside of, or pass through, or control. We can see

this temporality within conservative governments who dismiss "climate change theories" as myth (as though climate is not always already changing?), *as well as* those sustainable development projects that belie the sustainability of the status quo, therefore gauging themselves in terms of human *need* (Alaimo 2012, 562).[4] In each case, past, present, and future constitute progressive steps toward a better world, a set future that we can *achieve* through human perseverance. Think about familiar proclamations that "planet Earth, creation, the world in which civilization developed, the world with climate patterns that we know and stable shorelines, is in imminent peril" (Hansen 2009, ix).

Certainly, we should be alarmed about global warming, but apocalyptic apparatuses of the impending future do little more than reinforce a spatialization of time that has permeated not only scientific and environmental perspectives but also a long history of Western philosophy. Aristotle famously defined time as the counting of moments, a proposition that linked temporality with regularity, an absolute, exterior measure (see Aristotle 1983). For Kant, time (and space) are conditions of possibility for the apprehension of the world, and for Newton, likely the most influential of all, time is an absolute linearity, "represented by the relations between points on a straight line" (Grosz 1995, 95). The consequence of time's exteriorization is that, we, as bodies, are conceived as only ever *in* time, subject to forces that carry on beyond and outside of us. The weather/environment serves only as background, thus making for a particular mode of relating *to* the earth, as though human beings are somehow separate from the natural elements.

As noted above, phenomenologists of climate might also uphold this spatializing move. Knebusch, for example, although helpfully insisting on climate as a thoroughly temporal phenomenon, still reads climate as something *in which* humans find themselves, and whose temporal passing we note as outside observers: "Experiencing a climate (through a season, for example), I *take place* in time, weather, and my life. Consciously or not, I do locate myself in time. Therefore, it is possible to state that subjectively the climate experience corresponds to an experience of a *net* of time. What would happen if I could no longer *lean* on time? if I could no longer *rest* in and on seasons?" (Knebusch n.d., 5, italics in original). Knebusch answers his own questions by suggesting that climate—as pattern in time—would be unintelligible without a sense of time's passing. This spatialized sense of being in weather, or in a climate, that passes or changes over time, may be unavoidable; we *do* locate our bodies in particular spaces and environments: a hot California beach; a frosty November morning. Likewise, when thinking about the impacts of climatic changes on particular nonhuman animals or plant populations, we cannot separate the force of these concerns from a linearity that understands that there was once a time when there were X species of bees in the world and now there are Y. The very force of extinction, thus, is its finality: we cannot go back in time to undo the loss of plant and animal populations; we need the traction of claims that global temperatures have progressively risen *over time* and will likely continue to do so in the future, in order to demonstrate the need for interventions and alternative ecological practices.

We are not arguing that such climate change-related extinctions (and the immediate hardships that may accompany their processes) are not to be mourned. Nor do we suggest that such extinction is "simply" inevitable, or unconnected to human ignorance and arrogance. The feminist ethos of responsivity we discuss below in fact demands more careful attunement to the ways in which we ourselves weather these losses. At the same time, the body's material memory indicates that there is more to these familiar narratives of shifting populations and changing climates. The felt degrees of hotness and coldness, of speeds and slownesses, saturate this temporality with a sense of the material duration, or the thick time, of that weather or climate. A human body's shiver contracts warm-bloodedness and a gust of cold air; a frosted windowpane contracts cold air and the residual heat of the glass. At this point we are no longer outside observers, able to examine, log data, and calculate a future, but right in the thick of things. Such imbrications also demonstrate that *we*, as in *the human*, cannot go back to an original position, a *before* of climate change, for the "initial conditions have been changed by the process" (Williams 2011, 4). Concurrently, and in relation to our earlier discussion of "sustainability," these spatialized constructions of a pure, original past also reach for a future where temperatures are maintained or population numbers stand still.

To counter this spatialization of time, we build upon Barad's and Grosz's developments of time as intra-active, indeterminate, and open-ended. For Barad, this means looking at the co-constitutive functionings of matter and meaning that collapse any notion of distinct space and time into an "iterative becoming of spacetimemattering" (Barad 2007, 234). This means that the phenomena of transcorporeal intra-actions discussed above are the very forces that make *time*, and as such "the past is never left behind, never finished once and for all" (234). This means also that the future is not merely an unfolding of the present; rather "the past and the future are enfolded participants in matter's iterative becoming" (234). We can no longer conceive of time as a path laid out before and behind us, for that path is multivalent. Echoing Heidegger's concept of "worlding" to indicate a process of world-making, or becoming-world (Heidegger 1927/1962), Barad describes matter as "*worlding* in its materiality" (Barad 2007, 181, emphasis added). We repeat (and differentiate) the sentiment here to claim that matter is *weathering* in its making of temporality; the striations of rock that jut out over the sea not only mark time with their varied colors and lines, but *make* time through their encounters with the waves and wind.

To think a temporal transcorporeality as *weathering* means to think of bodies as part and parcel of the making of time, or as James Williams writes: "we live as time makers—anything exists as a maker of time" (Williams 2011, 37). Our very bodies, thoughts, actions, and behaviors *make* the present, past, and future. And just as significantly, we are *made* by the time makers all around us: the earth's soil that heats our bare feet in summer and freezes hard in the winter, telling us to wear boots to protect our skin; the old concrete building that decays as it collaborates with the wind and rain, retaining a/our memory of past splendor in its peeling paint. The claim that we *are* time, or that transcorporeal temporality belies a phenomenology of *weathering*, means that the spatial metaphors that we have historically used to frame our bodies are unable to fully account for the co-creative relationship between bodies, whether

bodies of climate, water, soil, or bones. Our human bodies are contractions of climate, and concurrently that climate is a contraction of our bodies (and others'). To recognize this co-laboring is also to engender a new temporal imaginary of climate change, where climates and weather are not something we pass through (in a linear progression of time) or sustain (in an impossible denial of time), but are rather a time that we weather together.

Thus we take pause to ask questions of the northern weather-body, of the antihistamine-filled waterways, and the multiply ringed tree trunk. In each case, our inquiries need to be *thickened* to include investigations into a body's implication in heat and cold; the warming effects of pharmaceutical traces left by a stream as it travels across thousands of miles; a tree's memory of humidity, aridity, and saturation. This "thickening" refers to a material duration that is both broad and deep. It understands that matter has a memory of the past, and this memory swells as it creates and unmakes possible futures. The thick time of transcorporeality builds upon Gilles Deleuze's proposition that a "contraction" is a synthesis of time: a passive contemplation of tastes, sights, and smells in the making of understanding. Temporal contractions extend to every present moment of experience, indicating that they are both product and creation of a vast temporal field that stretches to the past and the future. Like Barad's "spacetimemattering," the Deleuzian present is thick with the past, a retention of all past experiences in its making of meaning (Deleuze 1994, 70-71).[5] Our bodies are thick with the moisture, gases, and sounds that surround us; they are "living scrolls of sorts. What is written there—inside the fibers of our cells and chromosomes—is a record" of our imbrications with our environments (Steingraber, as quoted in Alaimo 2008, 261). But we also retain multiple pasts in the fabric of the clothing we wear to protect ourselves from the wind, whose production takes place thousands of miles away in hot, humid climates, and whose fossil fuel-powered transport in ocean freighters and long-distance trucks is contracted by the climate that we in turn contract. We contract possible futures when we take refuge in our North American homes, built and rebuilt for the greatest degree of impenetrability with materials whose harvest and production strips forests and fields of their own protective layers. And the climate contracts possible futures from the human and more-than-human traces it carries in its winds, the refuse it carries in its seas.

At this point, this argument requires two clarifications. First, the transcorporeal temporality we propose is not a holistic, shared memory; it is not a homogeneous materiality "that is then differentiated or goes through time" but instead evidences "a whole of singularities. Each point in life becomes in its own way, with its own rhythm, producing its own 'refrain'" (Colebrook 2009, 58). Here we are reminded of the membrane logic of Tuana's viscous porosity we noted above, as the duration of thick time implies a deep intra-activity alongside multiple differentiations. It is precisely because we make time in intra-actions that temporalities and bodies are different; this is the *mattering of difference* about which Barad is so insistent, and that insists that we also approach the concept of weathering with urgent attention to the very human-bodied power politics at play in climate change, as well as to the gendered and colonial mappings of its impacts.

A second clarification is that processes of contraction are not bound to the human mind—despite the temptation to think of such a field as located within consciousness, especially when Deleuze and Bergson use terms such as *memory*, *recollection*, and *perception*. The body on the beach may think of a colder November, mentally comparing one scenario to the other, but such an experience extends much deeper. The intake of a breath feels thick, humid, and contracts the sharpness of similar intakes when the air is dry. The skin intra-acts with the sun to produce the unfelt, yet anticipatory tingle of burn, a process accelerated by the skin's loss of its protective suntan from another climate-time. The passive habits of contraction take place at the cellular, organic, and inorganic levels: "What we call wheat is a contraction of the earth and humidity…. What organism is not made of elements and cases of repetition, of contemplated and contracted water, nitrogen, carbon, chlorides and sulphates, thereby intertwining all the habits of which it is composed?" (Deleuze 1994, 75). Nor are these cellular memories separate from the affective and visceral levels of contraction with which they commingle in the production of this bodily, felt, material duration. In other words, a transcorporeal temporality—rather than a linear, spatialized one—is necessary to show how singularities (whether a blade of grass, a human, a slab of marble, or a drop of rain) are all constituted by a thick time of contractions, retentions, and expectations of multiple kinds.

This approach sits slightly awry from feminist new materialisms that are highly interested in the "open-ended future" as the great new frontier (and space of political potential) for feminist theory (see Braidotti 2002; Grosz 2004; Grosz 2005). The optimism of these projects is certainly valuable; it indicates a political and ethical potential of feminist theory that far exceeds even the worlds we can imagine; there are futures of being and becoming, genderqueer practices and movements, and sustainable naturecultures that live as potentialities in the present. But we want to think carefully about the meaning of the "new" in a transcorporeal world. How do we think of a future that is "open and uncontained by the past and present" (Grosz 2004, 75)? As we have shown here, transcorporeal temporality means that everything has a trace, an echo, a past. The Canadian-prairie body that sits on a San Diego beach in November feels warm in 15°C/59°F weather because it retains a material memory of a blustery November day, with snow swirling in the dry -15°C/5°F air. This body contracts all past memories in the present moment in order to make sense of the experience, and in so doing, it makes a temporality of hot and cold, seasons passing and beginning, alarm at the shifts in what one remembers (*when I was a child, winter began in October; now we often don't see snow until late December. This simple memory comes to bodymind every single time someone speaks about "climate change"*).

Responsivity as Responsibility: Toward a Politics of Possibilities

Alaimo argues that adopting a transcorporeal consciousness is not only a theoretical exercise; transcorporeality can also engender ethical responsivity and a political orientation toward questions of climate change—but not of the usual kind. The thick time

of transcorporeality opens many possibilities for our discussions of climate change, but most important, it illustrates that those discourses that hinge on what we humans can do *now* to fix the *future* may require tempering. An ethic of fixing, making-up-for, and even sustaining cannot recognize that all actions are forever contracted in lines-of-flight whose effects will continue to be made and unmade in many futures to come. Climate time, when assumed to be something we are "in," or as part of a neoliberal progress narrative that we will either push forward or stave off, thus disables ways of thinking and doing ecology that stretch around and through our imbrications with climate.

A new climate change imaginary—one of transcorporeal temporality—can engender what Barad refers to as a "politics of possibilities," that is, "ways of responsibly imagining and intervening in" the entanglements of which we are a part (Barad 2007, 246). In the context of climate change, a politics of possibilities eschews the myth that our climate is teleologically directed and that known human actions, somehow independent of the weather, can stop its change. Possibilities do not, in Barad's terms, "represent a fixed event horizon" or a "homogeneous, fixed, uniform container of choices" (246). And, although we need to think climate time in different ways, this rethinking itself opens to a political space of engagement. As Grosz writes, "concepts"—like the notion of weathering we propose—"do not solve problems that events generate for us," but "they enable us to surround ourselves with possibilities for being otherwise." They are "modes of address, modes of connection: they are 'movable bridges' between those forces that relentlessly impinge on us from the outside to form a problem and those that we can muster within ourselves to address such problems" (Grosz 2012, 14). The reimagination of ourselves as weather bodies, with their insistence on recognizing the "connectivity of phenomena at different scales" (Barad 2007, 246), is *already a politics*. Such a politics pushes us beyond practices of "pointing out similarities [or differences] between one place or event and another" (this hot spell is the same temperature as one in 1935, therefore we have nothing to worry about) to understanding "how those places or events are made through one another" (246). A climate change imaginary of "thick time" pushes us to hold together the phenomena of a weather pattern, a heat-absorbent ocean, the pleasure of a late-fall swim, and the turn of a key in the ignition as the interconnected temporalities we call "climate change." It is this recognition of mutual imbrication that can generate a relation of intensity toward climate change as called for by Colebrook.

Yet intensity for Colebrook must also be a mobilization of responsivity, or what Barad calls "responsibly intervening." Although this reimagination of climate-time and weather-bodies is necessary for what Grosz calls "surrounding ourselves with possibilities for being otherwise," a politics of possibility, steeped in thick time, also requires a feminist ethos of responsivity. By bringing climate change home to our weather-bodies, we realize that even as we must be humble and curious in the face of ecological bodies that we cannot (and should not) control, we must also be accountable for our actions and the ways in which they direct our intra-actions with the climate and the many human and more-than-human bodies affected. Responsivity, as noted above, is closely tied to the idea of posthuman agency. Although all bodies are

always at some level responding and weathering, as *specifically human agents* in a post-human context we have the capacity to direct this responsivity in particular ways. Our call is thus at the same time for those of us living in privileged, high-consumption situations to direct our responsivity more consciously, in a way more closely attuned to that which we are affecting.

In thick time, we "cannot absolve ourselves selectively of the past" (Williams 2011, 18) for just as the rings of the tree are a material record of years of soil conditions, patterns of rain and drought, our bodies are records of the pharmaceuticals we pump into our waterways; increases in skin cancer are contractions of our carbon emissions. These records, memories, and intensities are indications of our "insurgent vulnerabilities": we are responsive to the weather, as it is to us. And, if we understand ourselves as *weathering*, intra-actively made and unmade by the chill of a too-cold winter, the discomfort of a too-hot sun, then we can also attune ourselves to the pasts that are contracted in changing temperatures, rising sea levels, increasingly desiccated earths. We attune ourselves to the singularities of its intra-actions, recognizing the multitude of bodies (including our own) that are all co-emerging in the making of these weather-times. We recognize our own implications in the climatic conditions around us, thick with co-labored temporalities that we are also making possible.

Epilogue: Groundweather

Linköping, Sweden. Mid-December. What is the weather if it is not what swirls around me? I remove a glove, and place my hand on the pavement. It flinches against the concrete, immediately so cold, so hard, not at all like my fleshy palm. But when I move my hand to the muddy grass, it is even more surprised to find that the soggy surface still emanates a trace of warmth, pushing up through the half-frozen soil. To be clear: the ground is not warm. But it has a memory of warmth. The concrete takes a more unequivocal stance, but the damp earth's position on the miserableness of this day is ambivalent.

Yes, weather is in the wind, and the rain, and the air that surrounds us. But weather is also in the ground, persistently. This weather is less likely to get caught up in the explosive presence of a thunderstorm, the seemingly only here-ness, only now-ness, of a mighty gust of wind. Groundweather hangs around. It is slower, less fickle. Ground-weather reminds me of the difference, but also the continuity, between rain and flood. Between sunshine and drought. Groundweather reminds me that weather is not just spatial, but deeply temporal.

Groundweather is thick with time. These times are neither even nor straightforward, but are layers of different qualities, different speeds and slownesses. Weather is always changing and there's nothing strange or wrong about that. Change opens the skies and pours out thunder, and change puts the smell of green in the April air. Perhaps climate change—as a concept that we ostensibly find so hard to feel—is really about speed. About the danger of outpacing, outracing ourselves. Groundweather carries us, but we carry it too. We cannot put it down. The danger of forgetting the ground.

Notes

1. On transcorporeal collaborations, see Neimanis 2012.

2. This distanced objectivity of climate science is similarly criticized by Knebusch n.d. and Colebrook 2011; 2012.

3. In "A Globe of One's Own" Colebrook's argument takes a different route than our proposal here. Colebrook proposes that an apprehension of human extinction may be the only way for us to think about the "globe" outside of traditional, androcentric paradigms (Colebrook 2012, 31).

4. "Sustainability" is used, both theoretically and in practice, in many different ways, and not all are focused on human need.

5. Deleuze uses Bergson's cone of memory to illustrate the process by which the present's contraction of multiple pasts literally *makes* the present (Deleuze 1988, 60).

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