Afterword

Solastalgia and Poetry of Place

We at *Windfall* have called several times for poems about climate change, and a few poets have responded, but not many. With an increased frequency and severity of storms, increased "sunny-day flooding" along coasts, heavy "rain bombs," and more intensely hot days spread out over more of the summer, the effects of climate change have become more apparent to American and international observers. Yet there has been limited political action to address climate change, and no national action to put a stop to the worsening situation. Meanwhile, activities that have caused rapid climate change have been accelerating unabated. As David Wallace-Wells has pointed out, more than half of all the CO_2 put into the atmosphere by our burning fossil fuels has been generated within the last thirty years—that is, not only within the lifetime of most people likely to be reading this, but also after it was known and confirmed by scientists throughout the world that global climate change was underway and that it was caused primarily by our putting CO_2 into the atmosphere.

Climate change is such a huge and complex phenomenon that individual action has little effect. To address the problem requires large-scale action that is likely only if large numbers of people demand it, and before that happens, people's emotions as well as their minds have to be engaged. That hasn't happened yet on a large enough scale to bring about the dynamic political action needed. As a pithy, vivid, sensory, and memorable form of writing, poetry has the potential to stimulate readers to demand action. There are many ways that poetry can make climate change more real, more local, and more palpable in its terrifying actuality.

In order to avoid fruitless efforts, it's worth identifying some of the reasons why published work on climate change has so far failed to connect with most people. A primary reason might be that the facts about climate change don't fit our preconceptions about reality, a reason

that Naomi Klein explores in *This Changes Everything*. We rejoice in the way nature renews itself in timeless cycles of death and rebirth, and we find affirmation in returning to the same landscapes and finding what we expect to find—but that reality no longer holds: Climate change is altering nature's cycles and often permanently changing the landscapes we know. Our optimistic gene tells us to believe in progress, that eventually we can always overcome obstacles—but we are not even doing what we know will lessen climate change, such as eliminating all fossil fuel use. And most of us cannot conceive of an economic system to replace our current capitalist economy, which because of its emphasis on growth and development of natural resources, many scholars and activists have fingered as an abettor of climate change.

Then, too, no particular weather event is due solely to climate change; perhaps forty percent of the intensity and frequency of a storm may be due to climate change, for instance, so describing a storm or flood or drought doesn't necessarily describe an effect of climate change. And, apparently, the more powerful hurricanes and other megastorms and unusual flooding we see now are the relatively benign beginnings of climate change: The most dramatic effects that would make the most gripping poems are yet to come; as James Kunstler says, it's a "long emergency," and we are just at the beginning. More difficult yet for writing about climate change, the topics aren't very suited to poetry: Sea-level rise, ocean circulation, incremental changes in the arrival of seasons, rainfall patterns, and the statistics and data sets that support scientists' conclusions aren't experienced on an individual or emotional level. Poetry that does address climate change is likely to be so dark and heavy and impersonal that few would want to read it.

There are many approaches to writing about climate change that might avoid these problems: For instance, a poem could illustrate a local instance of just one aspect of climate change. A poem may consider how as CO_2 increases in the atmosphere, food crops tend to produce fewer nutrients—today's lettuce and tomatoes and other vegetables are less nutritious by as much as one third than a generation ago. Bill Siverly's poem "The Last Garden" in this issue illustrates the problem

by putting it into a larger historical context, beginning with Columbus encountering the Tainos in the West Indies with their many gardens, and not knowing he had found a paradise. The poem concludes with an effect of climate change on the speaker's Pacific Northwest garden:

> For thirty years in Portland I've worked a dozen knee-high mounds,
> learning what foods would grow in sunlight filtered through firs:
> potatoes, bush beans, beets, lettuce, and sometimes tomatoes.
> Paradise permitted an extra crop of corn salad all winter long.
>
> I know what the last garden will grow: More carbon dioxide
> makes bigger leaves so plants make more sugars,
> but nutrient values decline: less protein, calcium, iron, and vitamin C.
> We work so hard to manufacture a perfectly empty paradise.

Or, a poem may consider how as temperatures increase, acts of violence in our neighborhoods—domestic disputes, bar fights, road rage, gang shootings—proportionately increase. Or a poem might take as a starting point how the increase in average temperatures produces favorable conditions for vector proliferation: The mosquitoes that carry dengue, yellow fever, and Zika expand into new areas, infecting ever greater numbers of people. What does that mean for the Pacific Northwest?

The "heat island effect" could generate any number of poems, illustrating how urban areas, with their massive amounts of concrete and few trees, absorb heat and retain it as surrounding areas cool off. In addressing the social justice issues of the heat island effect, Nadja Popovich and Christopher Flavelle of the *New York Times* took five cities throughout the US as case studies, including Portland, Oregon. What was found, unsurprisingly, is that areas where wealthy people lived—with tree canopies, foliage between widely spaced houses, and

fewer paved areas—were as much as ten degrees cooler on hot days than nearby areas where less wealthy people lived, where there were fewer trees or other foliage, and apartment buildings and commercial or industrial buildings were close to each other. Another starting point for poems could be the Northwest's rainfall—it's typically steady and long-lasting, but the increased water-carrying capacity of warmer clouds has in the past few years occasionally produced torrential downpours of an inch or so within minutes.

A second way to approach writing about climate change is to pursue a series of "cascading events," in which one incident triggers subsequent events. One instance we've seen repeated recently is a forest fire which burns off the trees, shrubs, and mosses on a hillside, followed by winter rains that send the now unsecured rocks and mud tumbling down the hillside. The back story might be that warming temperatures led to drought that stressed the trees that left them vulnerable to beetles that killed the trees which led to their drying out and being primed as tinder for a fire.

In a poem which takes a local instance of one aspect of climate change—record-breaking temperatures—Tim Gillespie outlines just such a cascading event:

> Out On A Record-Breaking Warm Saturday In January
>
> The shocking day: the sun blinding, gloves
> crammed in my pocket, jacket over my arm,
> steam rising from the drying-out, early
> flowering viburnum and daphne in the air—
> a bounty so unexpected, a slap of joy.
>
> "Beautiful day," I say to a woman digging
> in her yard. We've nodded other times when
> I've walked by her house a half-mile from mine.
> "Yes," she says, "unseasonably warm," brushing back
> a strand of hair with her muddy glove. "I wonder

what it means, though," she says, her trowel
plunging into the dirt, "and if we should worry."

The what-it-means: glacial melting, coral
reefs bleached of life, tsunami and storm surge,
rising seas swamping small villages, drought
looming and fire and mudslide to follow—-
a small scent of wintersweet punches my nose.

Some cascading effects are more complex. For instance, scientists such as Nancy Black, Heidi Cullen, and others who wondered about a Puget Sound pod of orcas that showed up in Monterey Bay this summer—an unusual occurrence—hypothesized this sequence: The killer whales came so far south looking for food because their prime prey, gray whale calves, were scarce this year. Gray whales had fewer calves because they had too little to eat the preceding summer. Gray whales eat amphipods, small crustaceans which feed on the algae that grows on and within ice in the frigid Bering Sea. The summer before this past summer, the water in the Bering Sea feeding grounds was more than eight degrees warmer than average, which led to massive melting of arctic ice, which has led to less algae, which has led to fewer amphipods, which has led to fewer gray whale calves, which has led the killer whales to leave their Pacific Northwest waters. A poem might pursue such a cascading effect in any of a number of ways—with a series of questions, with a narrative, or with a structure that imitates the feedback loops involved, such as a villanelle, sestina, or pantoum.

A third approach to climate-change poetry could be to represent the trees and plants and insects and rocks of the nonhuman world as living creatures deserving of as much respect as humans or any other resident on the earth. A major character in Richard Powers' novel *The Overstory*, for instance, is an ancient coastal redwood named Mimas. As one defender of trees, Nick, arrives to see the tree for the first time, "He opens his eyes on the trunk of Mimas, the largest, strongest, widest, oldest, surest, sanest living thing he has ever seen." Mimas and other

trees play what Powers calls "starring roles" in the novel, yet they are never humanized, never sentimentalized, but retain their own "treeness," evident as one character pats the tree, "who has, that very day, eaten four pounds of carbon from the air and added them to its mass, even in late middle age." The trees acquire greater significance as we learn more about them as trees, rather than by attributing human values and characteristics to them. "We have to un-blind ourselves to human exceptionalism," Powers says. "That's the real challenge." Or as Robinson Jeffers put it a generation ago, "We must uncenter our minds from ourselves; / We must unhumanize our views a little."

Another approach to writing poems may be to tell stories about unusual events caused by climate change using a narrative structure. The story of a twelve-year-old boy killed by anthrax in Siberia several summers ago is particularly riveting: Abnormally high temperatures in the far north—95 degrees Fahrenheit—melted the permafrost, releasing trapped anthrax bacteria, which can survive for hundreds of years in frozen dead bodies—in this case, most likely reindeer which died in a 1941 anthrax outbreak. Once the human or animal remains have thawed, anthrax spores can spread into groundwater. In addition to the one boy's death, forty-one other children and thirty-one adults were hospitalized in the anthrax outbreak, and 2,300 reindeer died. And there's the story reported by Alec Luhn and Elle Hunt of the scientists stuck inside their research station on one of the Izvestiy Tsik Islands in the Arctic, surrounded by ten hungry polar bears: The sea ice had melted before the bears could spread out as usual to the other islands to look for food, so they besieged the research station, the only likely source of food on the island, with its protein-rich humans inside. David Wallace-Wells advises on writing about climate change:

> There is no single way to best tell the story of climate change, no single rhetorical approach likely to work on a given audience, and none too dangerous to try. Any story that sticks is a good one.

Stories, especially with human characters as in the anthrax and polar-bear siege stories above, tend to engage readers' emotions more than static descriptions, so poems with some narrative element may be more successful in dealing with climate change. What stories of climate change in the Northwest are waiting for a poem?

Besides stories of the effects of climate change, poems might also tell the story of climate change activism on a local level. Climate change marches and testimony before governmental bodies could generate poems, as could also community efforts to address climate change issues. Bette Lynch Husted offers one model for telling a story about a political march in her "Women in Pendleton" when she describes the Women's March which was held the day after the presidential inauguration of January 2017:

> My granddaughter can't wait.
> She hopes there will be fireworks. Maybe bulls!
> She grips her sign: *We're All In This Together*. "You okay?"
> I ask her mother. Mostly white faces in this crowd.
> She nods. "For the first time since election night,
> I'm not afraid."
> . . . . . .
> "I believe," we say. That women's rights are human rights,
> that Black lives matter. Immigrants matter, Standing Rock
> matters, Dreamers, science, public lands. . . .
> . . . . . .
> In her pocket-search
> for animal crackers we've somehow exchanged signs
> so granddaughter's says *Bridges Not Walls* and now
> she's making her way around the courthouse hedge
> toward her new friend, another brown-skinned girl:
> *I'm the face of America!* Cheers rise around us.
> It's the largest demonstration our town has ever seen
> and we can breathe again. On the way home,
> signs waving like wings, our small girl flies.

Husted localizes the poem in Pendleton and personalizes the poem by making her granddaughter a focal character. Before the sections quoted here, the poem also establishes a context for the march by describing Pendleton the morning after the November 2016 presidential election, telling the reader that "This morning we are stunned to silence." The Women's March presents a counterpoint to that silence.

The abstract and sterile language of scientists is partly responsible for most people tuning out discussions of climate change. In *Losing Earth: A Recent History*, Nathaniel Rich parallels public perception of climate change to public perception of damage to the ozone in the atmosphere, first identified in 1974. The United Nations in 1977 established a "World Plan of Action on the Ozone Layer," but no progress was made on a planned global treaty. When in 1985 a chemist who had identified the problem used the phrase "ozone hole" in a university slide lecture, the *New York Times* immediately used it in an article and, Rich writes, "The ozone crisis had its signal, which was also a symbol: a hole."

The image caught the public's attention, and public pressure for action led the Reagan administration to reverse its position ("too much uncertainty in the science to justify any further regulation") and propose a 95 percent reduction in the synthetic chlorofluorocarbons responsible for damaging ozone molecules in the atmosphere. "The urgency of the alarm," Rich says, "seemed to have everything to do with the phrase 'a hole in the ozone layer,' which, charitably put, was a mixed metaphor. For there was no hole, and there was no layer." Ozone, he explains, is distributed throughout the atmosphere, not in a layer. But in satellite images colorized to show ozone density, the darker areas without ozone appeared to be a hole. The overwhelming public response to the ozone crisis, as Rich tells it, is largely due to the metaphor one person came up with to describe it. What comparable metaphors might poets, our culture's premier metaphor-makers, develop to describe climate change? Poets and writers in the humanities could take the language of science and repackage it in more vivid and sensorially appealing terms to similarly engage a wider swath of the public.

An even more challenging approach to writing about climate

change is to connect the dots in disparate news stories. Why, for instance, has immigration become such a top issue in both the US and Europe? "The migrants want a better life," we're told. And what is wrong with the lives they've been living? Gang violence and civil war are often as far back as daily news stories go in identifying causes. Go further, and it's often an effect of climate change that underlies the more immediate causes. In *National Geographic*, Gena Steffens describes conditions in the Central American "Dry Corridor" stretching through Guatemala, Honduras, and El Salvador. An interagency study led by the United Nations World Food Program found that it's the effects of climate change that have led to massive emigration from the region:

> The main "push factor" identified was not violence, but drought and its consequences: no food, no money, and no work. Their findings suggest a clear relation between climate variability, food insecurity, and migration, and provide a frightening window into what's to come as we begin to see the real-world effects of climate change around the world.

Similarly, record droughts in the Middle East since 2006 and, in some areas of Syria, up to seventy-five percent crop failures and the death of eighty-five percent of livestock, due primarily to climate change, are often cited as underlying causes of the Syrian civil war, which has led to massive migrations into Europe and other regions.

The UN International Organization for Migration suggests that "climate- and environment-induced migration is likely to become one of the key challenges of the 21st century." For thirty years, Oregon has had a sanctuary law to make the state a safer place and to protect immigrants from racial and religious profiling and harassment. Seattle and almost half the counties of Washington State also have sanctuary laws. What poems are waiting to be written of climate refugees' experiences in the Pacific Northwest—new languages heard in stores and on streets, new foods on grocery shelves, employees from a greater range of other places?

Most environmentally conscious people believe that invasive species of the plant and animal kingdoms need to be prevented from becoming established. Barry Lopez links that belief to anti-immigrant politics in many countries today, and argues that our attitudes need to change:

> These judgmental attitudes toward exotic animals and plants overrunning indigenous animals and plants, of course, differs little from the attitudes of an indigenous human culture toward an invasive human culture, or an entrenched human culture toward an influx of representatives from an "exotic" culture.
>
> Evolution, if it is nothing else, is endless modification, change without reason or end. Notions of preserving racial purity in the twenty-first century, or of maintaining biologically static environments, in which all new arrivals are classified as "invasive" or "foreign" and are to be expunged, or are not permitted entry to start with, are untenable. . . . All landscapes are on their way to becoming something else, with incremental slowness and terrifying speed.

We are observing that many species of sealife are moving further away from the equator as climate change warms their home waters, migrating north in the northern hemisphere and migrating south in the southern hemisphere. Tree ranges are also migrating. Becky Kerns and David Peterson, research foresters with the US Forest Service's Pacific Northwest Research Station, advise that because plant specifies differ in how they tolerate and adapt to climate change, "future climatic changes will produce new vegetation communities." With different vegetation, we'll be seeing different insects and animals as well. Foresters in Oregon and Washington have been recommending that residents plant drought-tolerate species as the more rain-loving trees and plants succumb to the effects of climate change. We do have some agency in the new mix of vegetation. What poems might be generated out of this situation? Welcome letters to new arrivals? Invitations to

particular species? Apologies to the elements of the natural world which we have damaged, asking the pardon of specific animate beings and inanimate objects?

As species with less ability to survive climactic changes disappear and fiercer rainstorms and wildfires alter landscapes we've known and loved for generations, perhaps the literary genre of *consolatio* would be most appropriate. Practiced by such ancient writers as Cicero, Seneca, and Boethius, the *consolatio* or consolation offers solace to those grieving the loss of a loved one. The form flourished in ancient Greece and Rome, and again in the European Renaissance, because it acknowledged the validity of grief and mourning, it noted that all must die, and it offered encouragement in the healing process that enables us to move beyond our most intense grief and adapt to a world without the loved one. As the current "sixth extinction" continues, we must learn to adapt to a world without many long-time inhabitants.

As the facts of climate change become more widely understood, many people are experiencing anxiety, particularly young people. The usual terms to describe the feeling vary—*climate anxiety, climate grief, eco-anxiety, climate distress, environmental melancholia*—though one term has received greater attention than others, *solastalgia*, a word coined by Glenn Albrecht, an environmental philosopher, who with the words "solace," "desolation," and "nostalgia" in mind, combined the Latin *solacium* (comfort) with the Greek *algia* (pain). Albrecht defines the term as "an emplaced or existential melancholia experienced with the negative transformation (desolation) of a loved home environment." Simply put, he says, it's "the homesickness you have when you are still at home," because the landscape has been damaged and your sense of place violated. Particularly among young people, for whom the future looks bleak, anxiety about climate change has led to anger at the unwillingness of those in power to take action, frustration at being unable to do anything to change what's coming, and fear that bringing children into a world of coming disasters would be condemning them to a life of misery. Poems of consolation could address the distress and hopelessness widely felt.

Therapists dealing with eco-anxiety say that acknowledging and talking about the coming effects of climate change is essential in addressing the mental health issues climate change is generating. How do we start the conversation? One way is to write a poem of address, to a specific audience. It might be a poem directed to a community meeting—a local school board, a town council, or an activist group. Or it might be a poem addressed to a particular group such as a department of co-workers, or to an individual—maybe a friend or a family member. The goal is to raise questions, to address concerns, to generate hope, and—essential for maintaining hope—to stimulate action.

One of the most honest writers on climate issues, Roy Scranton, considers life for our children in his essay "Raising a Daughter in a Doomed World." Having considered what scientists are saying, he recognizes, "We're fucked. The only questions are how soon and how badly. . . . we have likely already passed the point where we could have done anything about it." Yet, he says, "I can't seem to let go of the dumb hope that we might somehow find the wisdom to live within our planet's ecological limits." He presents to the reader what he plans to teach his new daughter: "that all things die, even her and me and her mother and the world we know, but coming to terms with this difficult truth is the beginning of wisdom." The teenage Swedish activist Greta Thunberg has chosen many different audiences to address her messages to, including Donald Trump, US Senators ("If you want advice for what you should do, invite scientists, ask scientists for their expertise. We don't want to be heard. We want the science to be heard.") and the World Economic Forum in Davos, Switzerland:

> We are at a time in history where everyone with any insight of the climate crisis that threatens our civilisation—and the entire biosphere—must speak out in clear language, no matter how uncomfortable and unprofitable that may be. . . . Adults keep saying: "We owe it to the young people to give them hope." But I don't want your hope. I don't want you to be hopeful. I want you to panic. I want you to feel the fear I feel every day.

> And then I want you to act. I want you to act as you would in a crisis. I want you to act as if our house is on fire. Because it is.

Thunberg uses poetic techniques in her speeches—here, anaphora (the repetition of "I want you to"), simile ("as if our house is on fire"), and other rhetorical techniques— variable sentence length, and parallel structure (civilization / biosphere; uncomfortable / unprofitable). What we need are poems that "speak out in clear language" as powerfully as Thunberg does to generate discussion, action, and hope.

Poetry has always taken on the biggest subjects—imagine Milton writing *Paradise Lost* "to justify the ways of God to man"!—and climate change offers as big a subject as we're ever likely to encounter on earth, with the extinction of the human race at stake. It's a whole new area of poetry-writing that has hardly begun to be explored. Though individually we cannot bring the developed world to live within the planet's ecological limits, we can alter how we think about the unknown catastrophes which are inevitably coming: We can address the realities clearly and empathetically in our writing. William Stafford could just as well be advising not to ignore the looming threat of imminent climate change in a poem he wrote in 1953:

> A Ritual to Read to Each Other
> If you don't know the kind of person I am
> and I don't know the kind of person you are
> a pattern that others made may prevail in the world
> and following the wrong god home we may miss our star.
>
> For there is many a small betrayal in the mind,
> a shrug that lets the fragile sequence break
> sending with shouts the horrible errors of childhood
> storming out to play through the broken dike.
>
> And as elephants parade holding each elephant's tail,
> but if one wanders the circus won't find the park,
> I call it cruel and maybe the root of all cruelty
> to know what occurs but not recognize the fact.

And so I appeal to a voice, to something shadowy,
a remote important region in all who talk:
though we could fool each other, we should consider—
lest the parade of our mutual life get lost in the dark.

For it is important that awake people be awake,
or a breaking line may discourage them back to sleep;
the signals we give—yes or no, or maybe—
should be clear: the darkness around us is deep.

—Bill Siverly and Michael McDowell

Works Referred to in this Essay

Glenn Albrecht. "The Age of Solastalgia." *The Conversation.* 7 Aug. 2012. Web. 16 Sept. 2019.

Nancy Black. Quoted in Mariel Padilla. "Pod of Killer Whales Makes Rare Visit to Monterey Bay." *New York Times. 22* June 2019. Web. 3 Sept. 2019.

Heidi Cullen, Andrew Devogelaere, and John Ryan, "Why Are Whales Dying?" *New York Times.* 23 June 2019. SR 5. Print.

Lauren Gambino. "Greta Thunberg to Congress: 'You're Not Trying Hard Enough. Sorry.'" *The Guardian.* 17 Sept. 2019. Web. 17 Sept. 2019.

Tim Gillespie. "Out on a Record-Breaking Warm Saturday in January." *Windfall* 16.2 (2018). 23. Print.

Bette Lynch Husted. "Women in Pendleton." *Windfall* 15.2 (2017). 16. Print.

Robinson Jeffers, "Carmel Point." *The Collected Poetry of Robinson Jeffers.* Ed. Tim Hunt. 5 vols. Stanford, CA: Stanford University Press, 1988-2002. Vol. 3: 399. Print.

Becky Kerns and David Petersen. Quoted in "Predicting the Unpredictable: Potential Climate Change Impacts on Vegetation in the Pacific Northwest." *Science Findings* 184 (April 2016). Print.

Naomi Klein. *This Changes Everything: Capitalism vs. The Climate*. New York: Simon and Schuster, 2014. Print.

Kunstler, James Howard. *The Long Emergency: Surviving the End of Oil, Climate Change, and Other Converging Catastrophes of the Twenty-first Century.* New York: Grove Press, 2005.

Barry Lopez. *Horizon*. New York: Alfred A. Knopf, 2019. Print.

Alec Luhn. "Anthrax Outbreak Triggered by Climate Change Kills Boy in Arctic Circle." *The Guardian.* 1 Aug. 2016. Web. 9 Sept. 2019.

John Milton. *Paradise Lost.* 1667. New York: Penguin, 2003. Print.

Nadja Popovich and Christopher Flavelle. "Summer in the City Is Hot, but Some Neighborhoods Suffer More." *New York Times.* 9 Aug. 2019. Web. 4 Sept. 2019.

Richard Powers. Quoted in Kevin Berger. "Richard Powers: There Are Things More Interesting Than People." *Literary Hub.* 23 April 2018. Web. 9 Sept. 2019.

Richard Powers. *The Overstory: A Novel.* New York: Norton, 2018. Print.

Nathaniel Rich. *Losing Earth: A Recent History.* New York: MCD-Farrar, Straus, and Giroux, 2019. Print.

Roy Scranton. *Learning to Die in the Anthropocene: Reflections on the End of a Civilization*. San Francisco: City Lights Books, 2015. Print.

Roy Scranton. "Raising a Daughter in a Doomed World." *We're Doomed. Now What? Essays on War and Climate Change.* 319-34. New York: Soho Press, 2018. Print.

Bill Siverly. "The Last Garden." *Windfall* 18.1 (2019). 30. Print.

William Stafford. "A Ritual to Read to Each Other." 1953. *The Way It Is: New and Selected Poems.* Minneapolis: Graywolf Press, 1998. 75-76. Print.

Gena Steffens. "Changing Climate Forces Desperate Guatemalans to Migrate." *National Geographic.* 23 Oct. 2018. Web. 9 Sept. 2019.

Greta Thunberg. "'Our House Is on Fire': Greta Thunberg, 16, Urges Leaders to Act on Climate." *The Guardian.* 25 Jan. 2019. Web. 17 Sept. 2019.

United Nations International Organization for Migration. Migration and Climate Change. Web. 11 Sept. 2019.

David Wallace-Wells. *The Uninhabitable Earth: Life after Warming*. New York: Tim Duggan Books, 2019. Print.