

Artistic Witness and Response to Environmental Violence

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Engaging Environmental Violence

This chapter engages with the concept of environmental violence to explore how art has witnessed and responded to human-produced pollution and its associated violence on human health and well-being. In this application of the environmental violence framing, this chapter seeks to deepen our understanding of the role of art in drawing our attention to the direct and indirect risks associated with anthropogenic pollution, ecological impacts, and climate change.

The most effective alert to the threat of climate change is likely to come from the world of art rather than of science, because art has such an extraordinary way of cutting across human society.

—*Thomas Lovejoy, conservation biologist*

15.1 Introduction

Climate change is a current form of profound environmental violence that disproportionately affects the quality and length of life of people that live in minority, Indigenous, or poor communities. Climate change and environmental violence systematically impact socially and economically disadvantaged communities due to factors such as the historical legacy of where certain peoples were forced to live, a limited access to resources, and existing income and language barriers. As climate change impacts manifest, the physical and mental health of these communities are threatened.

Due to the slow onset of climate change and its impact across vast geographies, people struggle to comprehend the magnitude of disruptions and how those impacts are being personally experienced. Many other issues of environmental violence, such as air pollution or water contamination are also invisible, diffuse, and incremental in nature. Artists focus on those intimate details of place, observing and documenting ephemeral and abrupt changes. Artists, therefore, offer a

means of witnessing and communicating environmental violence through the creative production of aesthetic works. The word aesthetic comes from the Greek, *aisthētikos*, of sense perception and *aisthanesthai*, to perceive. Thus, through works of art, music, and literature artists interpret and depict elements of the environment so that others may become aware of those other existing realities through direct sensory experience. These works give us the experience of being woken up to the world and encourage us to look closer – seeing things for the first time, even if they have always been there. Across artistic mediums, music and writing, artists communicate what is often intangible, helping us to cope with, or draw attention to, social and environmental issues such as climate change.

Artistic responses to environmental violence are often place specific. Intimate connections with a landscape allow for detailed insight into the emergent impacts of climate change on our health, well-being, and knowledge. As landscapes are open, dynamic, and adaptive systems, they provide immediate experience in which we deepen our knowledge and develop ideas. The language we employ describes the present-day landscape, telling what we see or recalling what we have seen, and conveys the history of place through its named features often revealing how we try to make “what is separate from us a part of where we are.” As Barry Lopez wrote: “A neck of land, an arm of the sea, rock nipples, the toe of a slope, the mouth of a river, a finger drift, the shoulder of a road ... We put a geometry to the land – backcountry, front range, high desert – and pick out patterns in it: pool and riffle, swale and rise, basin and range” [1]. Through the naming of places, knowledge is concretized.

Memories are inscribed in the names, geometries and patterns of the physical landscape. The places are written, engraved and printed in our minds, drawn within us to be sensed as deeply as possible. “Returning to a place, experiencing its material presence, plays an active role in recollection in a profound sense, linking persons and events, situating them in a landscape” ([2], p. 295). Those memories may return with the sight of familiar landscapes, the smells, sounds, or tastes, or through the touch of landscape beneath hand, between fingers, or under foot. Robert Macfarlane describes remembering the terrains of travel through his bare feet as “textures, sensations, resistances, durably imprinted memories ... footnotes, born of the skin of the walker meeting the skin of the land” ([3], p. 159).

As places are changed with the loss of native species, and disappear under rising seas, our ability to recall memories is challenged, and new memories are born from the transformed landscapes. The lost landscapes and the memories that inhabit them, have resulted in long-term emotional impacts. This existential distress caused by environmental change or human activity that transforms the landscape one inhabits is referred to as solastalgia [4]. The new terms of eco-anxiety and climate anxiety that are emerging describe the stress of perceived and anticipated threats to existing ecosystems and landscapes [5]. Ecological grief and climate grief

are rising in use to describe feelings of grief related to ecological loss, vanishing forms of ecological knowledge, and the disappearance of place-specific activities, such as ice skating on local ponds that no longer freeze in warming winters [5–7]. These ecosystem distress syndromes are tied to both nostalgia of place that arises as people must move away from landscapes no longer habitable, and the pain of solastalgia that arises from staying in place and watching a familiar landscape be “rendered unrecognizable by climate change or corporate action” [8]. The climate crisis is thus woven into our individual and community identities, our personal and communal landscapes, and the future we will collectively inhabit.

While the psychological effects of climate change are not fully understood, it is clear that the impacts of climate change are disproportionate and differential. Those most reliant on land for livelihood, such as fishermen, farmers, and Indigenous Peoples, are more exposed to the climate crisis. Geographical differences in where we live manifest in our health. Where some people are advantaged, and others are disadvantaged by the patterns and processes of place. This difference in place has been referred to as “place poverty” and “place affluence” [9]. For example, communities that live in sparsely treed urban environments will be disproportionately impacted by the urban heat island effect due to rising global temperatures and occurrences of extreme heat.

Experiences of environmental violence, such as climate change and insecurity related to land, food, water, or energy resources, manifest in our bodies, as they tell a story about the conditions of our existence [10]. In water security research, scholars have documented how lack of access to drinking water and perceptions of acceptability of drinking water supplies are a lived experience [11–13]. The impacts of which are embodied, become internal, and arise in our mental health [11, 14, 15]. People without basic water services have been found to experience higher rates of personal water-related injury due to the mental toll and physical burden of fetching water [16, 17]. Mental health impacts include feeling unsafe while collecting water or while using sanitation facilities, and chronic stress due to constant uncertainty and concern of water-borne illness [16]. Globally, research has shown that water insecurity increases psychosocial distress, risk of depression, anxiety, and negative emotions like anger, shame, humiliation, and frustration [18–24]. Those incarnated health impacts can have intergenerational effects [15].

Similarly, studies of climate change and extreme weather have revealed that stress, anxiety, depression, and fear are increasing as people experience flooding and storm surges that threaten property, communities, cultural places, and human life [25, 26]. Globally, the mental and physical impacts of climate change are diverse and nuanced. How climate change and environmental violence are affecting mental well-being will continue to evolve, especially as its full impacts on cultural resources, historical places of subsistence and tradition, and spaces of shared memory and kinship are realized.

Compounding the concern of the changing environment is the recent trend of language to use non-descript words and terms, such as lake, bird, mountain, instead of the specific or a name. This movement of language reveals societies' growing lack of familiarity with nature [1, 27]. This disconnection between people and nature may mean people do not see the changes or do not have the words to describe the impacts and, therefore, may be unmotivated to protect the environment from continued degradation [28, 29]. Art offers a means of joining us to nature, bringing us in closer association to landscapes and experience at this critical time of climate crisis and distancing.

This chapter focuses on works that combine artistic enterprise and environmental communication to provide sensory experiences that convey the intimate manifestations of environmental violence [30]. The chapter is organized around the elements from Indigenous and spiritual knowledge, and their associated sensory organ in living creatures: space (ears), air (skin), fire (eyes), water (tongue), and earth (nose). The art forms and artistic expressions respond to the harm and impacts at different scales, such as individual, community, and global. Through this chapter, I hope to encourage examination, not just of the elements and associated five senses, but consideration of other means of perception that may not be captured here, and how those faculties may perceive environmental violence. While artistic responses included in this chapter are categorized in one of the elemental and sensory groups, perception is intersensory [31]. The information derived from one sense influences what is perceived by another [31]. As a result, our senses are engaged in a constant interplay, entangled with one another.

Finally, given the space limitations of this chapter, it is not possible to include all of the artworks responding to environmental violence. This chapter seeks to provide an introduction to some of the artworks witnessing environmental violence, in the hope that it will inspire consideration of the role of art in addressing the challenges of our time. Further, through art we can consider the stories told through deep traditions of art, such as in Indigenous cultures, including through storytelling, chant, basketweaving, carving, weaving, canoe building, pottery, fashion, tattooing, petroglyphs, and floral arts. These art forms and artworks often capture mythology, folklore, and celebrate nature, convey proximity to landscape, and act as witness to environmental violence.

15.2 Space (Ears)

In her print *The Poetic Body: Poem Ears* (1992), Lesley Dill considers the relationship between language and the human body [32]. Dill's print shows two sketched ears connected by a U-shaped string of Emily Dickinson's words: "I heard, as if I had no Ear/ Until a Vital Word/ Came all the way from Life to me/ And then

I knew I heard.” Dickinson’s lines underscore the importance of hearing to processing sound into language [33]. Those sounds emerge from place and shape the listener’s perception of reality. As we construct language from sounds, they inform human consciousness and thinking. As Mosab Abu Toha writes: “When you open my ear, touch it/ gently./ My mother’s voice lingers somewhere inside” [34]. These memories are sound based and live in the ear, then mind. These memories emerge through notes, tones, and pitches, and may be remembered and recalled through voice, poetry, storytelling, and music.

As poems give form to memories, they encourage us to pay attention to specific moments unfolding all around us, to “... hear the singing of the trees when they are fed by/ Wind, or water music—” [35]. In capturing these moments, poems may act as a means of attestation to environmental violence and articulation of environmental hope [36]. Poems also allow for exploration of potential futures or possible realities. For example,

One doesn’t often hear a tree calling in the distance./ Although once, in a windy hardwood forest, I thought/ I heard “oak” slowly being sung in the deepest, fullest/ bass voices rising up from the earth to surround me,/ and a whistling soprano “suuuumac” coming/ from the open foothills, accompanied by the whispering/ “cececedar” in the background for rhythm [37]

These ideas have us consider what it is we do not hear, not because it does not exist, but because we cannot sense it. These living worlds of vibrant matter speak to the vital force inherent in all beings and material forms [38]. Upon recognizing this, we are challenged to reflect on our relationship with landscape and nature, what we know, and how our senses contribute to that ever-developing knowledge.

“Poetry is not purely a personal concern or event; its spiritual evolution comes from one’s responsiveness to a community” [39]. It helps us to learn to “turn to, not from, an earth we are perilously close to ruining for ourselves as well as for the nonhuman” [40]. For example, Rita Wong’s poetry collection, *undercurrent*, draws attention to the destruction of the environment by focusing on water [36]. Wong’s references “unceded streams” that were stolen “from the salmon who swam them,” acknowledging the other life forms that depend on the waters we also use. This perspective offers alternate ways of living with water replacing the “pipe grid” where water and fish are commodified as “resources” with a belief that respects them as inhabitants of a shared “riparian” home [36].

Poetry pushes us to acquire new perspectives, to

try to remember that the wood and cement walls/ Of this room are being swept away this very moment./ Molecule by molecule, in a slow and steady wind,/ And that nothing at all separates our bodies/ From the vast emptiness of space .../ I try to recall that at this moment/ Somewhere millions of miles beyond the dimness/ Of the sun, the comet Beila, speeding/ In its rocks and ices, is just beginning to enter/ The widest arc of its elliptical turn. [41]

Simon Ortiz also stresses the relationship between humans and nature in his poetry, as he celebrates the relationship he has with everything, encouraging us to let the vastness of the universe into ourselves [42]. Poetic images juxtapose “the green fields” of the native landscape to the “yellow / and dry” lands that have become useless without water [43]. Ortiz’s poetry emphasizes the violence that has been borne by the Earth, and by Indigenous Peoples as he shares stories of harsh environments that have been endured and survived, of the living forms encountered along the way, and of the colonialization of the lands that forced relocation of Indigenous Peoples [43]. These poems allow us to hear personal experiences of environmental violence and destruction. Through the rhythm and words, poetry negotiates between the personal and the evolving world, its history, and the present-day realities. The words chosen and used in poems can be a form of prayer, where words effect meaningful change [44].

Music too is being used as a powerful medium to communicate environmental violence. As Bertolt Brecht wrote: “In the dark times, will there also be singing?/ Yes, there will be singing./ About the dark times,” music has featured nature’s sounds in order to warn of impending threats [45]. For example, Judy Collins’s 1970 album *Whales and Nightingales* adapted the traditional whaling song, “Farewell to Tarwathie” to include the songs of humpback whales to call attention to the diminishing numbers of humpback whales and their risk of extinction due to commercial hunting until 1965. “Farwell to Tarwathie” introduced millions of listeners to the haunting sounds of the humpback whale, and helped to launch the anti-whaling movement of the 1970s along with biologist Roger Payne’s album, *Songs of the Humpback Whale* [46, 47]. Similarly drawing attention to threatened animals, naturalist David Stewart and the Bowerbird Collective recorded the songs of 53 Australian birds that are at risk due to human activity and climate change for the album, *Songs of Disappearance*. The album went viral and was number three on Australia’s top 50 albums chart in December 2021, helping to call attention to the plight of many native Australian birds [48].

Music has also been used to convey Earth’s rhythms and the rhythms of climate data. Judy Twedt transforms decades of numerical scientific data, such as the loss of Arctic sea ice into piano pieces that audibly relay the disappearance of sea ice by moving from high notes to low notes [49]. As data changes over time, the dynamism of music allows listeners to experience that longitudinal change. In this way, Twedt uses music to help listeners emotionally respond to climate data, to approach the science from a new perspective, and to connect with one another in the face of loss and change [49].

Musicians, such as the Halcyon String Quartet, use music to stimulate discussion around environmental issues. Halcyon incorporates spoken word and background displays of photography and artwork during their live musical

performances in order to compel the audience to consider what changes they observe in their landscapes and seascapes. In this way, their music contributes to dialogue, promotes learning, reflection, and understanding, and responds to the tragedy of climate change [50].

An innovative, historical means of portraying humanity's relationship with nature in the pre-industrial era was Antonio Vivaldi's *The Four Seasons*. Each of the four concertos has a corresponding sonnet, believed also to have been written by Vivaldi. The sonnets and music were meant to accompany one another, and in their bounded way describe aspects of each season through word and music, such as when "[s]pringtime is upon us/ the birds celebrate her return with festive song" and "[t]hunderstorms ... heralds of Spring, roar,/ casting their dark mantle over heaven ..." [51]. Reflecting the unfolding climate crisis, musicians took *The Four Seasons* and altered the scores using the data from the Intergovernmental Panel on Climate Change (IPCC) report's RCP 8.5 future scenario, which assumes no restriction on greenhouse gas emissions. The new compositions transpose knowledge into feeling, evoking a new sense for what climate change would mean for humanity in 2050 [52]. The medium of music to convey this possible future is powerful and evocative, and can draw a response of tenderness, grief, love, joy, and sadness from its audience that inspires action.

As poetry and music help us to hear new perspectives, storytelling and oral tradition offer a means of collecting stories of environmental violence, and a tool for building community [53]. Indeed, through sharing stories, communities create bonds and a narrative of understanding that becomes collective knowledge [53]. Stories help to give structure and coherence to ideas that allow us to view reality through a new framing [54]. Through those frames, elements of reality are magnified or minimized to affect their salience. This facilitates the processing of new information by evoking mental structures and helps to naturalize ideologies [54]. Stories from the local context allow people to experience realities from a distant geography or gender and share representations of their different lived experiences related to environmental violence. For example, story narratives communicate how acts like fetching water from the land are personally embodied by women, and imbued with social relations involved in water procurement and consumption, and preferences related to water's appearance and taste [55]. Stories help make differential injustices visible, offer a tool to conceptualize and confront asymmetries of power and inequalities in societies, and create space for dialogue that shares knowledge and cultural exchange. Through stories people can represent themselves and promote other forms of knowledge and alternate epistemologies in the communication of complex issues, such as environmental violence in the onset of climate change. This representation allows for visibility and inclusion, as diverse voices from Indigenous Peoples and marginalized groups shift narratives

and perception of climate impacts on their communities. In this way, our ears facilitate knowledge of our landscape, society, and selves, through the lessons and memories shared through spoken words, music, and sound [27].

15.3 Air (Skin)

Through our skin we breathe, we feel all the tactile aspects of life, from pleasure to pain. Our skin provides an intimate connection to place, as Pattiann Rogers describes through the “rejuvenating powers” of “[l]ying down naked every morning in the dew.”

As a toad in the forest, belly and hips, thighs/ And ankles drenched in dew-filled gulches ...
[a]ll of the skin exposed directly to the *killy* cry/ Of the kingbird, the buzzing of grass-hopper sparrows,/ Those calls merging with the dawn-red mists/Of crimson steeplebush, entering the bare body then/ Not merely through the ears but through the skin. [56]

In those experiences, our bodies tell a story that cannot be “divorced from the conditions of our existence” (p. 350) [10]. Therefore, understanding how environmental violence may affect our bodies and well-being necessitates first understanding the relations between a person and place.

While our skin seems a boundary separating oneself from the outside, as skin breathes and experiences the humidity, the visibility, heat, or precipitation of space, the perceived sensorial boundaries between areas become unclear [30]. As Louise Ho describes in her poem *Storm*: “... the enveloping hot air, ungiving, with not a flicker/ of movement, a still thermal from which there is no relief. You are/ surrounded by hot air, buoyed up by hot air, weighed down by hot air./ You inhale hot air, you swallow hot air, you feel hot air behind the ears,/ between the legs, between the toes, under the feet” [57]. In air, aspects of the atmosphere, such as breath, particulates, aerosols, and humidity are aggregated, thus, blending the edges between people, regions, and events [58]. Indeed, our bodies sense and experience the connectedness of scales and quickly recognize the fluctuating conditions of space like air pollution through more or less exhaust or fresh air, or pollution’s severity depending on time of day, season, or personal perception [30]. Air then scales down global environmental politics to the personal politics of health [58]. Through air, the atmosphere becomes tactile.

Despite air’s presence floating above and all around us, it is often less studied. Artists have sought to make the relations and movements between body and air more visible, asking us to consider the dialectics of solidity from solids to permeable skin, and all things’ impermanence and eventual return to dust [59]. Even in the absence of solidity, there is substance around us. “Air is not a one, it does not offer fixity or community, but it is no less substantial. The question is whether we can

feel it” [58]. In his work, Timothy Choy explores air as medical fact, bodily engagement, constellation of difference, and index of international comparison, helping to draw attention to how air orients us to social and cultural practice, as well as weather events and economic relations [58]. For example, through smell, breath, air conditioning, anthropogenic emissions, smoking, wind, weather, and topography, air is recognized to be co-produced by the engagements between people and air, and to reflect the evolving relationship of humans and the environment [58, 60].

Due to air’s differences in composition and distribution, and how it flows across space and geographic scales, questions of justice and equity emerge. How are air spaces distributed? Who breathes the cleanest air? Disadvantaged communities have higher rates of health conditions, such as heart disease, diabetes, chronic obstructive pulmonary disease, and asthma as they are disproportionately exposed to environmental conditions like extreme heat and smog [61]. Death has become a proxy for air’s effects as scholars map daily mortality risks of poor air quality, the lack of trees to mitigate extreme heat, and the high asthma rates experienced in marginalized communities [62, 63].

To explicitly examine ideas around air pollution and ownership of air, artists from Kitchen Budapest and Baltan Laboratories in Eindhoven, the Netherlands, created an installation series, *Air Slaves* [30]. The installation invited visitors to use wearable masks to collect their own breath in bags that were then displayed in the installation space. Amassed, the bags of air visualized the process of breathing, created connection to the exhaled breath of others, showed the bodily proximity to air, and underlined the physicality of “used” air. In versions of the art installation, the audience could consider access to good quality air as a commodity, not as a basic right [30].

Differences in air quality and geography have been shown to be a determining factor in whether a community is at higher risk of coronavirus (COVID-19) due to underlying lung diseases and asthma resulting from regular exposure to air pollution from nearby automobile and industrial pollution [30]. Breath, the quality of air, and the slogan, “I can’t breathe” have become central to understanding systematic racism of failed environmental protection laws, environmental violence, civil rights, zoning and housing laws, and international human rights laws [30, 64]. Air invites us to consider the connection between breath and justice, the breath that is vulnerable, unacknowledged, plain, or labored. To think of moments where we held our breath in fear, in anticipation or in excitement. To consider the last breath, and how many African American men have used that singular breath to say “I can’t breathe.” Through the exploration of our breath, the exhaled or held breath, the breath which emerged in chest-tight breathlessness or in buoyant laughter, we begin to recognize the connections between justice and air. Who breathes cement? Who breathes specific landscapes?

15.4 Fire (Eyes)

Through the eyes, art bears witness to the times in which humans have lived. Artists have sought to remind us through the “poetry of witness” of the loss, joy, wonder, grief, and destruction being experienced daily around the world [65]. The images conjured in the words of poems and stories recreate moments in time and call people to action. Theater uses language and body to visually address environmental violence through productions or staged readings that respond to the ecological crisis [66]. Plays can enliven and transform our experience of the world, introduce us to new perspectives, inspire us to listen better, and instill a deeper sense of community [66].

For example, in an effort to affirm and deepen our collective memory of the passenger pigeon, Feral Theatre of Brighton, UK created a memorial of tributes to the bird. Emily Laurens’s drawings in the sand depicted a flock of passenger pigeons as shadows moving over the beach [67]. The drawings were beautiful and haunting, appearing as full body silhouettes pressed into the wet sand, the pigeons’ wings arched and moving toward the sea. Laurens’s art compelled the viewer to consider when passenger pigeons were so abundant, they would blacken the sky as they flew overhead. From billions of birds to none, the passenger pigeon went extinct in 1914 due to commercial hunting and habitat loss [68]. Feral Theatre has also organized events focused on extinction and ecological loss, including “Remembrance Day for Lost Species” and “Funeral for Lost Species.” These events seek to display grief for ecosystems and species and allow for the release of suppressed emotions through ritual. After the grief rituals, mourners may move forward with strengthened practices to grieve environmental destruction they bear witness to. Theater may also explore change. A series of eight plays by Chantal Bilodeau examined the social and environmental impacts of the climate crisis on the eight Arctic states, such as the competing interests shaping the future of the Canadian Arctic and the local Inuit population.

Artists have used photography, painting, and public art installations to help people to see the unseeable effects of environmental violence. Some works use time-based media to show the longitudinal impacts of climate change on mountain and ocean ecosystems, while others display variation over time, creating art such as “tideline as timeline” where people can witness the tideline’s fluctuations over thousands of years due to geological, social, and historical changes [69, 70]. Art pieces also share underrepresented voices or reverse perspective. For example, Jenny Kendler’s *Birds Watching* features a single eye from 100 bird species that are threatened by climate change [71]. The exhibit’s use of birds’ eyes allows the viewer to become the subject of the birds’ fixed gaze in the hope that this inspires people to engage more deeply with the natural

world [71]. Exhibitions such as “Big Weather” at NGV Australia’s Ian Potter Centre featured Aboriginal and Torres Strait Islander Peoples’ cultural knowledge of the weather and its changes. The artworks detailed social and environmental issues, such as the legacy of colonialization, slavery, water policy, and climate change [72].

To make visible the environmental violence of air pollution, the artist Amy Balkin symbolically purchased emission trading certificates and created a “clean air” park above major cities [30]. In these parks, Balkin created imaginary blocs of cleaner air that hovered above the city skylines. This allowed Balkin to evoke a desire for better air quality through an almost sensory experience of the desire for clean air. These parks encourage people to think about air pollution, the commodification of air, and air as a public good [30].

These works build on a history of art that sought to capture the ephemeral quality of nature, and preserve the memories attached to fleeting moments of beauty. From the ancient petroglyphs of Alta, Norway and Lascaux, France, to the land art of Andy Goldsworthy, artworks often used found materials to create pieces that emerge and merge from the surrounding environment and erode over time. During the US land art movement of the 1960s and 1970s, installations like *Lightning Field* by Walter De Maria helped people to meditate on changing perceptions of time and place, and the role of land in modern society [73]. While Agnes Denes’s *Wheatfield—A Confrontation* sought to draw attention to US society’s misplaced priorities and values through an artistic act to protest climate change, economic inequality, and world hunger [74]. Created structures in land art help people consider natural forms and beauty in a new way, and increase awareness regarding the importance of environmental preservation. Further, sculptures created in abandoned surface mines, such as those by Robert Morris sought to highlight the traumatic impact humans have had on the environment in pursuit of coal, ore, and other minerals.

To spark environmental and social change, especially around tree planting and urban renewal, Joseph Beuy developed the project “7000 Eichen (7000 Oaks)” in 1982 [75]. Over five years, the project planted 7000 oak trees throughout the greater city of Kassel, Germany [75]. Beuy believed the tree to be “an element of regeneration which in itself is a concept of time It has always been a form of sculpture, a symbol for this planet” [76]. Each tree was paired with a columnar basalt stone approximately four feet high that pointed upwards and was positioned above ground. The basalt column sought to mark the planting of the trees as the beginning of the tree planting movement, the “transformation of all life, of society, and of the whole ecological system” [76]. The visual language of these installations and of art allow concepts to be captured and depicted in innovative ways; they and challenge us to consider what we are paying attention to.

15.5 Water (Tongue)

In response to environmental violence, artists have used taste as a mechanism to convey and call memories of place and to reveal the consequences of climate change at the table, to your dishes, and to taste. These artworks convey the power of the tongue in shaping experience. Indeed, how:

[w]ater soothes, food pleases, song delights it/ ... Fluent in a language of unspoken yearning./ Dull at the tip, dull edged, and dull of color;/ But by taste, by touch, keen; by articulation/ Into the consonant and vowel, noun and verb,/ The curse, the invocation, keen and capable/ Of moving faster than we know to move it;/ ... Untrustworthy, seduced by flavorful/ And deadly toadstools [77]

The tongue, with its taste and sensorial qualities, and its possible attributes as loose-tongued, two-tongued, lost or tongue-tied, guides our experiences and informs our understanding.

Norwegian media artists Zane Cerpina and Stahl Stenslie created a multi-media *Anthropocene Cookbook* that explores the relationship between humans and food, our dependence on food and the environment for our survival, and changes humans have caused due to consumption and the development of synthetic sources of food [78]. The book proposes tastes of anthropogenic pollution that stage both utopian and dystopian imaginaries [78]. For example, it describes cuisines that include powdered meteorite, speculates on what an era characterized by smog could taste like, and offers concoctions such as Highway Blend, a “cocktail of exhaust particles” and salts and minerals extracted from the snow of city roads [78]. By asking us to consider these fantastical edible futures, the book challenges us to think about whether it is ok for us to eat the mythical creatures of today, such as the overfished, endangered, or threatened species that may be traditional to or coveted by certain cultures. The book invites us to think about who will eat what, by what choice and, therefore, who eats what today, and by what choice.

Many places, too, are defined by taste and cuisine. Regional cookbooks often have recipes for dishes that call for local plants and animals, foraged, hunted, or picked from nearby forests, streams, and fields. Drawings and photographs often included in the cookbooks display the beauty of the food. These traditional recipes, subsistence activities, and local food security will be threatened by climate change. Such transformations and environmental violence force us to consider what will happen when those ingredients of place are no longer possible. What will it mean for memory, for connection to landscape?

In many places, access to sufficient food, and food of high-quality nutrition are challenging. In the United States, many neighborhood environments contain stimuli that encourage food addiction, overeating of low-nutrition foods, and obesity. These places, sometimes referred to as “obesogenic,” are often populated with

unhealthy food advertisements that contribute to childhood and adult obesity [79, 80]. Food marketing that uses “sensory marketing” is based on “embodied cognition,” where bodily sensations help determine human decisions without conscious awareness [79]. Our health is not only impacted by sensory marketing, but we also embody neighborhood environmental stressors and toxins, such as the presence of per- and polyfluoroalkyl (PFAS) substances in water, the use of prescription drugs, or bisphenol-A (BPA) in food and water containers [80].

People experience and perceive the taste of food and water differently. In Labrador, Nunatsiavut, Alaska, and Nunavut there is a cultural attachment to raw, non-chlorinated drinking water, such as from melted ice and rivers, as the communities believe that raw water is of superior quality in terms of taste, health, and safety [81–83]. In Alaska’s northwest Arctic region, people associate the taste of chlorine with cancer, and distrust the centralized water system due to colonialization [13, 84]. Research has shown that violations of interpersonal justice can trigger a heightened sense of taste and smell, where disgust joins “dis” and the Latin word “gusto,” meaning taste [85]. People then experience a distaste toward those who have violated their sense of dignity and respect.

Taste is, therefore, influenced by historical trauma and present-day environmental injustice. Flint, Michigan became the site of a public health crisis in 2014 when it was revealed that water was polluted with lead. Flint’s poor and largely African American population were less protected from the water pollution than other communities [86]. The artist, Pope.L drew attention to this water contamination crisis through art installations, such as “Flint Water Project” which bottled water from Flint and turned the bottles into a series of art objects [87, 88]. As perceptions of the environment change, so too do concerns regarding water quality and the way that residents use water resources [89]. In an act to remember clean water and undammed rivers, the artist Betsy Damon brought together paper-makers and artists to create a paper casting covering 250 feet of a dry riverbed in Castle Rock, Utah. The art piece was installed in seven venues across the United States from 1986 to 1991 and brought attention to dry riverbeds to serve as a living memory of missing water.

15.6 Earth (Nose)

Trash, wet grass, lilac blossoms, smoke. Every day we are exposed to fragrances and odors, that “... walk right through, transparently,/ ... all day long they saunter/ In and out my nose:/ Orris-root and camphor,*/ And wild wet rose./ ... Strange, the daily habits-- / Informal at the most-- / Of smells that act like fairies,/ Or nothing, or a ghost” [90]. Smells can signify a place, such as salt air close to the sea, or

... driving through north Texas,/ past thirty miles of stockyards,/ hundreds of thousands of cattle,/ ... The smell was immense, it soaked/ through the car: I held my breath,/ but I just burst when I drove past .../ ... After a while you lose your sense of smell./ Life is gentle that way, and cruel. The world/ renders itself senseless for us and/ we get used to everything.

Whether it is cattle's mud in Texas, or basil in Greece, scents may be so common to a place that they become imbued with meaning and conjure memories of home [91].

Scents leave a lasting mark on human perception and memory [30]. Those smells conjure living and past people and places, "... a tree smelling/ of citrus & jasmine that knocks/ me back into the arms of my dead/ mother .../ a tree I can't see, but can smell/ ... my mother's skirt twirls/ & all i smell is her ghost, perfume" [92]. Despite smell's power, it is often forgotten in the company of the other senses [31]. It has suffered a "reversal of cultural fortune" so that it is rarely captured, and existing historiographies are narratives of decline and deodorization [93]. For those in the late eighteenth century, there was a witnessing of a "lowering of olfactory tolerance" where societies moved graveyards to the edges of cities, to cleanse streets and markets, and to ventilate buildings in order to make them simultaneously healthier and sweeter-smelling [31].

Much of the effort to deodorize arose from the concern that certain foul odors were fatal. In the 1880s and 1890s, belief moved from the perception that although noxious fumes may indicate unhealthy conditions, they were not in themselves hazardous. Yet, foul odors were still viewed negatively as they continued to be perceived as indicative of germs and disease [31]. In the twentieth century, the concerted effort to bathe, shower, and deodorize societies continued, with soaps and other hygiene products promoted by advertising campaigns that stigmatized bodily odors [31]. By the 1960s, anthropologists said "the extensive use of deodorants and the suppression of odor in public places" had made America "a land of olfactory blandness" [31].

In recent years cultural historians have begun to examine not only when and where odors mattered more in the past, but also how and where particular odors mattered or were said to matter. Scholars have drawn attention to the ways in which odor terms have been used to stigmatize and stereotype social and ethnic groups in contexts such as slavery and segregation [94]. While other scholars have shown how the metaphorical and symbolic languages of odors used in late medieval and early modern pageantry and drama constructed social and sexual distinction [95].

Smell is cultural, with each smell coming into being in the nose of the perceiver [31]. The sense of smell is therefore "uniquely visceral" and personal [96]. Smells may provide a sense of security, well-being, and pleasure and enable learning experiences beyond language [97]. A study that sought to understand how

olfaction affected geographical knowledge in children explored how scents tied to six cues informed their understanding of space, including the smell of pastries to illustrate bakeries, rubber to represent traffic, and fresh grass to illustrate green spaces or the countryside [97]. Such studies have helped confirm smell's role in informing experience, knowledge, and well-being.

Due to smell's qualities as subjective and volatile, olfaction is a vital tool for sensing and staging environmental risk and inequality [96]. In these environmental contexts, risk perceptions tied to an industrial plant have been measured through interpretations of odiferous hydrogen sulfide emissions [98]. Workers in factories that emitted hydrogen sulfide began to realize that they would physically change due to gas inhalation, as it diminished their olfactory abilities [31]. With a reduced sense of smell, the signaling system between olfaction and satiation is diminished. This negatively impacts mental health through lack of satiation and impeded sociability as links between meaningful olfactory signals and perception of emotions are lost. Environmental violence may therefore be perpetuated through physical damage to olfaction as smells transform a person as they are taken into the body [91, 96]. This violence is differentiated given specific livelihoods or geographies.

To raise awareness of the unpleasant smells connected to urban air pollution, and the impact of scent on the body, artists created *Smog Perfume*. The art installation invited the audience to spray the distilled scents, such as "rotten egg," "burning alcohol," and "salted fish" on their skin [30]. Through this, the art seeks to draw attention to daily exposure to these smells and their impact on lived experience, such as the smell of waste correlating positively with disgust and sadness and negatively with joy [99]. Other artists have explored how Latino communities exposed to freeway exhaust and pesticides are impacted, while other artists respond to racialized discourse about Asiatic odors, and the destruction of Indigenous smells-capes due to colonialism [96].

These artworks demonstrate the power with which smell affects memory, and the violence that air maintenance and control enact on poor and marginalized communities. Unevenly polluted airspaces are distributed across social landscapes, and smell communicates "risk perception in literature, olfactory art, and environmental justice discourses" [96]. Air and the smell carried in it become the "element for theorizing social relations and affect in material terms" [96]. Smell connects urban geographies with agricultural landscapes, or freeway construction with abandoned oilwells or coal mines. The resulting geographic inequities manifest in the body and health. Olfactory perception should, therefore, be considered beyond the individual sensory experience, in order to explore smellscales and the larger frames of decolonization, emancipation, and environmental violence [96].

15.7 Conclusion

Artistic responses to environmental violence in the context of climate change outlined in this chapter highlight how works can mobilize a sense of urgency and empower multi-sensory understandings of the impacts of environmental violence. These artworks develop narratives that encourage us to remember former landscapes and witness contemporary conditions [55]. They make visual what others cannot see, such as embodied geographies and the consequences of injustice. Art provides an emotional language for us to discuss environmental violence through its affective, experiential, and embodied qualities. By diversifying the stories told so that they include the perspectives of many people, and other species and material forms, art can encourage new ways of knowing and of experiencing. As the art communicates these perspectives, we develop shared memories through spoken or written words, and visual works that inform how people understand environmental violence, its causes, and potential remedies. Through this collective understanding, we will be empowered to address environmental violence and work toward a more just and inclusive world. A world that recognizes the diversity of lived experiences, the embodied impacts of change and loss, and the interconnected nature of humans with all earth.

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