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SENSING THE FUTURE IN THE ANTHROPOCENE: MULTISENSORY ARTWORKS AND CLIMATE CHANGE

Riley E. Dunlap and Aaron McCright mention various strategies of denial in the context of climate change—the denial of global warming, of its anthropogenic sources, or of its seriousness.[1] The climate change skeptics remain reluctant to admit scientific evidence proving the reality of climate change. Research-based arguments remain insufficient for many due to their unwillingness to believe in existing scientific evidence. Ewa Bińczyk has described numerous strategies within the global warming denial movement; she also emphasizes its political aspect, claiming that "denying facts and fabricating doubts are special rhetorical strategies of the Anthropocene."[2] In addressing those issues we are faced with crucial questions about how to shape new narratives that could challenge the existing marasmus of imagination in the Anthropocene.[3] In this context, there is a possibility to

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[1] Riley DUNLAP and Aaron MCCRIGHT, "Climate Change Denial: Sources, Actors and Strategies," in *Routledge Handbook of Climate Change and Society*, ed. Constantin Lever-Tracy (Abingdon: Routledge, 2010), 240.

[2] Ewa BIŃCZYK, *Epoka człowieka. Retoryka i marazm antropocenu* (Warsaw: Wydawnictwo Naukowe, PWN 2018).

[3] The term 'Anthropocene', which emphasizes human-induced changes on the geological scale (see Paul J. CRUTZEN, "Geology of Mankind," *Nature* 415 [January 3, 2002], 23) is still being discussed, as researchers search for alternative terms that emphasize various aspects of the proposed epoch—such as a relation to capitalism (Jason W. Moore's 'Capitalocene'), the aspect of multispecies co-existence (Donna Haraway's 'Chthulucene'), or 'Carbocene' (which will be discussed further in this article, a term proposed by Timothy James LeCain to foreground the importance of burning fossil fuels). Recognizing those discussions, I decided to use the term 'Anthropocene' as the most applicable and appropriate in the context of the artworks analyzed here.

consider the role of environmental art[4] in the contemporary discourse(s) about anthropogenic planetary crisis(es). Clara Muller has emphasized the importance of art in raising climate change awareness:

> Studies conducted by environmental psychologists have demonstrated that art is impactful for climate communication, where scientific reports, data, and images fail. Not only does art take people out of their routine, but it also "requires parts of the brain that are not normally accessed by typical communications about climate change".[5]

The affective and reflective responses to art, and the ability of artistic practices to foster the imagination and create narratives are crucial factors that contribute to the importance of this way of communication about essential environmental issues. Muller explains that one vital role of art can be to provide the possibility to personally experience narratives that emphasize the growing discontinuity in consumer society between the expanding knowledge of climate change (including statistics and data presented in the media) and everyday life's "relatively limited experience of the phenomenon".[6]

This article's critical question is whether art that yields multisensory experience(s) can bridge the gap between scientific evidence and everyday/personal experiences and contribute to a better understanding of current and future environmental issues. There is no doubt that art history's traditional ocularocentric approach diminished the role of non-visual senses in evaluating the aesthetic properties of an artwork. However, accompanying the "sensory turn"[7] in the humanities, there is a significant increase in publications that examine multisensory aspects of art as more and more

[4] As Marianna Michałowska states, "'Environmental art' would, therefore, be a name for artistic activities originating, among others, from land art, ecological art and participatory art." Marianna MICHAŁOWSKA, "Artists in the Face of Threats of Climate Change," *Oceanologia* 62, no. 4PB (2020).

[5] Clara MULLER, "Eco-olfactory Art Experiencing the Stories of the Air We Breathe," in *Olfactory Art and the Political in an Age of Resistance*, ed. Gwenn-Aël Lynn and Debra Riley Parr (New York: Routledge, 2020), 66.

[6] Julien KNEBUSCH, "Art and Climate (Change) Perception: Outline of a Phenomenology of Climate," in *Sustainability: A New Frontier for the Arts and Culture*s, ed. Sacha Kagan and Volker Kirchber (Frankfurt am Main: Verlag für Akademische Schriften, 2008), 243, quoted in MULLER, *Eco-Olfactory Art*, 66.

[7] David HOWES, *The Sensory Studies Manifesto Tracking the Sensorial Revolution in the Arts and Human Sciences* (Toronto: University of Toronto Press, 2022).

artworks engage various senses.[8] Within this body of research, one of the emerging topics is the relationship between contemporary art that is concerned with environmental issues and sensory perception.[9]

The article analyzes artworks by Dagna Jakubowska, Diana Lelonek, and Peter de Cupere.[10] The projects described below propose various speculative narratives that allow us not only to imagine alternative future(s), but also to experience them sensorily by making them disturbingly material and present. In each example, the environmental issues are raised by sensorial experiences. The artists encourage us to listen to melting glaciers, taste the dishes of the apocalyptic future and smell polluted air in order to materialize the vision of climate change, which for some still remains an abstract concept rather than an ongoing reality. The empirical sensory experiences become arguments in discussions about the anthropogenic roots of climate change. Considering that the purpose of speculation is to "unsettle the present rather than predict the future,"[11] the artists have created projects that are rooted in contemporary environmental issues, but which exceed the present by utilizing sensory experience to materialize utopian or dystopian scenarios. The artists allow us to see, smell, touch, listen to or taste our (im)possible future(s) in order to "unsettle the present".

HARVEST FESTIVAL ON A DAMAGED PLANET

In her project *Our Daily Bread. Harvest Festival of the Future* (2020), Dagna Jakubowska encourages us to participate in a seemingly traditional

[8] See, e.g., Patrizia DI BELLO and Gabriel KOUREAS, *Art, History and the Senses—1830 to the Present* (Farnham: Ashgate, 1996); Francesca BACCI and David MELCHER, eds., *Art and the Senses* (Oxford: Oxford University Press, 2013); Anna KRÓLIKIEWICZ, ed., *Międzyjezyk* (Sopot: Wydawnictwo Doczute, 2019); Dorota KOCZANOWICZ, *Pozycja smaku. Jedzenie w granicach sztuki* (Warsaw: Instytut Badań Literackich PAN, 2018); Marta SMOLIŃSKA, *Haptyczność poszerzona: zmysł dotyku w sztuce polskiej drugiej połowy XX i początku XXI wieku* (Kraków: Universitas, 2020).

[9] See, e.g., LYNN and PARR, *Olfactory Art*; Peter de CUPERE, ed., *Scent in Context: Olfactory Art* (Duffel: Stockmans, 2016).

[10] There are numerous artworks that engage multisensory stimuli—the proposed choice is based on the intention to present artworks that concentrate on particular senses—taste in the works by Dagna Jakubowska, smell in Peter de Cupere's art and hearing in the case of Diana Lelonek.

[11] Anthony DUNNE and Fiona RABY, *Speculative Everything. Design, Fiction and Social Dreaming* (London: MIT Press, 2013), 70.

harvest festival. Jakubowska prepares a feast with three different menus.[12] Each of the menus reflects speculation about imaginary scenarios of the future. There is a utopian menu for the vision of abundance, a more realistic version for times of scarcity, and a menu designed for food to be eaten after the apocalypse, portraying the worst possible scenario. In the last case, the food availability is very limited, and thus the menu is restricted to only three "dishes"—consisting of Japanese knotweed, "bread dust" and "volcanic bread". In this project, Jakubowska is interested in various areas of research and speculation: recultivated cereals, weeds, invasive species, marine resources, mushrooms, mosses, lichens, and food crises. In organizing this feast, Jakubowska materializes the fears and hopes of humankind by inscribing them into the prepared dishes.

The concept of the project is related to *dożynki* (harvest festival), an annual celebration rooted in pre-Christian Slavic cultures. The aim of the festival is to celebrate the yearly harvest; nowadays, the event merges secular and sacral elements, with an important influence from the Catholic Church. However, Jakubowska was also interested in the way in which this festival became crucial in Polish People's Republic—it was used as a medium of propaganda to illustrate the abundance of food products that were produced by the state. Jakubowska describes these harvest festivals as "monuments of prosperity" as their aim was not only to express gratitude for the harvest but also to celebrate the sense of community and "strengthen belief in the future, the hope that this prosperity will last forever."[13] Her project disrupts this hopeful vision—the proposed scenarios include not only a vision of abundance but also one of extreme scarcity.

By inviting the audience to the feast, Jakubowska proposed a multisensory embodied experience in which her speculative version(s) of the future could be seen, smelled, touched, and consumed. Barry C. Smith notes that in our everyday experiences we often remain unaware of the multisensory

[12] Menu 1. Abundance: einkorn wheat, oyster mushroom, Japanese rose, wild leaves, Khorasan wheat, emmer wheat, Irish moss, wood ear, Japanese rose, kelp, common nettle, teff, quinoa. Menu 2. Scarcity: chestnuts, acorns, white mustard, Japanese rose, sea lettuce, birch bark, Jerusalem artichoke, pollen, GMO corn, Japanese knotweed, amaranth, wild black cherry, beech nut, rye, Iceland moss, acorns, Irish moss, sea oak, wood ear, soya bean. Menu 3. Apocalypse/Nothing: Japanese knotweed, bread dust, volcanic bread (materials provided by the artist).

[13] Dagna JAKUBOWSKA, "Our Daily Bread. Harvest Festival of the Future," project description, materials provided by the artist.

integration that takes place when we are tasting a dish.[14] He describes the complexity and multisensory aspect of the taste experience, writing "what we call tasting is always a combination of touch, taste, and smell: the texture and the temperature of the food in the mouth, the aromas reaching the nose from the plate and from the mouth all add to the taste sensations on the tongue."[15] Jakubowska concentrated not only on the taste of the dishes but also on their presentation, visual properties, textures and smells. It should be added that multisensory integration is not only connected to taste, and even though we have the tendency to consider senses in their isolation, our sensory perception is not only a result of multisensory integration but is also affected by our mental/cognitive states.[16] The consumption and sensory experience of the dishes were meant to have an emotional impact by stirring the audience's imagination into different visions of foodscapes to come.

A crucial element of the proposed menus in *Our Daily Bread* was the pieces of bread. This preoccupation with bread continued in the project *The Future Bread* (2021) in which Jakubowska baked three different breads for the audience to taste, touch and smell. Each loaf of bread was served with a napkin explaining the ingredients and giving an insight into a different future scenario.

The first bread was made of quinoa, teff, and common nettle. In the description of this bread, the artist emphasized the inevitability of climate change and its consequences—she predicted that one of them will be the need to sustainably cultivate species from outside Europe that can withstand extreme weather conditions such as heat, drought, and high rainfall resulting in flooding. In the project description, the artist explained that she decided to use quinoa and teff because they are drought tolerant and can withstand high and low temperatures.[17] Teff (*Eragrostis tef*) is an ancient

[14] Barry C. SMITH, "Tasting Flavors: An Epistemology of Multisensory Perception," in *The Epistemology of Non-Visual Perception*, ed. Berit Brogaard and Dimitria Electra Gatzia (Oxford: Oxford University Press, 2020).

[15] Barry C. SMITH, "Food and the Senses," in *Eat me*, ed. Karen Gron (Kolding: Trapholt, 2017), 62.

[16] Lana KÜHLE, "The Emotional Dimension to Sensory Perception," in *The Epistemology of Non-Visual Perception*, ed. Dimitria Electra Gatzia and Berit Brogaard (Oxford: Oxford University Press, 2020), 237.

[17] Dagna JAKUBOWSKA, "Our Daily Bread. Harvest Festival of the Future," project description, materials provided by the artist. On the properties of teff see also Roselle BARRETTO ET AL., "Teff (Eragrostis tef) Processing, Utilization and Future Opportunities: A Review," *Journal of Food Science and Technology* 56 (2021), 3125–37.

grain cultivated in the area of Ethiopia (90% percent of the world's production) and Eritrea. In Ethiopia, teff grains are used in various extruded and baked products, for instance, bread (*injera*, a local flatbread), unleavened bread, cakes, cookies, and pasta. Along with quinoa, teff is described as a novel "superfood" of the future, and the possibility of its cultivation is being explored across the US and Europe (Spain is presently ahead in teff cultivation). Jakubowska is interested in quinoa and teff because of the similarity of their economic and political potential. These food products permit us to visualize the socio-political aspects of food export and the influence that "food trends" have on local communities. The quinoa- and teff-based bread in Jakubowska's project was not only an experiment with taste but also invited reflection about sustainability and the economic and sociopolitical issues connected with food distribution. The fact that teff can be considered a sustainable crop relates to its

> ability to thrive in different climatic conditions where other crops fail … [teff] is resistant to drought and flooding and grows well in both dry and waterlogged soils. In addition, teff can survive without the application of fertilizers and pesticides … its wide range of adaptability makes it a sustainable food source in the future where extreme variations in climate are expected to occur due to climate change.[18]

The scenarios of the future proposed by the artist are linked to the increasing demand for niche crops—quinoa, teff, amaranthus—but also with the revival of ancient folk knowledge about wild plants. For instance, although edible, common nettle is not often used in Polish cuisine. The category of edibility is not only based on an object's taste or nutritional properties, it is also socially and culturally constructed. Therefore, Jakubowska is also interested in changes in these categories, since when we imagine future food scarcity, we also need to consider changes in the concept of edibility. The second bread was made of chestnuts, acorns, and wood ear. The artist described this choice:

> Due to worsening climatic conditions, in times of rapid change, conflict, migration, crop instability, and related food shortages, it will be necessary to

[18] BARRETTO ET AL., 3134.

> reclaim old knowledge on survival strategies in times of crisis, including foraging, management of wild species, including tree fruits and mushrooms.[19]

Jakubowska mentions that acorn flour is an ancient "famine food" as oak trees served as "bread tress" in times of scarcity. Gonzaga, Batista, Guine and Correia describe their findings with the acorn flour used in bread baking (although with the addition of wheat).[20] Interestingly one part of their research was a sensorial analysis of acorn bread. In the study, tasters were asked to rate various multisensory properties of the bread: its crumb and crust colour, aroma, texture, taste, elasticity, and density. The use of acorn wheat in Jakubowska's project affects not only the taste but multiple sensory properties of the bread—it becomes less white, scratchier with less uniformity.

The use of a saprotrophic mushroom called wood ear (*Auricularia cornea*), which is popular in Chinese cuisine although rarely consumed in Europe, relates to the re-evaluation of edibility. The second bread provides a scenario in which survivalists' (preppers') strategies are utilized in order to endure in a changing environment. This can also relate to the contemporary de-stigmatization of survival anxiety and associated practices—such as canning and preserving food, cultivating outdoor skills, and foraging. In this scenario, due to the unavailability of well-known crops, society turns to forgotten knowledge and rediscovers historical famine foods or reevaluates its ideas about edibility by consuming plants that were usually considered weeds, or mushrooms found in the wilderness.

The last bread consisted of corn, amaranth, bread dust, and Japanese knotweed. The artist describes the scenario in which the bread is prepared:

> Monocultures of genetically modified species, including maize, will continue to be grown on depleted and exploited land. A monocultural, apocalyptic landscape, deprived of biodiversity, is in our reality.[21]

Japanese knotweed (*Fallopia japonica*) native to Asia (China, Japan, Taiwan, North and South Korea), in North America and Europe is consid-

[19] Dagna JAKUBOWSKA, *The Future Bread*, project description, materials provided by the artist.

[20] Marta GONZAGA ET AL., "Development and Characterization of Wheat Breads with Acorn Flour" (ICEUBI 2015 – International conference on Engineering, December 2–4, 20215, University of Beira Interior – Covilhã, Portugal), accessed June 8, 2023, https://core.ac.uk/download/70646496.pdf.

[21] Dagna JAKUBOWSKA, *The Future Bread*, project description, materials provided by the artist.

ered an invasive species. In *The Future Bread* project, it becomes the most suitable plant to be a flour source in the apocalyptic scenario due to its potential to grow in extreme conditions such as depleted or heavy-metal-contaminated soil and its remarkable regeneration capacity.

In this project, Jakubowska somehow domesticizes the demonized plant by utilizing its edible qualities. Japanese knotweed tastes similar to rhubarb, although those plants are not related. In the last scenario, only genetically modified crops or plants with extreme adaptability will survive. While tasting the last bread with dust, we can imagine the scorched earth and a monotonous landscape in which almost nothing grows. The bluntness of the flavor is utilized to inspire reflection on the ways in which the loss of biodiversity will cause deprivation of a variety of taste experiences.

Jakubowska chooses a symbolically important food staple, because bread in Polish culture is not only a significant element of the diet but is also embedded with symbolic, ethical, and emotional meanings.[22] Jakubowska uses this principal food because it is well-known and familiar; however, she distinctly alters the bread's sensory properties by using non-conventional ingredients for baking. By this gesture, she emphasizes that due to climate change, our most basic daily and mundane activities will be affected, as the taste of the bread we consume today will no longer be available. The reality of climate change and the consequences of the loss of biodiversity become explicit as the artist encourages the audience to face (and taste) their future reality.

The speculative narrative is rooted in the mundane and ordinary reality of the everyday consumption of bread. In this manner, Jakubowska is bridging the aforementioned gap between the scientific knowledge about climate change and the everyday experiences of the audience members. The artist creates a vision in which the new imported crops, which are able to withstand climate change, and the old knowledge, both contribute to the creation of the foodscape of the future. With the baked pieces of bread, this future materializes and even becomes internalized in the act of ingestion.

In *The Future Bread* the senses are doorways for experiencing speculative scenarios and their imagined foodscapes. Jakubowska shifts from utopian to dystopian narratives, highlighting that the future of food depends on how we will deal with current challenges presented by climate change,

[22] Piotr KOWALSKI, *Chleb nasz powszedni. O pieczywie w obrzędach, magii, literackich obrazach i opiniach dietetyków* (Wrocław: Towarzystwo Przyjaciół Ossolineum, 2000).

migrations, and pandemics. She allows us to "taste" the consequences of both our actions and our idleness.

THE SCENT OF POST-NATURE

Peter de Cupere has been experimenting with multisensory artworks for over twenty years, particularly concentrating on olfaction.[23] In his projects, he often tackles the issue of climate change through sensory experience. Through various sensory stimuli, the artist shares his disturbing vision(s) of the future(s) with the audience. He states that his interest in smell comes from its versatility because it can stimulate many functions, including emotion, memory, warning, and pleasure, but most importantly, awareness. De Cupere states that his work is mainly about environmental problems such as pollution. Hsuan Hsu emphasizes this olfactory art's "capacity to engage with environmental toxicity"[24] due to its affective and immersive qualities.

One of De Cupere's artworks relating to environmental issues, in this case air quality, was the *Smoke Flowers* project (2017), in which flowers, instead of pleasant scents, emit smoke and the fumes of industrial pollution. De Cupere in his projects is often interested in the air itself, since it is the medium in which his olfactory art takes place. However, as Hu points out, "transitory, mobile, and transcorporeal in nature, air cannot function as a pure aesthetic medium: to be perceived, smells must enter and interact with our bodies."[25] In terms of sensory perception, the crucial aspect of air pollution is its lack of perceptibility; hence it is often an "invisible killer":

> The absence of visible smog, smoke, or soot is no indication of air purity. But unless the landscape is obscured by alarmingly high amounts of particulate matter, the issue posed by air pollution remains mostly imperceptible.[26]

However, Muller emphasizes the vital importance of air pollution as a current environmental issue, as it is responsible for 4.2 million premature deaths every year, and predictions are that "when the Earth's average temperature rises to 2 °C above pre-industrial levels, the exacerbated air pollu-

[23] Peter de CUPERE, "Olfactism/Olfactisme, Olfactory Art Manifest," in *Scent in Context*, 101–8.
[24] Hsuan HSU, "The Smell of a Risk," in DE CUPERE, *Scent in Context*, 86.
[25] HSU, 86.
[26] MULLER, *Eco-Olfactory Art*, 65.

tion is forecast to cause no fewer than 150 million deaths."[27] Therefore, in De Cupere's work the scent of polluted air and the visibility of the smoke represent possible difficulties with breathing and eventual suffocation. Polish philosopher Jolanta Brach-Czaina in one of her essays examined the philosophical potential of air and breathing, understanding the act of breathing as a metaphor for our entanglement with the surrounding environment. She writes, "The first, basic and last form of contact with the world? I experience the world as I breathe, as if I knew the pattern of behavior,"[28] and defines human life as entering and exiting the air. De Cupere's work reflects how bodies and their primary functions are, as Jill Bennet puts it, "a part of larger circulation of matter".[29]

On 7–8 June 2023, New York experienced its worst air quality readings in recorded history due to the smoke carried by the wind from wildfires in Canada (mainly Quebec). The striking photos documenting those days circulated online and the orange colors that infused the sky were compared to the scenes from post-apocalyptic movies such as *Mad Max* and *Blade Runner 2*. In an article published in *Time*, Anisha Kohli describes the emotional impact of those days, which was "unsettling as the sore throats".[30] This tangible experience was utilized in the discourse about the perceptibility of climate change, as Kohli explains that "this time the hazard was something you could see, and a reminder of what a warming world brings. The urgency was as close as the air we breathe."[31]

In contrast to this extreme experience, art creates a kind of perceptibility which is not harmful or deadly. The unsettling sensing of the future is presented in a safe environment. However, both in New York (and other East Coast cities) examples and in De Cupere's work, polluted air becomes the medium that evokes the fear of potential suffocation. Interestingly, those two examples also portray the rising importance of bodily knowledge, reminding us that our senses are powerful tools of survival, despite the historical olfactory denigration.[32]

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[27] MULLER, 66.

[28] Jolanta BRACH-CZAINA, *Błony umysłu* (Warsaw: Wydawnictwo Dowody, 2022), 23.

[29] Jill BENNET, "Atmospheric Affects," in *Carnal Aesthetics: Transgressive. Imagery and Feminist Politics*, ed. Bettina Papenburg and Marta Zarzycka (London: IB Tauris, 2013), 116.

[30] Anisha KOHLI, "Confronting Wildfire Smoke and Its Meaning," *Time*, July 3, 2023.

[31] KOHLI, "Confronting Wildfire Smoke."

[32] Eleonora EDREVA, "Olfactory Resistance at the End of the World," in MULLER, *Olfactory Art*, 57.

The *Smoke Flowers* project can also be interpreted in the context of "revenge of nature" scenarios where current natural disasters are read as Nature's way of disposing of those who harm her. In these scenarios, "Earth" and/or "Nature" become anthropomorphized and decide to "punish" humanity for the abuse they have suffered. It is evident that these narratives reproduce the human/nature dichotomy, emphasizing human detachment from natural processes and anthropogenic sources of climate change. These narratives became increasingly popular during the COVID-19 pandemic, sometimes interpreted as revenge by the planet which wanted to eliminate humans.[33] In these narratives, nature itself has agency and humans are species that interrupt the existing balance of nature, whereas nature's purpose is to sustain it. The vision of nature as vengeful Mother Earth can be additionally considered to be a result of environmental guilt.

In De Cupere's installation, plants perform an activity previously limited to human-made objects, as they emit polluting fumes. Those post-natural plants also portray the inadequacy of dichotomies—fusing nature and technology, they are both natural and artificial. This can be related to the "erosion of any comfortable nature/culture distinction",[34] which, as Timothy Clark states, is a crucial process attributed to the Anthropocene.

The artist's choice of flowers that are stereotypically connected with beauty—not only visual but also olfactory—creates a sense of contrast and discrepancy. In De Cupere's work, the weakest, seemingly defenseless entities become a threat, poisoning the air with suffocating fumes. Here nature's revenge narrative has an element of the unforeseen because it takes place in the context of the most fragile and olfactory pleasant beings.

In a similar manner, De Cupere utilized the contrast between various sensory stimuli—visual, tactile, and olfactory—in the work *Smoke Cloud* (2014), in which the audience was invited to climb a ladder and put their head into the opening in a white cloud made of synthetic cotton. The pure whiteness of the cloud and pliable, soft material promised an enjoyable experience. Nevertheless, when they approached the cloud, the audience members were confronted with unpleasant odors of air pollution. We might ask, how did the air pollution smell? De Cupere did not explain the exact

[33] James Robert BREEN and Pamela PENSINI, "Grounded by Mother Nature's Revenge: Anthropomorphizing Nature in the Context of COVID-19 Increases Support for Restricting Leisure Air Travel Mediated by Environmental Guilt," *Experimental Psychology* 69, no. 5 (2023): 284–94.

[34] Timothy CLARK, "Nature, Post Nature," in *The Cambridge Companion to Literature and Environment*, ed. Louise Westling (New York: Cambridge University Press, 2014), 87.

components used to create the odor; however, he mentioned that the intensity of the smell differed with the location of the exhibition—it was made more intensive in Havana than in the Netherlands, that is, the smell intensity was adjusted according to the location.[35] In this way, the issue of air pollution becomes contextualized within the global geopolitical system.

In his ironic *Scented Air Capsules* (2002), De Cupere includes the fragrance and taste of earth and grass and clean sea air. The capsules become a statement about the disappearance of the simplest sensory experiences of nature. The artist proposes a vision of the future in which longing and nostalgia for lost "nature" lead to a situation in which it is altered, reconstructed, and commodified with the use of technology. The synthetic scents speak about the yearning for the simplest sensory experiences, which have become unattainable in the age of post-nature. In a way, *Scented Air Capsules* is similar to Jakubowska's *The Future Bread* project in that they both create a vision of the future by reflecting on the possible inaccessibility of simple sensory stimuli and objects to which they are connected.

Both De Cupere's and Jakubowska's projects speak about being deprived of the most common and everyday sensory experiences—the taste of bread, the smell of clean air and grass. However, they can also possibly make us think about other contemporary issues, because those seemingly basic and accessible sensory perceptions are already signs of privilege and inequality. Because the results of climate change are experienced most profoundly by the poorest, access to some sensory perceptions will be increasingly limited for broader social groups. To describe De Cupere's projects, Hu uses the term 'dystopian scents': since the effects of recent actions could take decades to emerge, De Cupere turns to a speculative—"yet still material and visceral trans-corporeal—form of temporal condensation as a means of manifesting future threats".[36]

ON ICE AND COAL—LISTENING TO THE ANTHROPOCENE

In her project *Melting Gallery* (2019), the Polish artist Diana Lelonek (in collaboration with the Swiss sound artist and composer Denim Szram) recorded the sounds of melting Alpine glaciers (du Rhone, Aletsch, and

[35] Peter de CUPERE, "When Scent Makes Seeing, When Seeing Makes Scents," in *Scent in Context*, 63.

[36] HSU, *The Smell of a Risk*, 86.

Morteratsch). The multichannel sound installation could be understood as a "symphony of transience" and was accompanied by narratives about local rituals and stories from communities facing radical environmental change. Marina Peterson comments that "listening offers a sensorial, embodied means of approaching complex entanglements between forms of matter and their shifting configurations in a changing climate."[37] In the *Melting Gallery* project the sounds of melting glaciers resemble a ticking clock, reminding us about the accelerating changes, their inevitability, and their grim consequences.

In Lelonek's exhibition *On Ice and Coal* (2021) the above-mentioned sounds of melting glaciers were conjoined with the history of coal mining. The multisensory installation *Barbórka* consisted of recordings of the miners' orchestra of the Bytom-Bobrek coal mine made on Saint Barbara's Day in 2019 (this sound installation was prepared in collaboration with Bartosz Zaskórski) and a collection of dried plants. In 2020, the mine was closed down, and so the artists' project can be interpreted as a narrative about postindustrial sites and how nature reclaims them. Lelonek used the ruderal plants that start to grow in damaged postindustrial sites; here, they replaced the figure of Saint Barbara that traditionally was carried by the miners in Saint Barbara's Day processions. The music by the coal-mining orchestra interacts with the sounds of melting glaciers and opens space for a discussion about the environmental impact of the extraction of fossil fuels and the anthropogenic sources of climate change. Lelonek chooses plants that grow in disturbed lands of former coal mines and abandoned industrial areas. She commented that "ruderal plants love growing everywhere where the system has failed. Through their rhizomes they build the foundations for the egalitarian societies of the future."[38]

Timothy James LeCain, in his article "Against the Anthropocene. A Neo-Materialist Perspective,"[39] criticizes the term 'Anthropocene' for its overestimation of human agency and reinforcement of the dichotomy of active human subjects and passive nature. LeCain reverses this dynamic by emphasizing the influence of the environment on humans and their cultures.

[37] Marina PETERSON, "Listening in the Anthropocene, An Introduction," in "Sounds of the Anthropocene," ed. Marina Peterson, special issue, *Sensate* 8 (2021), https://sensatejournal.com/listening-in-the-anthropocene.

[38] Diana Lelonek's portfolio, accessed July 7, 2023, http://dianalelonek.com/portfolio/the-evening-of-interspecies-love.

[39] Timothy J. LECAIN, "Against the Anthropocene. A Neo-Materialist Perspective," *International Journal for History, Culture and Modernity* 3, no. 1 (2015): 1–28.

He proposes the term 'Carbocene', describing it as an "age of powerful carbon-based fuels that have helped to create ways of thinking and acting that humans now find exceedingly difficult to escape".[40] The term 'Carbocene' emphasizes the entanglement of human and non-human entities, visible in our dependency on fossil fuels. Coal and fossil fuels, in general, have become more and more widely discussed topics in the humanities as well.[41]

LeCain criticizes the idea of the "Good Anthropocene", meaning the belief that if humans have done harm to the planet, it can also be "reversed" by human action, e.g. by re-engineering the planet's climate. In Lelonek's work, the revival of post-industrial sites is achieved by ruderal plants rather than human activity.

One of the crucial sentences in LeCain's text is that "coal shaped the humans who used it far more than humans shaped coal", and that is especially visible in Upper Silesia—a region which was built on coal in both the material and mental sense. After the political transformation of 1989, many coal mines were closed, and the region faced decline, struggling with the economic, psychological, and social consequences of the transformation of industrial regions. I would argue that Upper Silesia can be viewed as a region which represents the limitations of our imagination and inability to think beyond coal, as it is still struggling to find a new (post-industrial) identity.[42] Bytom is a city that was highly affected by wasteful economic practices during the socialist period, and struggled with ecological catastrophe. In a way, it is a place where the ecological catastrophe has already happened—and thus, it may serve as a representation of possible future(s) which in this case is found in the historical past. In Lelonek's work, the sound of a miner's orchestra illustrates the changes within the region, still haunted by its coal-focused memories, which mix the material, ideological, biological, social, psychological, and spiritual aspects of the coal industry. Bartosz Zaskórski's piece is not only a recording or an audio archive but also an unsettling composition in which the muffled sounds of the industry seem to be coming from a distant place—perhaps from underground.

The question posed by Marina Peterson, "How might we attune toward a future of radical environmental change and its effect on human and nonhu-

[40] LECAIN, 1.

[41] Marta TOMCZOK, "Karbokrytyka: wstęp do kulturowej komparatystyki węgla," *Wielogłos*, no. 51 (2022): 97–116.

[42] Aleksandra KUNCE and Zbigniew KADŁUBEK, *Myśleć Śląsk. Wybór esejów* (Katowice: Wydawnictwo Uniwersytetu Śląskiego, 2007).

man bodies?"[43] can be also addressed to Lelonek's work. She has combined postindustrial sites' past, present, and future, balancing her work between the narratives of hope, healing, and despair.

SPECULATIVE FUTURE(S)

What links the projects described above is not only their concentration on multisensory perception(s) but also on certain temporalities. Rob Nixon described the concept of "slow violence", which occurs gradually and out of sight, not attracting the attention of the "spectacle-driven corporate media".[44] According to Nixon, the crucial representational, narrative, and strategic challenges are connected with "slow violence's" relative invisibility.[45] Listing the processes linked to this phenomenon, he claims that "climate change, the thawing cryptosphere, toxic drift, biomagnification, deforestation, the radioactive aftermaths of wars, acidifying oceans, and a host of other slowly unfolding environmental catastrophes present formidable representational obstacles that can hinder our efforts to mobilize and act decisively."[46] In the context of the artworks discussed above, Nixon links the effects of those processes with global geopolitical inequalities, which result from power relations, and which mean that the principal causalities of the slow violence are people who lack resources. The long temporal aspect of the effects of climate change is a challenge to our perceptibility, and thus impedes understanding. Therefore, artists seek to breach this temporal veil by designing sensory experiences that provide an insight into the imagined future. An essential aspect of those temporalities is the fact that the future can be discovered within the past—for instance, in the taste of edible wild plants that could be rediscovered as a source of nutrition, or in the sound of the Bytom-Bobrek coal miners' orchestra.

Writing about speculative design and artistic projects, Anthony Dunne and Fiona Raby mention that "we start with laws, ethics, political systems, social beliefs, values, fears, and hopes, and how these can be translated into material expressions, embodied in material culture, becoming little bits of

[43] PETERSON, *Listening in the Anthropocene*.

[44] Rob NIXON, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011), 6.

[45] NIXON, 2.

[46] NIXON, 2.

another world that function as synecdoches."[47] Each of the analyzed artworks translates our contemporary environmental fears and hopes into sensory experiences in order to inspire discussions about potential future(s) that will result from our current (in)activity. They employ the imaginative and affective properties of sensory perception. Muller emphasized the importance of such artistic immersive encounters because mere "images are distanced, detached from one's corporeal experience and sense of interconnectedness with the world."[48]

The rhetorical power of the projects described in this paper is based on the immediacy of sensory experience rather than diagrams or statistical data. They demonstrate that sensory experiences can become a basis for speculative artworks that introduce a different discourse about climate change—emotional, embodied, and tangible.

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[47] DUNNE and RABY, *Speculative Everything*, 70.
[48] MULLER, *Eco-olfactory*, 67.

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SENSING THE FUTURE IN THE ANTHROPOCENE: MULTISENSORY ARTWORKS AND CLIMATE CHANGE

Summary

The article analyzes artworks by Dagna Jakubowska, Diana Lelonek, and Peter de Cupere in the context of sensory perception and environmental engagement. The analyzed projects propose various speculative narratives and sensory stimuli that allow the audience to have an embodied experience of those narratives. Artists encourage us to listen to the melting glaciers, taste the dishes of the apocalyptic future or smell the polluted air in order to materialize the vision of climate change, which for some still remains an abstract concept rather than an ongoing reality. The empirical sensory experiences become arguments in the discussions about the anthropogenic roots of climate change. The article examines the role of senses and art in breaching the gap between scientific evidence and everyday experience regarding climate change.

Keywords: art; senses; Dagna Jakubowska; Peter de Cupere; Diana Lelonek

ODCZUWANIE PRZYSZŁOŚCI W ANTROPOCENIE. WIELOZMYSŁOWE DZIEŁA SZTUKI WOBEC ZMIAN KLIMATU

Summary

Autorka analizuje prace Dagny Jakubowskiej, Diany Lelonek i Petera de Cupere w kontekście percepcji zmysłowej i zaangażowania w aktualne problemy środowiska. Analizowane projekty proponują różne spekulatywne narracje, a wykorzystanie odmiennych bodźców zmysłowych umożliwia widzom doświadczać tych narracji w sposób ucieleśniony. Artyści zachęcają do wsłuchania się w topniejące lodowce, spróbowania potraw z apokaliptycznej przyszłości czy wdychania zanieczyszczonego powietrza, by urzeczywistnić wizję zmian klimatu, która dla niektórych wciąż pozostaje abstrakcyjną koncepcją, a nie trwającą rzeczywistością. Empiryczne doznania zmysłowe stają się argumentami w dyskusji o antropogenicznym źródle zmian klimatycznych. Autorka analizuje rolę zmysłów i sztuki w przełamywaniu dystansu pomiędzy dowodami naukowymi, a codziennymi doświadczeniami dotyczącymi zmian klimatu.

Keywords: sztuka; zmysły; Dagna Jakubowska; Peter de Cupere; Diana Lelonek

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