

## “THERE’S NO FUTURE IN ICE”

### *Lichen, Reindeer, Olfaction, and Environmental Change*

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#### ABSTRACT

Olfaction is a vital and neglected sensory aspect of place-making and interspecies communication. Ephemeral and invisible, smell chemicals are exchanged at all scales, from the molecular to the atmospheric, flowing between microbes, fungi, plants, animals, soil, water, and air. Odorants move through and between bodies and species, integral to life processes and multi-species place-making. However, olfactory orientations are increasingly redolent with the pungent stench of colonial and capitalist over-consumption, extraction, and terra-firming. In the long dark winters across Sápmi, reindeer forage through the forests, attracted by the smells of lichen buried under layers of snow. However, climate change causes rain and unpredictable snowmelt, which then freezes into ice. The volatile chemicals released by the lichen are trapped under the ice, and the reindeer starve. This seemingly small shift in olfactory relations between lichen, reindeer and frozen water has profound effects. This paper describes an artistic research project, *“There’s no future in ice,”* which explores how creative practices can help us better understand the olfactory relations of lichen, reindeer, and ice, experiences of ecological grief and loss, and the response-abilities of settler-colonial consumption.

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<sup>1</sup> Based on Whadjuk Noongar Boodja / Southwestern Australia, Susan Hauri-Downing works at the intersections of social work and artistic methodologies. Her creative practice focuses on bio-cultural diversity, ecological grief and loss, and interspecies relationships. Based in Ubmeje Sápmi/Northern Sweden, Tarsh Bates is a transdisciplinary artist/researcher/educator interested in the aesthetics of interspecies relationships and queer ecologies. We collaborate on the [Scents of Solastalgia](#) project, which considers smell not only as a sensory experience but as a form of ecological memory. We explore how the smells around us change and how creating new smellscape can foster a sense of agency and connection. All images courtesy of the authors, except where indicated.

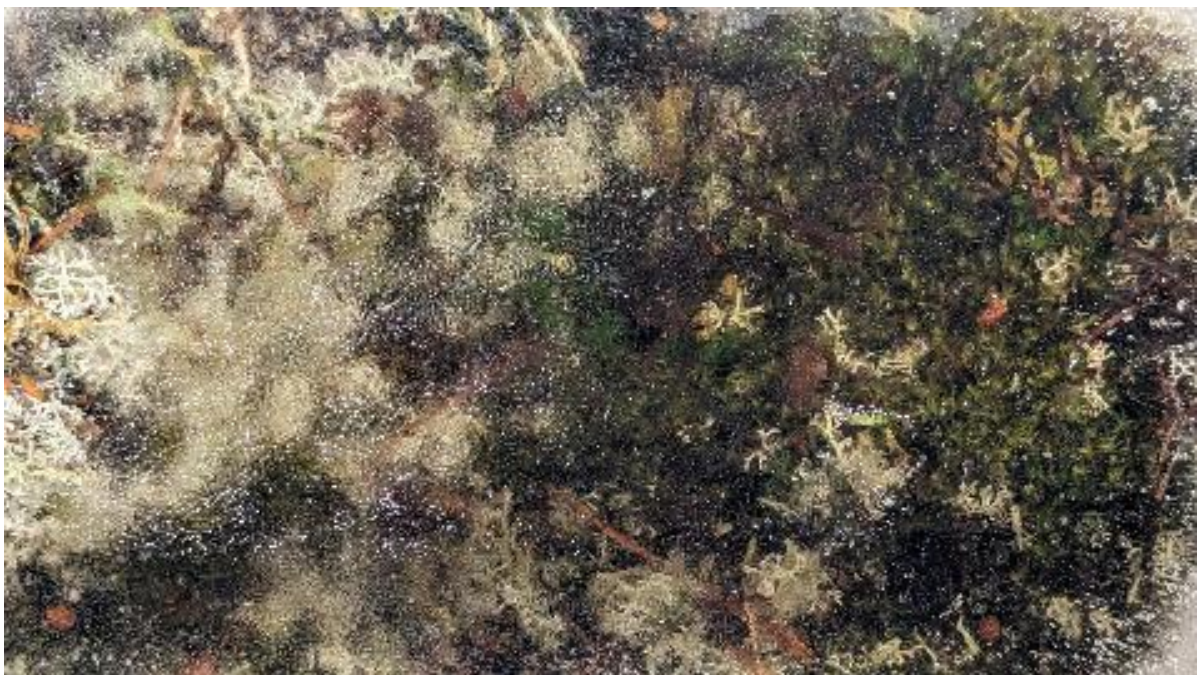
OLFACTORY SOLASTALGIA



**Figure 1**

*Reindeer and reindeer lichen in Sápmi*

In the long dark winters across Sápmi, also known as Northern Fennoscandia, reindeer move through the forests attracted by the smells of lichen buried under layers of snow. However, climate change has caused unpredictable snow melts, more wet snow, and freeze, thaw, freeze events (McVeigh, 2021). The melted snow freezes into ice, covering the lichen. The volatile chemicals released by the lichen are trapped by the ice, and the reindeer starve. These shifts in olfactory relations have profound effects on multispecies ecologies, migration, economies and cultures.



**Figure 2**

*Reindeer lichen frozen in ice*

Inspired by this tragedy of olfactory metabolisms, we started the artistic collaboration, *Scents of Solastalgia (SoS)*, which explores the role of smells in more-than-human connections to place through the lens of solastalgia. *Solastalgia*, coined by Glenn Albrecht (2005) describes the distress and disempowerment felt by humans in the face of rapid changes to familiar and cherished environments, those places to which we belong or which have claimed us. Solastalgia is particularly relevant for environmental change that threatens individual and community “senses of identity, place, belonging, control” (Albrecht 2005, p. 57). Importantly, solastalgia acknowledges active processes of ecological degradation, destruction and devastation, often elided by commonly used terms such as “climate grief” or “ecological loss.” It also recognises the relationality between individuals and communities, human and otherwise, and emphasizes the importance of ‘home’ or place (Tupou et al., 2023).

Smell chemicals are volatile, and many are water soluble, which means they are sensitive to temperature, humidity and pH. Therefore, atmospheric and climatic shifts, changes in land use and water regimes, and terrestrial salination and ocean acidification influence their presence, volatility and movements, altering behaviours and orientations of critters within ecosystems.

Do reindeer feel solastalgia if the smell of their environment changes so profoundly that they can no longer sense their food?

In the *Scents of Solastalgia* project, we explore how changes in smellscape change our sense of belonging and ask what it might mean to preserve place-based smells if the place no longer exists. The project currently flows between Whadjuk Noongar Boodja and Ubmeje, Sápmi.



**Figure 3**

*Smell walking in Boorloo /Perth, Whadjuk Noongar Boodja / Western Australia and Ubmeje /Umeå, Swedish Sápmi. Photograph on left courtesy of Elena Hauri, 2024*

**THERE'S NO FUTURE IN ICE**

During an artistic residency in Umeje in 2024, we researched and developed a multi-format artwork called "There's no future in ice."



**Figure 4**

*We collected water from the Umeälven and gathered small quantities of lichen from the forest.*



**Figure 5**

*Using an Alembic still, we distilled these into fragrant lichen water...*



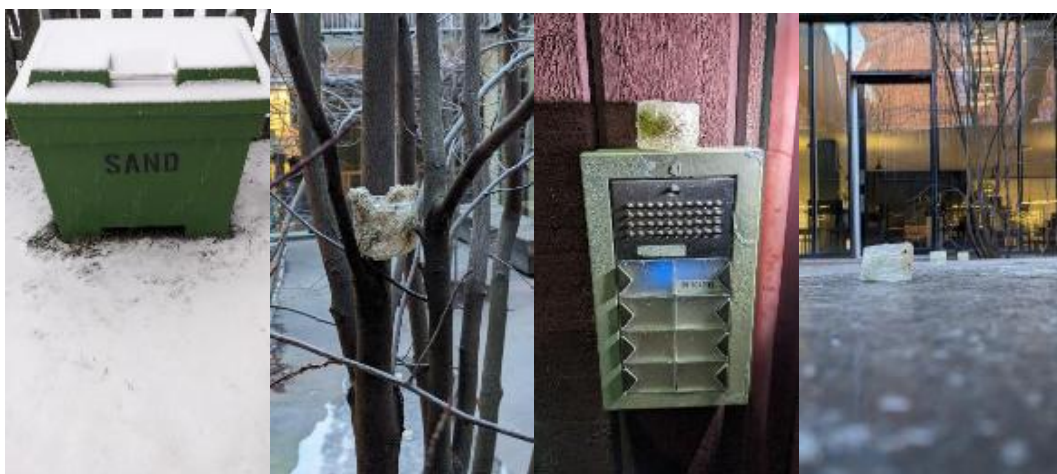
**Figure 6**

*... which we froze into ice sculptures.*



**Figure 7**

*We distributed the sculptures around the built environment of Umeå as ephemeral votive offerings, ghosts of lichen past.*



**Figure 8**

*As the weather warmed, the sculptures melted, gradually releasing the fragrance and small lichen fragments.*

## *Human-environment relationality*

During an interdisciplinary performance lecture called “Volatile Ecologies,” with artist Mari Keski-Korsu, Sámi archaeologist Marcus Fjellstrom and ecologist Tim Horstkotte, we invited audience members to hold frozen lichen-water cups in their hands as they listened to a discussion about the effects of over-consumption on lichen, ice, reindeer relations.



**Figure 9**

*Photographs courtesy of Mattias Pettersson, 2024*

We talked of the impacts and implications of climate and environmental change, the “green transition”, mining, tourism, urbanisation, and forestry on Sápmi and its people. We offered a decision: to hold the ice, to bear the pain, a temporary discomfort. As Mari spoke of walking with permafrost, Marcus of ancient reindeer diets and glacial terraforming, Tim of the pressures faced by Sápmi ecologies and Sámi herders, and Sue described this project, the warmth of our hands melted the cups, releasing lichen fragrance into the room. Mari guided us through a ritual of culpability, burning Baltic amber, *Bryoria* lichen, and tall (Scots pine) on rocks collected from Umeå. We followed the fragrant smokes through time, connecting us to the sky, water, and land of Sápmi, and offered apologies.



**Figure 10**

*We left lichen-ice sculptures in the forest around the Ubmeje...*



**Figure 11**

*... humble offerings of apology and hope.*



**Figure 12**

*We held the sculptures as they melted in the warmth of our hands, liberating the lichen and its smells, staying with the pain, and acknowledging our culpability.*

These durational performances can be viewed in the video work, "[There's no future in ice.](#)"<sup>2</sup>

Art is highly evocative. It engages our senses and is crucial for understanding affective, emotional, and embodied experiences of the world. It helps connect us with the past, present, and future, and individuals, communities, and ecology. In the olfactory project, "There's no future in ice," artistic practice enables us to learn from a land to whom we are strangers, explore the impacts of Western industrialisation and overconsumption on environments, and create smellscape for places that are disappearing or lost entirely. We try to work with humility, listening gently and smelling lightly.

## REFERENCES

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<sup>2</sup> "There's no future in ice" has been exhibited in *To Notice is to Remember*, 2025, Bioart Society, Helsinki Biennale and Frame Contemporary Art Finland; Relate North 2025 online exhibition, and Resonance: Dialogues in Art & Ecology, 2025-2026, Southern Forest Arts, Northcliffe, Western Australia.