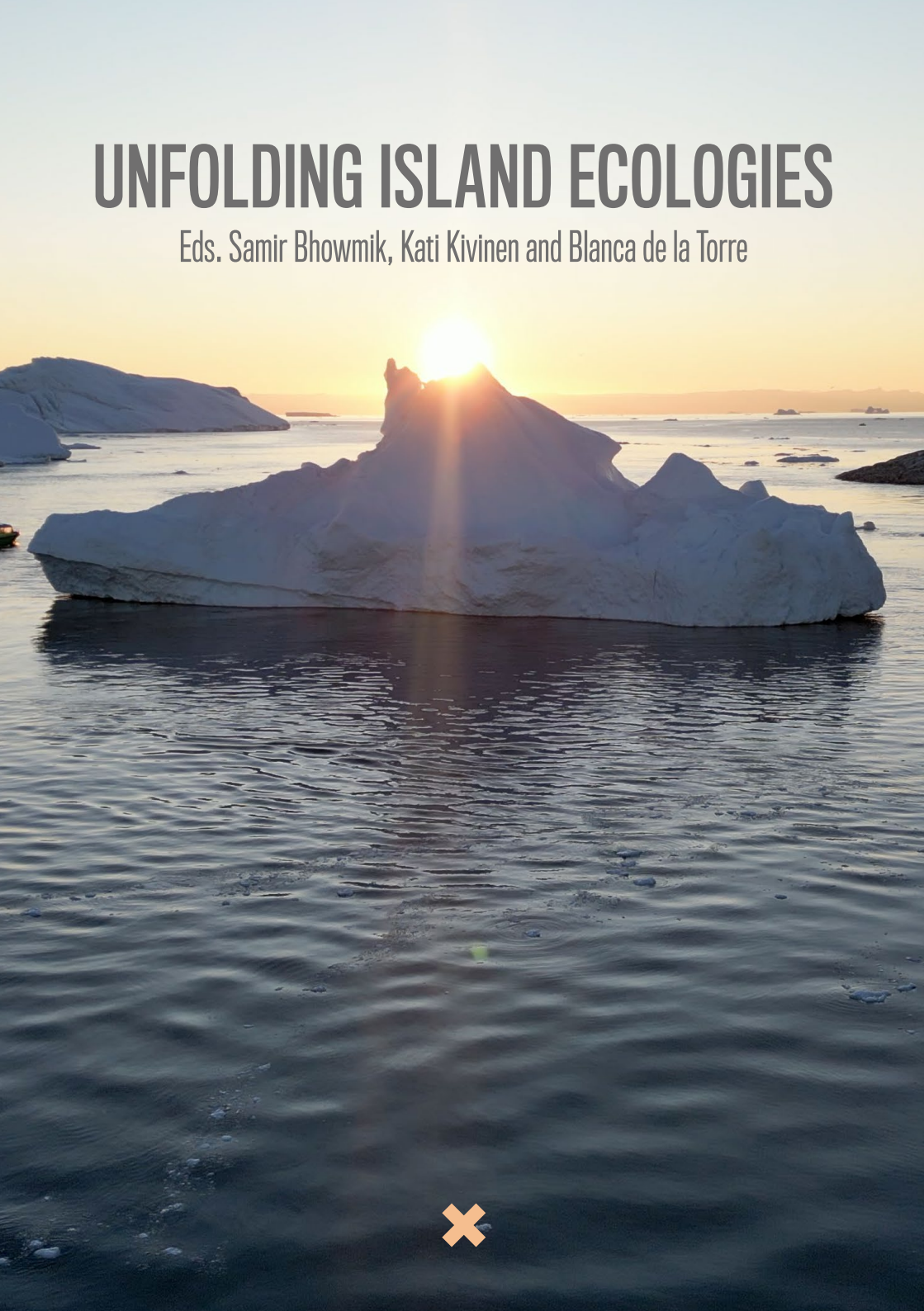
UNFOLDING ISLAND ECOLOGIES

Eds. Samir Bhowmik, Kati Kivinen and Blanca de la Torre



ART THEORETICAL WRITINGS FROM THE ACADEMY OF FINE ARTS
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Introduction

SAMIR BHOWMIK, KATI KIVINEN,
AND BLANCA DE LA TORRE

Unfolding Island Ecologies gestures to more than geography or biology. It suggests an entangled method of thinking, sensing, and storytelling that resists closure. To unfold is to open, to reveal, to allow complexity to surface over time. Islands, in this framing, are not static or peripheral territories but dynamic, experimental zones that expose ecological entanglements, systemic fragilities, and the conditions of survival. Ecologies, meanwhile, are not neutral environments, but relational fields as sites of extraction and resistance, intimacy and infrastructure, crisis and co-becoming. Together, we can read these essays not merely as case studies or isolated reflections, but as collectively composing a polyphonic archive of island thinking at the edge of ecological collapse. This book brings together a set of essays that explore islands as both real and symbolic terrains. Some are literal—Venice, Vallisaari, Jamaica, Singapore, and Suomenlinna—while others are metaphorical, including mine lakes, compost heaps, celestial colonies, or the circumscribed spaces of queer migration and food systems. Islands appear as bounded ecologies, sites of logistical complexity, imaginative projection, and extractive violence. They function as both material locations and conceptual devices through which broader systems are made visible. As Pugh and Chandler have argued, the island in Anthropocene discourse becomes a lens for thinking with vulnerability, experimentation, and

entrapment.[1] Islands are test sites and sanctuaries, prisons and refuges. They condense the intensities of planetary crisis into forms that are local yet translatable, isolated yet implicated.

Island

To think with the island is to consider the conditions of boundedness, of being separated, surrounded, and defined by edges. Whether geographical, political, or conceptual, the island sets up a condition for specificity. It is a microcosm where systems are tested, intensified, or temporarily stabilized. Islands draw together logistics and imagination, tourism and exile, refuge and abandonment. In this book, islandness emerges as a spatial and symbolic condition that allows critical reflection on the infrastructures that sustain and sever connection.

What if an island could speak? In the first essay, **Kati Kivinen and Blanca de la Torre**, co-curators of the Helsinki Biennial 2025 explore the agency of the island. Thus, Vallisaari Island, becomes both the site and the subject of the Helsinki Biennial's curatorial vision. Through a careful rethinking of shelter, not as refuge from the world but as entanglement with it, the essay considers the ethics of nonhuman representation, and the curatorial potential of ecological solidarity. Navigating between logistical challenge and speculative possibility, the essay situates Vallisaari as a living protagonist. It proposes new forms of art-making and exhibition that center multispecies cohabitation and foreground the island as a shelter for more-than-human futures.

Frank Brümmel's essay engages the logistical absurdity and ethical stakes of island exhibitions such as the Venice and Helsinki

1 Jonathan Pugh and David Chandler, *Anthropocene islands: Entangled worlds* (University of Westminster Press, 2021).

Biennials. His narrative begins with skepticism: why continue transporting massive artworks and visitors to ecologically fragile islands? Yet through the unfolding of a personal encounter with a compelling exhibition, Brümmel shifts position, reasserting the potential of art to justify such efforts when it truly resonates. Here, the island becomes both a literal site and a curatorial metaphor, a place where doubts about art's relevance in a climate-crisis era are staged, challenged, and momentarily resolved. This question of whether art can or should inhabit remote, resource-intensive sites resonates across the book.

In a more intimate register, **Gua Khee Chong**'s reflection on food and waste in Singapore and Helsinki also turns the household into a kind of island, a bounded ecosystem where care, memory, and material ethics play out. Beginning with familial stories and intergenerational habits, Chong asks when and how it became acceptable to discard food that had once been precious. Moving outward from the kitchen to the streets, the essay maps community food rescue networks and the contradictions of food security in affluent societies. Here, the island is not only the nation-state but the fridge, the compost bin, the temporary collectives of food sharers and dumpster divers. These small, everyday ecologies illuminate larger questions of sustainability, social connection, and ethical boundaries.

Ecologies

If the island frames space, ecology frames relation. An ecological perspective insists on interconnection, between species, substances, systems, and scales. It refuses the notion of isolated entities or discrete events. Ecology asks how things co-exist, change each other, and endure. It is a framework not only for thinking environmental issues, but for rethinking art, politics, and knowledge as relational and co-constituted.

Vera Boitcova's contribution draws from queer migrant narratives to explore the experience of home as a dynamic, adaptive ecosystem. The home emerges here as a metaphor for the social isolation, liminality, and performative strategies queer refugees develop in navigating unfamiliar and often hostile environments. Drawing on Victor Turner's concept of liminality and the ecological metaphors in *Queer Ecologies*, Boitcova traces the survival strategies and symbiotic networks that constitute queer homemaking. Home, in this telling, is never static; it is a constantly shifting threshold, a self-fashioned ecology of care and camouflage.

The question of material infrastructure and ecological consequence is further developed by **Katrin Enni**'s meditation on copper. Beginning with its elemental properties and cosmic origins, the essay follows copper's journey through extractive circuits, energy systems, and e-waste landscapes. Copper is both medium and metaphor, a conductive thread that links supernovae to smartphones, the Andes to landfills. In Enni's hands, copper is alive, capable of forming microbial alliances, of accumulating toxic legacies. Her work stages a tension central to this volume: the double-bind of ecological hope and ecological harm. Even the materials that enable transitions to green energy depend on extractive logics that devastate ecosystems and communities. Islands, in this case, are not only geographic but planetary thresholds, where cosmological time meets capitalist acceleration.

Berenike Melchior brings the reader into a sensorium of water, mining, and bodily permeability. Swimming in mine lakes and collecting samples from polluted sites, Melchior's essay reveals how bodily immersion becomes a mode of ecological knowing. Diatoms enter the body; pollutants pass through skin. The mine lake, once a site of extraction, is now a layered ecology of decay and regeneration. Her narrative unfolds as both a field report and a choreographic

meditation. Sense-making here is not epistemological clarity but sensory entanglement. The island is the flooded cavity of the mine, the human body, the improvisational gestures that respond to uncertain terrain.

Jack Faber's essay examines cinematic form through Deleuze's Postscript on the Societies of Control, interrogating how *Threshold Technologies* — a term Faber coins to describe the asymmetric and epistemological ruptures produced by drones and extractive infrastructures — extend systems of surveillance and environmental domination. His short film State of Security explores how these tools function within *Extinction Economies*, shaping both what is made visible and what remains concealed. The island, in this context, becomes a geopolitical fiction: carved by aerial vision, manipulated by capital, and haunted by collapse. Against this, Faber proposes a critical aesthetic — an artistic counter-practice that resists techno-futurist determinism and reclaims space for embodied seeing and ecological witnessing.

Unfolding

To unfold is to dwell in process. It is to refuse the fixity of categories, the closure of systems, or the demand for resolution. Unfolding allows for partiality, emergence, and delay. It privileges the durational over the definitive, the relational over the bounded. In the context of island ecologies, unfolding becomes a methodological orientation, a way of attending to complexity without arresting it.

Alves Ludovico addresses the ideology of space colonization and the ecological amnesia it entails. His speculative essay challenges the fantasy of escaping Earth by building sterile life-support systems on extraterrestrial bodies. Here, the island is the space colony: isolated, curated, fragile, and fundamentally detached from Earth's relational web. Ludovico draws attention to how such visions erase

history, politics, and the deep entanglements that define life on this planet. The true island, he argues, is Earth itself, a singular, interconnected biosphere at risk of being abandoned in pursuit of profit and technological salvation.

Katinka van der Jagt offers a planetary voice: Earth speaking back through time, matter, and memory. Her essay imagines Earth as a sentient being, reflecting on its geological wounds, cosmic alignments, and the slow violence of fossil fuel extraction. The island, in this voice, is a fragment of the planetary body, a sensitive patch of skin bruised by drilling, tickled by rising tides. Van der Jagt expands the frame of ecological storytelling to include nonhuman narration, cosmological timelines, and affective geographies. It is an elegy and a reckoning.

Rut Karin Zettergren's essay takes us from Jamaican bauxite mines to Icelandic smelters, tracing the global circuits of aluminum production and its material residues. Through narrative fragments and site visits, she documents the historical, political, and ecological consequences of this transoceanic trade. The aluminum sample becomes a key object, linking colonial legacies to contemporary waste economies. The island, again, is both origin and endpoint: the site of extraction, pollution, and speculative futures.

Finally, **Orla McHardy** offers a meditation on animation and compost as parallel temporal systems. Compost heaps and animation timelines are both accumulations of scraps, labor, and delay. They decompose and recombine. They reject linear production models in favor of cyclical, layered processes. McHardy turns the animation studio into a compost heap, a non-hierarchical ecology of collaboration and delay. The island here is the studio, the pile, the collective of animators who resisted Disney's extractive production models. It is also the metaphorical island of practice: slow, patient, alive.

Together, these essays show that island ecologies are never fixed or singular. They are always unfolding in time, in narrative, in practice. They ask what it means to live and make art in an era where planetary thresholds are being crossed, where islands are both refuge and risk, and where the entangled conditions of life demand new forms of attention. The contributors to this volume do not offer solutions or manifestos. Instead, they provide stories, methods, materials, and reflections that trace the messy, moving contours of ecological thought in an islanded world.

To unfold an island ecology is to refuse the closure of systems. It is to listen to water and waste, to copper and compost, to memories and microbes, to networks of care and circuits of power. It is to listen to the island. It is to acknowledge that every ecology is also a story, whether they are partial, provisional, or entangled. This book, then, is less a map than a current, a movement across bodies and islands, thoughts and materials that invites us to drift, dive, take shelter, and return.

Acknowledgements

We appreciate the support from the Academy of Fine Arts and the organizers of the Helsinki Biennial 2025. Samir Bhowmik expresses his gratitude to the Research Council of Finland and the University of Arts Helsinki for supporting the teaching and research associated with this publication.

Fig. 1. Vallisaari. © Helsinki Biennial

Island as a Shelter

KATI KIVINEN AND BLANCA DE LA TORRE

The Agency of an Island

If we consider an island as a potential shelter, we must also question whether such an island possesses its own agency. Can it embody both subject and object? Can it serve as both home and inhabitant? Does it represent both individuality and collectivity, plurality and singularity simultaneously?

Not long ago, Ecuador became the first country to enshrine the rights of nature within its Constitution in 2008, followed by Bolivia's Plurinational State Constitution in 2009, as well as various local initiatives across Abya Yala (term used by some indigenous peoples of the Americas to refer to the Americas).[1] Similarly, specific legislation has been enacted to confer legal personality upon rivers such as the Atrato River in Colombia, the Magpie River in Canada, Ganga and Yamuna Rivers in India, and the Whanganui River in New Zealand.[2] In Spain, a law was passed in 2022 recognizing the legal personality of the Mar Menor lagoon and its watershed.[3]

Adopting this framework, which acknowledges non-human political entities, is a crucial step toward effecting a post-anthropocentric

1 Fábia Prates, "What Do Abya Yala and Pindorama Mean?," Contemporary And América Latina, April 12, 2023, https://amlatina.contemporaryand.com/editorial/what-do-abya-yala-and-pindorama-mean/.

2 "Environmental Personhood," Wikipedia, https://en.wikipedia.org/wiki/Environmental_personhood

3 "Mar Menor Act of 2022," Eco Jurisprudence Monitor, https://ecojurisprudence.org/initiatives/proposed-law-for-re.

shift and recognizing the necessity for new interspecies protocols. Should we not also consider that islands like Vallisaari and the neighboring Kuninkaansaari in the Helsinki archipelago deserve their own rights? This question gains particular urgency when we consider Vallisaari's evolving role, not only as a biodiverse landscape, but also as a potential subject of care, agency, and artistic attention.

An Island as a Shelter

Vallisaari Island, located in the Helsinki archipelago, once again serves as the focal point of the third Helsinki Biennial. Alongside the two other biennial venues—the HAM Helsinki Art Museum and the Esplanade Park—Vallisaari offers a unique setting for both the creation and presentation of contemporary art. The island, which has remained uninhabited for decades, is now a partially protected nature reserve. This inspired the overarching theme of the biennial: "Shelter."

While Vallisaari has a long history of military use in three centuries, yet it now represents a form of shelter—a diverse ecosystem enveloped by the sea that has thrived without human intervention for an extended period. This protected island, situated near the bustling heart of the city, boasts one of the most varied florae in the region and is home to numerous species of bats, butterflies, and insects.

In the context of the Biennial, the concept of "Shelter" encompasses multiple dimensions, which we aim to highlight with the subtitle: "Below and Beyond, Becoming and Belonging." The notion of "Sheltering" encourages a re-examination of our approaches to listening, speaking, exhibiting, and displaying art, with the intention of creating new spaces for protection. It also embodies a symbiotic perspective that emphasizes the significance of "becoming with" and "belonging to," rather than merely observing at surface level.

Fig. 2 & Fig. 3. Vallisaari. © Helsinki Biennial

Human Challenges for Non-Human Goals

It is evident that curating on an island presents numerous challenges, including accessibility, the production of site-specific works, the transportation of materials to and from, and the preparation of spaces for display, among many other considerations.

However, more profound questions have arisen for us: How can we genuinely reevaluate our relationships with non-human entities and shift from utilization to collaboration with other species? What specific role can the arts play in fostering ecological solidarity? What types of artistic expressions can displace the anthropocentric gaze? Is it an "impossible possibility" to escape the anthropocentric paradigm? Who are our audiences on an island?

Our initial step toward displacing the anthropocentric gaze was to make the intentional decision to feature only non-human entities as protagonists in the artworks. While interspecies approaches have increasingly surfaced in contemporary artistic discourses, we have opted for a more radical stance by excluding human figures from prominent roles, thus prioritizing forms that transcend the human. Vallisaari Island is central to this approach; its biodiverse ecosystem will be acknowledged as active participants in the event. Moreover, in a gesture that recognizes the personhood of the island, Vallisaari is portrayed as an agent within the Biennial, complete with its own essay in the event's catalogue, thereby granting it a direct voice:

> "*I have always been a place of transit for humans, but I exist in eternal time. I am proud to be the most biodiverse ecosystem in the Helsinki archipelago. My rocky cliffs rise above the waters of the Gulf of Finland, creating a perfect habitat for a variety of birds and marine animals. My extensive areas of forest and vegetation provide shelter for mammals and reptiles. I am home to countless species of butterflies and moths, many of them rare or threatened. And on my coasts, you can find algae*

and all kinds of visible and invisible organisms. They are part of me, and I am part of them. We are all island. We are all Vallisaari."[4]

All ecological components—including plants, insects, minerals, and other non-human entities—are considered throughout the development of the artworks. Additionally, we have implemented a sustainability plan that has been meticulously reviewed in collaboration with various experts from Metsähallitus (a state-owned enterprise producing environmental services for use, care and protection of state-owned land and water areas)[5], ensuring our commitment to environmental stewardship.

Between Utopia and Dystopia

The concept of the "island" is fraught with stereotypes that render it a contested space between utopia and dystopia. On one hand, the island represents a quintessential metaphor for paradise—a romanticized locus amoenus or Eden. Conversely, its geographical isolation and challenges of access and escape have historically made it an ideal site for the exile of dissenting voices.

This duality is embodied by Vallisaari Island: its past marked by military brutality and violence has now transformed into a picturesque setting for weekend picnics during the mild Finnish summers. Bernard Charbonneau, a pioneering figure in political ecology, alludes to this duality in "The Garden of Babylon" (1969):

"*Islanders generally suffer the oppression of the island, besieged by oceanic life; and if they can, they abandon it. In contrast, continentals, in*

4 "Words of the Island," in *Helsinki Biennial 2025 - Shelter: Below and Beyond, Becoming and Belonging*, edited by Sanna Juntunen and Satu Metsola, (HAM Helsinki Art Museum/Helsinki Biennial, 2025), 6-9.

5 Metsähallitus, https://www.metsa.fi/en/

> *a totalitarian, mass era, in which men and events form a single unit, dream of an isolated microcosm protected by immensity. The personal island that every modern individual carries within themselves.*"[6]

Charbonneau emphasizes the modern individual's intrinsic attraction to islands, asserting, "In the 18th century, there was no English garden that didn't feature its own island." He argues that Robinson Crusoe is not merely a literary work but rather a myth reflecting the modern individual's desires. In a mainstream culture, he observes, "where individuals continue to aspire to freedom, the myth of the island is the myth of the individual." The solitary individual, akin to Crusoe, becomes the creator of his own universe. Charbonneau concludes poignantly, "*There are no more islands, or rather the world has become the narrowest islet. Tomorrow, there will be no islands except those of madness and death.*"[7]

An Island for Desirable Futures

Charbonneau's insights reveal his role as a precursor of both ecological thought and climate pessimism, a perspective echoed by many contemporary theorists. However, as environmental philosopher and thinker of climate radicalism Andreas Malm critiques the stance of certain writers who adopt a catastrophist viewpoint, he calls attention to the inherent contradiction in climate fatalism ("climate fatalism as a performative contradiction"). To influence the course of the world, individuals must perceive certain outcomes as preferable and seek to contribute to their realization.[8]

6 Bernard Charbonneau, *El jardín de Babilonia* (Ediciones El Salmón, 2016), 222-226.

7 Charbonneau, *El jardín de Babilonia*, 222-226.

8 Andreas Malm, *Cómo dinamitar un oleoducto. Nuevas luchas para un mundo en llamas* (Errata Naturae, 2022), 197.

In this spirit, the third Helsinki Biennial embraces a stance of cautious optimism, recognizing that dystopian narratives and pessimism too often result in paralysis rather than possibility. Collectively, we share the responsibility to explore pathways of possibility and to approach the days to come with a constructive outlook, continually striving to create new islands and shelters for the desirable futures that lie ahead.

Isolation, Escape, Prestige
Transporting Artworks to Island Locations for Temporary Exhibitions

FRANK BRÜMMEL

In early 2022—a year when the Venice Biennale coincided with Documenta15—I found myself questioning how much longer an event like the Venice Biennale could continue to exist against the backdrop of the ecological crisis. First, there's the sheer absurdity of transporting such a massive quantity of artworks, materials, technical equipment, and people—all brought in and installed across the many scattered locations throughout Venice.

Given the environmental impact of an event that brings in visitors flying from around the globe, I also found myself wondering: could an exhibition venue possibly be more difficult to reach? Everything must be transported—by plane, truck, train, or ship—to the mainland or nearby harbors, and then transferred by smaller boats navigating the narrow canals of the lagoon city.

But this isn't just a logistical concern. The curatorial team behind Documenta15, ruangrupa, placed a strong emphasis on community and collaboration as a way to address urgent issues through artistic models of working together. This sharpened my doubts about the continued relevance of the Venice Biennale, which still largely relies on a model that celebrates "genius" artists and nationally competitive pavilions. My hopes were high for a real shift

toward togetherness. Signs[1] pointed in that direction. It looked like a transition from *Me* to *We* might actually be possible.

Then something unexpected happened. While Documenta was derailed by controversy over artworks criticized as antisemitic, Cecilia Alemani's curated main exhibition at the Venice Biennale completely surprised me—and won me over. I experienced a show that was meaningful and thoughtfully curated. It more or less dispelled my doubts and left me in awe. It reminded me that there are still valid reasons for staging such large-scale exhibitions—but only when they truly succeed, when they offer a powerful artistic and societal impact. In short, when the outcome is widely regarded by experts and professionals as genuinely strong.

The Helsinki Biennial also brings artworks and visitors to an island—Vallisaari—and in 2025, it will expand to include more venues on the mainland. The exhibition I'm participating in takes place on another nearby island: Suomenlinna.

Is It Worth It?

So, when does it make sense to transport artworks—under difficult, resource-intensive conditions, such as by ferry—to an island for a temporary exhibition?

As I've said above: only if it convinces. Only if the artistic outcome somehow outweighs the ecological concerns. Then, perhaps, there's a reason to support such an endeavor. But here's a further

1 After winning the Turner Prize in 2016, Helen Marten announced her intention to share the prize money with her fellow nominees. In 2019, all Turner Prize nominees requested to be awarded the prize as a group. See "Helen Marten Wins Turner Prize 2016," Tate, https://www.tate.org.uk/press/press-releases/helen-marten-wins-turner-prize-2016; and "Turner Prize 2019 Awarded to Collective of Nominees," Tate, https://www.tate.org.uk/press/press-releases/turner-prize-2019-awarded-collective-nominees.

Fig. 1. Hamburg harbour container terminal.
Photo by Raimond Spekking, licensed under CC BY-SA 4.0, via Wikimedia Commons. https://commons.wikimedia.org/w/index.php?curid=38570

question: is it even possible to "calculate" such a formula[2]—one that, in effect, would override environmental and ethical costs by invoking vague metaphysical claims or art-theoretical arguments about socio-cultural impact? Can we truly claim that art is so important—particularly art that addresses environmental issues—that its practices and rituals can "heal" the world? Does the potential of art to raise awareness or promote healing justify the real-world harm it

2 See: Heidi Taskinen, Kiira Kivisaari, Sara Kuusi, and Pekka Mustonen, *Impact Study of the Helsinki Biennial 2021*, ed. Heidi Taskinen (City of Helsinki Urban Research and Statistics Unit, 2022), https://www.hel.fi/hel2/tietokeskus/julkaisut/pdf/22_03_09_StudyReports_1_Taskinen_Kivisaari_Kuusi_Mustonen.pdf. The main shipping and art-handling companies for the 2024 Venice Biennale are mentioned in this article: "Beyond the Gondola: Shipping to the Venice Biennale," *Arts & Collections*, accessed April 24, 2024, https://www.artsandcollections.com/beyond-the-gondola-shipping-to-the-venice-biennale/.

might cause? Is the prestige of exhibiting on an island still worth it, especially when many works still have to be physically transported there?

While I absolutely believe in the importance of art, I don't think this gives us a carte blanche. Artistic freedom also comes with responsibility. And here's the tricky part: from the outset, you can never be certain whether such a show—especially one involving many artists—will actually work. I'm not even talking about economics here, about rising visitor numbers used to determine "success" by sponsors, municipalities, and cultural tourism advocates. I'm talking about artistic impact. As an artist, you can never be sure your work will "function" as intended in a specific place. It remains a gamble: is it worth the gamble?

And for me, the answer is yes.

"Art, as our compass to the cosmos." – Jack Whitten[3]

I'm biased, of course. I'm an artist, and I have a strong belief in the power of art to do many things.

So yes—for me, every conscious, well-thought-out attempt to make an impact through art is worth the gamble. I especially believe in art's educational potential. That is, art can help us understand what the world truly needs from us—and what we can do in response. This idea of a real educational moment—drawing on the writings of Gert Biesta[4]—describes how art connects us to the world

3 Whitten says this sentence in a short documentary:
Jack Whitten, "Art, as our compass to the cosmos," quoted in *Uncovering Jack Whitten's Mysterious Abstractions | HOW TO SEE*, YouTube video, 5:31, posted by MoMA, April 17, 2018, https://www.youtube.com/watch?v=aIq9h0JnzcM.

4 Gert Biesta, *World-Centred Education: A View for the Present* (London: Routledge, 2021); *The Beautiful Risk of Education* (Boulder, CO: Paradigm Publishers, 2013); and *Letting Art Teach: Art Education 'after' Joseph Beuys* (Arnhem: ArtEZ Press, 2017).

Fig. 2. Transport and cranes in Venice, in the background "Building Bridges" by Lorenzo Quinn. Photo: Frank Brümmel

in a way that surpasses rational understanding[5]. Just yesterday, I attended a lecture by ecologist Keith Larson, who studies permafrost. He described how science, even when it produces hard data, often struggles to communicate its findings. He mentioned how art can help—how it can connect people to research and the world's needs in meaningful ways. But for this to happen, artists must act with integrity. Sometimes, that means stepping back from opportunities that don't meet these standards. Because another question still lingers: how many people will even experience an island-based

5 See my essay, "What Applied Non-didactics Is for Me," in *Applied Non-didactics*, along with essays by other authors on the topic, https://taju.uniarts.fi/handle/10024/8365.

exhibition like this? Every visitor has to make an intentional trip, and it's fair to ask whether this sort of cultural elitism really brings broader understanding or just speaks to the few.

So yes—doubts remain when we consider the logistics of such island biennials. And maybe that's a good thing.

Fig. 1. Watercress Soup with Pork Ribs. 2011.[1]

1 Fig. 1. Lynac, *Watercress Soup with Pork Ribs*, 2011, https://www.flickr.com/photos/lynac/5546780032/.

On Food and Conversations about Food

GUA KHEE CHONG

I.

Growing up in food-obsessed Singapore and with my foodie grandmother, I was constantly surrounded by food and conversations about food. Food was—and still is—how my family expresses care: "You've been working hard; I'll cook ginseng chicken soup for nourishment." "She's grouchy, shall I buy naengmyeon on my way home to cheer her up?" "We should get something fried for Popo, something with rice for Ma, and something healthy for Pa."

At the same time, while eating, my grandmother would say things like, "You're so lucky—we never had any fruit growing up because we couldn't afford it." Or my father would share, "I like eggs so much because I only got to eat them on my birthday." At school, we also learned sayings like, '谁知盘中餐，粒粒皆辛苦？', which means, 'who knows the hardship behind each grain of rice on the plate?'

Consequently, food has always been a precious thing to me—a love letter, a mood lifter, a reward for hard work—and also a deep privilege I do not take lightly.

II.

At some point though—perhaps when I was old enough to help with dishes—I started to notice how much food we threw away at home. Bones from making soup of course, since they were considered 'inedible'. But also the ingredients we used to make soup, like Chinese

watercress or lotus root. Some of these would always be ladled into our bowls, and I would eat them dutifully as part of having my soup. My grandmother, however, would not always eat hers, and so her leftovers would be thrown away along with the remaining mass of ingredients in the soup pot.

When I asked my mother about this, she said these foods were just '渣' — merely the 'dregs' of the soup. In her eyes, these ingredients had already "given their essence to the soup and so had no real nutrition left in them", and so throwing them away was akin to discarding vegetable peels. And if a dish had already been heated once and the family didn't finish it, the leftovers were also thrown away—because, as she put it, "it is not healthy to heat food up a second time."

Fig. 2. Lotus Root Soup. 2015.[2]

2 Fig. 2. Choo Yut Shing, *Lotus Root Soup*, 2015, https://www.flickr.com/photos/25802865@N08/15690837114.

Where did these beliefs come from? How do we decide what can be eaten and what cannot—or what, perhaps, is simply *not worth* eating? Given that food scarcity was such a significant part of my grandparents' and parents' lives, at what point did they feel food-secure enough that it became acceptable to throw food away just because no one in the family liked the dish enough to finish it in two sittings? Or was this a kind of overcompensation—because the family had worked hard to become comfortably middle-class, we now felt entitled to eat whatever and however we liked, without thinking about the food we waste?

III.

But is food waste really all that problematic? According to the UNEP Food Waste Index Report 2024 and the briefer Key Messages report:

> "**In 2022, the world wasted 1.05 billion tonnes of food.** This amounts to one fifth (19 per cent) of food available to consumers being wasted, at the retail, food service, and household level. That is in addition to the 13 per cent of the world's food lost in the supply chain, as estimated by FAO, from post-harvest up to and excluding retail."[3]

> "**Most of the world's food waste comes from households.** Out of the total food wasted in 2022, households were responsible for 631 million tonnes equivalent to 60 percent, the food service sector for 290 and the retail sector for 131."[4]

3 United Nations Environment Programme, *UNEP Food Waste Index Report 2024 Key Messages* (2024), https://wedocs.unep.org/bitstream/handle/20.500.11822/45275/Food-Waste-Index-2024-key-messages.pdf.

4 ibid.

> "**Households waste at least one billion meals a day:** On average, each person wastes 79kg of food annually. The equivalent of at least one billion meals of edible food is being wasted in households worldwide every single day, using a very conservative assessment on the share of food waste that is edible. *This is the equivalent of 1.3 meals every day for everyone in the world impacted by hunger*."[5]

After reading these statistics, I had a conversation with two people involved in food rescue and dumpster diving in Helsinki.[6] They noted that while it might be true that households generate the most food waste, there is a key difference in the quality of waste from households compared to that from the food service and retail sectors. Household food waste often consists of truly inedible items, such as rinds, bones, or badly expired food. In contrast, waste from the food service and retail sectors typically includes items that are technically past their best-by date, in surplus, or simply ugly—but still safe to eat. Nevertheless, because selling these items to consumers is either more difficult or restricted by food safety regulations, they are discarded on a daily basis.

To me, rescuing food therefore seems like the most ethical way of eating, not to mention the kindest on the pocket. And while some people raise concerns around food hygiene,[7] I wonder how much of these concerns are grounded in actual experience, and how much comes from broader societal assumptions that dumpster diving is

5 ibid, italics added by author.

6 R and T, interview by Chong Gua Khee, Helsinki, March 20, 2025.

7 A lady we interviewed shared that while they would eat dumpster dived food if they had no choice, they would personally choose to buy their food from the supermarket if they had the means to, because they had concerns about the health of their body. Raili, interview by Jussi Lukács and Chong Gua Khee, Helsinki, April 15, 2025.

inherently unsanitary? Because in my (limited) experience dumpster diving in supermarket bins in Helsinki, there is so much waste that bins with fresh *clean* liners are literally just full of discarded pastries, vegetables, and flowers, and nothing else that we might conventionally consider to be 'dirty' or 'gross' and that might truly compromise food hygiene.

But I'm curious—where do you stand on this? What do you think of when I say rescued food or dumpster diving, and what experiences have you had with both?

Fig. 3. Brunch from Dumpster Dived Food and Flowers.. 2025.[8]

8 Fig. 3. Chong Gua Khee, *Brunch from Dumpster Dived Food and Flowers*, 2025

IV.

In Singapore, over the past five or so years, more and more people have become aware of this issue of food waste in the food service and retail sectors, and have organized to rescue and redistribute surplus food to the general public or to low-income individuals and households as food aid.[9] As for businesses, many now even actively reach out to food rescue groups when they have surplus food.[10] Dumpster diving is a gray area though,[11] and so given how much food can already be rescued through open conversation, I have yet to dumpster dive in Singapore.

As for Helsinki, when I say 'rescued food' to people here, more often than not people respond with 'ResQ Club?' And I do think it is a helpful platform that connects users to restaurants and cafes with day old food[12] (we also have a similar app in Singapore called 'treatsure'[13]), but I *am* surprised that an app rather than an organised group is what people here think of first. With regards to dumpster diving, while Yle News recently spotlighted a freegan's lifestyle[14] and it is technically legal to dumpster dive in Finland if bins are unlocked, people tell me that more and more places now lock up

9 *Temasek*. "Zero Waste, Starting With the Food on Your Plate", (Singapore), September 23, 2022. https://www.temasek.com.sg/en/news-and-resources/stories/future/small-change-big-impact/singapore-food-rescuers.

10 ibid.

11 *Singapore Legal Advice*. "Can Freegans be Arrested for Theft When Dumpster-Diving for Food in Singapore?", February 13, 2018. https://singaporelegaladvice.com/freeganism-theft-singapore.

12 ResQ Club Oy. "ResQ Club – Leave No Meal Behind," ResQ Club, 2025, www.resq-club.com/. Accessed April 14, 2025.

13 treatsure. "Treatsure - about Us," Treatsure, 2023, www.treatsure.co/about.html. Accessed April 14, 2025.

14 Yle News. "Finland's Dumpster-Diving Chemistry Teacher: "Best before Dates Are Just Recommendations,"" Yle News, January 20, 2025, yle.fi/a/74-20138075. Accessed April 14, 2025.

their dumpsters.[15] When I ask people why they think this is happening, people shrug. 'Capitalism', they say, or an explanation to that effect. 'Shopowners are worried that if they give away their surplus food, nobody will buy food from them.'[16]

V.

And then there are new groups like Aalto Foodsharing in Helsinki,[17] a student-led initiative at Aalto University that collaborates with local supermarkets and restaurants to reduce food waste by redistributing surplus food through their community fridge. Founded in 2024, the initiative is still very young, and there are many aspects around maintaining and growing the initiative that the core team is still figuring out.[18] Nevertheless, I am deeply excited and hopeful about their emphasis on community—that their food rescue efforts do not distinguish between "consumers and producers", where some people are rescuing food and others are just taking, but that food rescue and redistribution is seen as "a community action".[19]

This is deeply resonant with what emerged as a strong theme from other conversations I have co-hosted around people's relationship with food and the ecology—that people desire community around food. That is, when I asked people how they would ideally like to eat, people spoke about wanting the experience of eating to be "joyous and based on sharing", with lots of "socialising [and]

15 Various. "Food X Ecology Conversations." Received by Gua Khee Chong and Various, 2024.

16 ibid.

17 Aalto Foodsharing. "Aalto Foodsharing | LinkedIn," Aalto Foodsharing, 2025, www.linkedin.com/company/aalto-foodsharing/. Accessed April 14, 2025.

18 R and T, Interview.

19 ibid.

conversations during dining and cooking", and for "eating together [to be] a point of coming together".[20]

What about you? What kind of love letter would you write to food, and where is community in this picture? Who are the people around you who support you to eat in ways that are pleasurable and also aligned with your values, and who in turn do you support in this regard? **What is your dream for how we might collectively eat our way towards gentler futures?**

Fig. 4. A participant sharing their thoughts at one of the co-hosted conversations. 2024.[21]

20 Various, Interview.

21 Fig. 4. Chong Gua Khee, *A participant sharing their thoughts at one of the co-hosted conversations*, 2024.

Fig. 5. Participants' drawn and written responses at one of the co-hosted conversations. 2024.[22]

22 Fig. 5. Chong Gua Khee, *Participants' drawn and written responses at one of the co-hosted conversations*, 2024.

Home as an Ecosystem
The Ecology of Queer Migrant Narratives

VERA BOITCOVA

As a dramaturge exploring themes of "otherness," "belonging," and "home searching" in queer migrant performance, I have recently started to wonder if an ecological lens might offer me a new way to frame these concepts. I have always associated ecological thinking primarily with non-human-centric art. However, when I started thinking about it in the context of my own research interest, I quickly discovered parallels between queer migrant experience and certain natural processes. My changing perspective made me start considering various ways in which queer migrants navigate new environments.

The first thing I noticed was the parallels between queer migrant experiences and the natural processes of survival and adaptability. Species evolve to adapt to the changing ecosystems. In the same way, queer migrants must continuously adjust to fit the new social, cultural, and legal circumstances. Thinking about "home" as a dynamic ecosystem rather than something fixed made me reflect on how cultural and socio-political forces influence queer migrants' experiences. This line of thinking resonated with the ideas of Catriona Mortimer-Sandilands and Bruce Erickson, scholars whose work intersects environmental studies and queer theory.[1] In *Queer Ecologies: Sex, Nature, Politics, Desire* (2010), they argue that both

1 Catriona Mortimer-Sandilands and Bruce Erickson, eds., *Queer Ecologies: Sex, Nature, Politics, Desire* (Bloomington: Indiana University Press, 2010).

queerness and environmentalism confront normativity with fluidity. Thus, queer migrants can be seen as agents of transformation, as they are changing and reprogramming their identities to fit into unfamiliar and often hostile environments.

One concept that I found especially compelling is liminality. In *Dramas, Fields, and Metaphors: Symbolic Action in Human Society (*1974), anthropologist Victor Turner defines liminality as a transitional state with suspended norms, and argues that "those being moved in accordance with a cultural script were liberated from normative demands, when they were, indeed, betwixt and between successive lodgments in jural political systems".[2] Essentially, Turner describes a transitional period where individuals are temporarily outside of normal social structures, which allows them to have some unique and transformative experiences. This position resonates with queer refugees' challenges: the migration process itself is liminal, as are certain aspects in the navigation of sexual orientation and gender identity. This state of in-betweenness also parallels queer feminist scholar Gloria Anzaldúa's concept of the *borderlands,*[3] where identities are ever-changing and continuously shaped by the surrounding world. In *Queer Phenomenology*: *Orientations, Object, Others* (2006), theorist Sarah Ahmed similarly argues that disorientation and spatial alienation that often come with the experience of liminality can be seen as fundamental queer experiences.[4]

Through my interviews with queer refugees in England, France, Luxembourg, Germany, and Finland, I noticed how liminal spaces

2 Victor Turner, *Dramas, Fields, and Metaphors: Symbolic Action in Human Society* (Ithaca, NY: Cornell University Press, 1974), 13.

3 Gloria Anzaldúa, *Borderlands/La Frontera: The New Mestiza* (San Francisco: Aunt Lute Books, 1987).

4 Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham, NC: Duke University Press, 2006).

and precarious conditions often lead to the development of home-making processes that mirror ecological survival strategies. For most of my interviewees, finding home is not just about finding a physical place to live but about creating spaces of belonging, emotional safety, and social acceptance. This reminds me of sociologist Avtar Brah's notion of diasporic space,[5] where home is a mobile and relational construct not tied to physical places but to emotional and cultural states of belonging. The idea of "home", thus, changes from a fixed destination to a process shaped by memories and emotional connections.

Another similarity with the natural world can be seen in the way queer migrants present themselves. They may compartmentalize their identities, presenting one version of themselves to the dominant culture while keeping a more authentic sense of self within their own communities. They behave like chameleons that change their color to blend in with their environment for protection. Social psychologist Erving Goffman's *The Presentation of Self in Everyday Life* (1956) discusses this performativity through his concept of "front stage" and "back stage" behavior.[6] In public, queer migrants often adopt a curated persona, a mask that aligns with socially accepted norms. Meanwhile, in private or communal spaces, they may express more complex and fluid identities without fear of exclusion. Thus, gender and identity appear to be performative at their core, being conditioned by societal norms and expectations, as shown by philosopher Judith Butler's seminal work *Gender Trouble: Feminism*

5 Avtar Brah, *Cartographies of Diaspora: Contesting Identities* (London: Routledge, 1996).

6 Erving Goffman, *The Presentation of Self in Everyday Life* (New York: Anchor Books, 1956).

and Subversion of Identity (1990).[7] By performing a "right kind of queer" identity, a construct and an image that is legally and socially accepted in the host country, queer refugees may gain easier access to social services or legal protections, even if it means masking parts of their true identity. This implies a survival tactic, both ecological and performative.

Similarly, just as some species develop symbiotic relationships to thrive in challenging environments, queer refugees often create supportive networks within their communities. In these spaces, they find solidarity and mutual aid, creating new "homes" based on shared experiences and collective values. These networks function much like ecological partnerships, where people benefit from the resources and support of others, whether through emotional connections or shared cultural practices. In some cases, queer migrants find refuge within underground or informal LGBTQ+ networks, carving out alternative spaces of belonging that offer protection and solidarity in a society that may otherwise exclude them.

Ultimately, the process of homemaking for queer migrants is dynamic and adaptive, and that, in my view, mirrors common ecological survival strategies. They must constantly evolve and build new support systems in response to the ever-changing conditions they face, just as species in nature adapt to their environments to survive. This fluid, ongoing process of adaptation reflects the resilience of queer migrants as they create new homes - not just physically, but socially and emotionally.

7 Judith Butler, *Gender Trouble: Feminism and the Subversion of Identity* (New York: Routledge, 1990).

Fig. 1. Enni, Katrin. Detail from installation Copper Fever. 2021.
Photograph: Loodus, Holger

From Supernova to E-Waste
Tracing the Lifecycle of Copper

KATRIN ENNI

When I first encountered copper, I was drawn to its warmth, softness, durability, and shine—its ability to conduct sound and electricity, its indestructibility, and even its toxicity. Copper seems and feels alive. But can I truly consider matter as a living entity? How would such a shift of perspective change my broader understanding of the world? Indigenous cultures around the world have long embraced the idea of Earth as a living, sentient being, that fosters an interconnected web of relationships among land, humans and non-human life forms. However, Western traditions have historically struggled to fully integrate this concept into their worldview.

The Gaia hypothesis, that was formulated in 1970-s by chemist James Lovelock and microbiologist Lynn Margulis, proposes that all forms of life, together with Earth's inorganic components, collectively form a unified system, a mega-organism embodying a living planet.[1] The hypothesis has gained recognition as a valuable source of inspiration within Earth systems science and environmental studies. But the strong interpretation of the Gaia hypothesis, that the Earth is literally alive, remains controversial within the scientific community.

This hesitation reflects a long-standing tradition in Western thought, which tends to view the material world as inanimate and

1 James Lovelock, *Gaia: A New Look at Life on Earth* (Oxford: Oxford University Press), 1979.

separate from human consciousness. This way of thinking has established a sharp division between humans and everything else in the natural world, encouraging the idea that nature is something to be understood, managed, and dominated through science and technology.

On the other hand, political theorist and philosopher Jane Bennett argues powerfully against the conception of matter as inert and exploitable. For Bennett, the "image of dead or thoroughly instrumentalized matter feeds human hubris and our earth-destroying fantasies of conquest and consumption. It prevents us from detecting (seeing, hearing, smelling, tasting, feeling) a fuller range of the nonhuman powers circulating around and within human bodies"[2]. Bennett's words challenge me to reconsider my relationship with copper, prompting me to explore its hidden capacities, connections, and influences that extend beyond its practical applications.

Copper shows us how intimately human life is woven together with the life of matter. Due to its excellent electrical conductivity, copper enables modern electrified lifestyles. Today, it is also crucial for achieving net-zero emissions, as it facilitates the shift toward electric vehicles and renewable energy sources such as solar and wind power. However, reaching global emission targets depend on humanity's ability to double worldwide copper availability within the next 25 years.[3] This paradox is striking: avoiding ecological collapse requires an acceleration in copper mining. These findings point to the uncomfortable tension between ecological sustainability and our reliance on finite planetary resources.

2 Jane Bennet, *Vibrant Matter: A Political Ecology of Things* (Duke University Press, 2010), https://doi.org/10.2307/j.ctv111jh6w, ix.

3 Pietro Guj and Richard Schodde, "Will Future Copper Resources and Supply Be Adequate to Meet the Net Zero Emission Goal?" *Geosystems and Geoenvironmen* t2024: 100320, https://doi.org/10.1016/j.geogeo.2024.100320.

The copper within Earth has a cosmic origin, formed billions of years ago, well before our planet existed. Copper emerged through stellar nucleosynthesis, particularly through the slow processes that occur inside massive stars (stars exceeding eight times the mass of our Sun) during their late life stages. When these massive stars eventually reach the end of their lifecycle, they collapse and explode in supernovae, dispersing heavy elements, including copper, across space, enriching interstellar gas and dust clouds. Over immense spans of time, these materials formed new star systems, including our Solar System.[4] Such zoomed-out perspective reveals copper as an ancient traveler, moving across cosmic distances, never truly inert, as a vibrant reminder of the interconnectedness of all things in the Universe.

Today, our daily lives are literally wrapped in an invisible web of copper that is hidden inside electronic devices and cables. In 2022 alone, the world produced approximately 62 million metric tons of electronic waste (e-waste), of which less than one-quarter was properly recycled, resulting in vast quantities of recoverable material being lost in toxic waste piles.[5] Although developed countries have the technology to recover significant amounts of valuable materials from e-waste, substantial portions of it are illegally exported to the Global South. Due to a lack of advanced recycling technology

4 Ken Croswell, *The Alchemy of the Heavens: Searching for Meaning in the Milky Way*, illustrated ed. (New York: Anchor Books, 1995).

5 UNITAR, "Global E-Waste Monitor 2024: Electronic Waste Rising Five Times Faster Than Documented E-Waste Recycling," United Nations Institute for Training and Research, accessed December 5, 2024, https://unitar.org/about/news-stories/press/global-e-waste-monitor-2024-electronic-waste-rising-five-times-faster-documented-e-waste-recycling.

in these regions, unsafe methods, such as open-air burning, are common practices for extracting copper. People, including children who are often recruited for their smaller hands, risk their health and lives handling toxic materials, while the remaining waste contaminates local ecosystems and communities.

The complexity and destructiveness embedded in the production and consumption of copper urge me to question my own place within this cycle. Why am I drawn to this material? It compels me to confront the tangled reality of fast consumerism and invites me to reconsider the life of materials beyond their human-defined purposes. Matter does not cease to exist when it becomes waste; it continues to exist alongside us.

As an artist working with interactive sonic objects, I explore and share experiences that enable others to connect with materiality in ways that integrate human and material actions into one intertwined system—connections formed through embodied physical and sonic interactions.

I seek a relationship with this material that allows to step outside the cycle of rapid consumption and pause to reflect. I use copper sourced from electronic waste, melting and recasting it into new forms: simple lumps or rounded stones that are intended to be held in the palm of your hand, allowing you to feel the metal's reassuring weight, perhaps releasing some worry or anxiety in the process. By touching, placing and replacing these palm-stones on a conductive surface, exhibition visitors can create and shape sonic landscapes, in the way like children play with rocks and pebbles. Holding a piece of copper, you might begin to sense the many paths it has traveled—the places it has passed through, or the numerous lives it has touched—before becoming this warm lump resting quietly in your hand, adjusting its temperature to your body. Even as you hold it, the air is already beginning to oxidize its surface, subtly changing

its color and scent, as though the metal itself insists that it would much rather still be deep inside a mountain, resting in darkness and warmth near the ancient heart of a volcano.

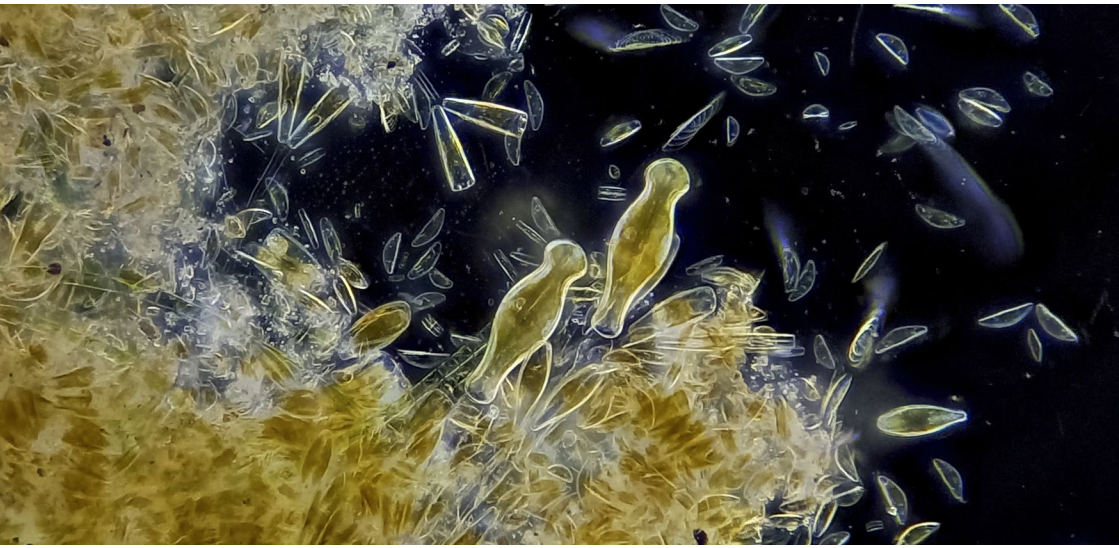

Fig. 1. Didymo diatoms observed under dark field microscopy. Photograph courtesy of Brandon Antonio Segura Torres & Priscilla Vieto Bonilla.

Visiting the Diatoms

BERENIKE MELCHIOR

When I submerge myself into a body of water, I am not alone. Diatoms and other phytoplankton dance around me in the current of my strokes.[1] They coexist with me and each other, mediating their ecosystem, sensing the pH and other pollutants such as metals or nitrates. They permeate my pores, soak into my hair, and slip into my mouth. In exchange, I leave some residue of my skin, my sweat and saliva, traces of sunscrean or medication in my urine[2]. The chemical makeup of their watery ecosystem is a centuries old stew of agricultural, industrial and other human detritus co-mingling with dead and living biomaterials. The diatoms live and procreate by the rules of this ecosystem; their silica shells morph with the changing characteristics of their environment[3]. And when they die, the diatom's silica fossils sink down, becoming part of the local sediment, layering onto deep time.

1 "What are Diatoms?," Diatoms of North America, accessed December 6, 2024, https://diatoms.org/what-are-diatoms.

2 The effects on wildlife of hormones, antibiotics and other contaminants found in bodies of water has been the subject of numerous studies. For more, see Ahmed Nasri et al., "Ethinylestradiol (EE2) residues from birth control pills impair nervous system development and swimming behavior of zebrafish larvae," *The Science of the Total Environment* 770 (2021): 145272, https://doi.org/10.1016/j.scitotenv.2021.145272. and Ethan Hain et al., "Geospatial and co-occurrence analysis of antibiotics, hormones, and UV filters in the Chesapeake Bay (USA) to confirm inputs from wastewater treatment plants, septic systems, and animal feeding operations," *Journal of Hazardous Materials* 460 (2023): 132405, https://doi.org/10.1016/j.jhazmat.2023.132405.

3 Nanna Tuovinen, Kaarina Weckström, and Veli-Pekka Salonen, "Impact of mine drainage on diatom communities of Orijärvi and Määrjärvi, lakes in SW Finland," *Boreal Environment Research* 17 (2012): 437-446, http://hdl.handle.net/10138/37473.

When 60 to 90% of our bodies are made up of water, it is not far-fetched to see a quick summer dip-in-the-lake as an act of becoming one with it[4]. The water that softens skin and makes fingertips pruny — those bits of lake that are accidentally swallowed, inhaled through the nose, or that get into the ear canal in that uncomfortable way, only managing to be shaken out hours later. Just as the water molecules and their local ecosystem enfold us, we enfold them.

In the summer of 2022 my partner was developing sensor technologies for measuring pollution in mine runoff water. In light of this, I joined him on a trip to the Oberlausitz in Saxony, Germany[5]. During the day he took measurements at a nearby river and in the evenings we would take a ten minute drive to the nearby Scheibe-See ("Disc-" or "Slice-Lake") for a swim. The Scheibe-See is a flooded open cast mine, as are numerous other lakes in the area. Slicing through the calm waters at dusk you wouldn't know it. As we cozied up against the encroaching evening cold on the sandy beach and watched the sky darken, I considered the water droplets drying on my skin — each one containing a myriad of organisms. I wondered, do they slip through my pores, nestling into the dermis layer of my skin[6], or do they simply dry out and die, rubbed off later by a towel?

As I float on the surface of Scheibe See, I imagine myself hovering above the hidden underwater world of the lake, where bucket-wheel excatavors, handled by East German miners, once shoveled brown

4 In reference to the "hydro | logics" in Astrida Neimanis, "Hydrofeminism: Or, On Becoming a Body of Water." in *Undutiful Daughters: Mobilizing Future Concepts, Bodies and Subjectivities in Feminist Thought and Practice*, eds. Henriette Gunkel, Chrysanthi Nigianni and Fanny Söderbäck (Palgrave Macmillan, 2012), 96-112.

5 The Saxon region of Oberlausitz is known for its history of large scale open-cast lignite mining dating back to the mid 18th century.

6 The dermis is the middle layer of our skin that protects us from harm and produces sweat and hair. For more, see "Dermis," Cleveland Clinic, accessed April 13, 2025, https://my.clevelandclinic.org/health/body/22357-dermis.

coal by the ton. I am reminded of the songs by famed East German miner-musician Gerhard Gundermann[7]. His lyrics are drenched in melancholy for his life in the "Tagebau" (translated as "open-cast mine"), yet deeply concerned with the wellbeing of the planet.

> "Out here, the machines lose the will to make their sounds
> Out here in the forest, where the stones scream at night
> From whom we will learn to cry and sing again
> And, otherwise, to be silent"[8]

Time scales collapse locally when I wave to Gundermann from the surface of Scheibe-See as he shuts down and leaves his excavator to go home for the day.

sensing as sense-making

"The problem is not that things are truly distant, but that they are in our face— they *are* our face"[9].

7 Gerhand Gundermann holds a contentious role in German history. Known and beloved for his music, Gundermann was a full time rotary excavator operator in the open-cast mines of the Oberlausitz and among the last miners working in the open-cast mine "Scheibe". He is also widely criticized for his role as an unofficial collaborator of the East German secret service, from which he was later expelled. For more, see "Wikipedia: Gerhard Gundermann," Wikimedia Foundation, last modified April 5, 2025, 15:15 (UTC), https://en.wikipedia.org/wiki/Gerhard_Gundermann.

8 Excerpt from song titled "ohwehoweh" by Gundermann & Seilschaft in the Album "Engel über dem Revier" from 1997. Translated from German by Berenike Melchior. Original excerpt: Hier draußen vergeht den Apparaten das Klingen / Hier draußen wo nachts im Wald die Steine schrein / Von denen lernen wir jetzt wieder weinen und singen / Und ansonsten stille zu sein.

9 Timothy Morton, *Hyperobjects - Philosophy and Ecology after the End of the World* (University of Minnesota Press, 2013), 28.

I wonder if the best I can ever hope to grasp the complex web of ecology is by having diatoms in my ear. The Ukrainians on Youtube that repeatedly try to dive to Chernobyl's Reactor 4 with a fishbowl, some rubber dingies, and soviet diving equipment understand this like no others[10]. Their mania for discovery, leading them to ignore any sort of radiation safety measures, is a radical mode of *ecological being-with* that I find hopeful in its sincerity[11]. They know more deeply than any of us what it is like to be the aquatic critter living in the flooded reactor or the wild Przewalski horses cantering around the exclusion zone.

Fig. 2. Aquatic critter seen in the waters of Chernobyl's Reactor 4. Image courtesy of the YouTube channel Kreosan English.

I attempted to channel this Kreosan-ian mindset when on a gloomy Saturday in November my partner and I drove to the closed

10 "Going to the Chernobyl Reactor Tunnels / Busted by Security @supersus_ english almost drown," vlog, posted April 3, 2021, by Kreosan English, YouTube, 27:00, https://www.youtube.com/watch?v=DZ7t51_pduM.

11 "Ecological being-with" is introduced by Timothy Morton in reference to Heidegger's notion of "being" in Morton, *Hyperobjects - Philosophy and Ecology after the End of the World,* 119.

down Orijärvi Mine, an hour and half north west of Helsinki, armed with pipettes, pH tests, and a digital copy of the U.S. Geological Survey's "Science Experiments for Kids Living Where Creeks are Orange, Yellow, or Red"[12]. The old mining site of Orijärvi sits right by a main road. It is flanked by red wooden houses and a sparse forest. Even after 70 years since the mine's closure the Finnish pines haven't encroached. Low, needly plants populate the area, growing out of the spongy ground. Higher up, a fence encloses an iridescent blue lake. Don DeLillo's White Noise comes to mind.

"It was a terrible thing to see, so close, so low, packed with chlorides, benzines, phenols, hydrocarbons, or whatever the precise toxic content. But it was also spectacular, part of the grandness of a sweeping event (...). Our fear was accompanied by a sense of awe that bordered on the religious."[13] Signs by the fence read: "Mining area, Access prohibited"[14].

The moon landscape around the mine is rich with colors. Bright orange iron oxide coats the rocks and floats below a melting sheet of ice in the shallow pond. The ground is ochre and a sulfuric yellow. I am mesmerized by little specks of vivid turquoise that pop up in clusters. I suspect its oxidized copper ore. I put some in a jar and take it home with me. I can't find any proof online, but I assume the vivid color of the lake is due to the presence of copper ore which oxidizes in blue and green. The local mineral landscape reveals itself through these colors. I collect some red flocculates from the pond with my pipette, hoping I can grow a culture of acidithiobacillus ferrooxidans at home. The water is acid, with a pH of four.

12 U.S. Department of Interior, U.S. Geological Survey, *Hands on Experiments To Test For Acid Mine Drainage*, https://www.americangeosciences.org/static/files/earthsciweek/classroom-activities/acidminedrainage.pdf.

13 Don DeLillo, *White Noise* (Penguin Books, 1986), 127.

14 Translated from the Finnish "Kaivosalue Pääsy Kiellettyy"

Fig. 3. The Orijärvi mining site as seen from the roadside. Photograph courtesy of the author, Berenike Melchior.

Fig. 4. Sample collection and pH measurements conducted at Orijärvi Mine. Images courtesy of Camille van Hoffelen.

Fig. 5–7. Sample collection and pH measurements conducted at Orijärvi Mine. Images courtesy of Camille van Hoffelen.

When I dance, I dig at the ground with my heels. I stand at the lakeshore, imagining I am at the edge of an endlessly large, hollowed-out basin. I enjoy the crunch of copper ore under my sneakers and wonder if the acid water is dangerous. I snap my wrists, shaking rain water off my hands. I carve the air around me. 20% of the oxygen I inhale has been photosynthesized by diatoms. The ground below me is spongy and muddy. Deep in the earth is a flooded mine shaft, a hidden shrine to the Finnish miners. The air is saturated with water. Fine rain slowly soaks through my hair. The faint rumble of cars is periodically interrupted by a gust of wind or the chirps of an unseen bird. The humidity seeps through my clothes, making me shiver. Navigating the uneven surface of abandoned rocks and debris is challenging. I dig at the ground and resist the urge to plunge into the lake.

Fig. 8. A site-specific dance improvisation beside the lake by the Orijärvi Mine. Images courtesy of Camille van Hoffelen.

Perhaps sense can not be *made*. Yet sensing - soaking up with our ears and eyes, breaching the membrane of our skin - tells us something of coexistence. “Coexistence is (...) our face. We are made

of nonhuman and nonsentient and nonliving entities. It's not a cozy situation: it's a spooky, uncanny situation." [15]. As we approach the familiar urban sprawl of Helsinki my heart rate settles. An eerie impression of *ecological having been-with* remains.

15 Morton, *Hyperobjects - Philosophy and Ecology after the End of the World,* 130.

Fig. 1. State Of Security – Production Still 1 (San Francisco, California, US), 2024

Postscript on States of Security

JACK FABER

Past texts, especially overlooked and unconventional ones, sometimes predict the turmoil of our times with unsettling precision. They excavate beneath visible social conventions of coerced consents and reveal hidden some of the infrastructures that actually dominate our institutions. Such texts deserve equally unconventional translations into the present.

Postscript on the Societies of Control,[1] which was written late in the career of Gilles Deleuze as to be overshadowed by his earlier well-known works, present that sort of a challenge. In making the short film *State of Security,*[2] I aimed at translating this short and dense written text into film – correlating to Deleuze's prior seminal work with cinematic forms as expressions of intricate ways of perceiving the world, whether through movement[3] or time.[4] The film itself is conflicted: it wrestles with forms of surveillance and social control yet also struggles internally with the possibilities and limits of its own medium. These tensions — both inside the film and in its collision with the realities of the art industry and film economy — are framed by two key concepts developed during my PhD project: *Extinction Economies & Threshold Technologies*.[5]

1 Deleuze, Gilles. "Postscript on the Societies of Control." October, Vol. 59. (Winter, 1992), pp. 3-7. (retrieved 27/11/2024) See: https://www.jstor.org/stable/778828

2 *State of Security,* Jack Faber, Ireland | Finland | Sweden (2024)

3 Deleuze, Gilles. *Cinema 1: The Movement Image.* Trans. Hugh Tomlinson and Barbara Habberjam. London & New York: The Athlone Press, 1989.

4 Deleuze, Gilles. *Cinema 2: The Time Image.* Trans. Hugh Tomlinson and Robert Galeta. London & New York: The Athlone Press, 1989.

5 As the title of the 3rd chapter of the above mentioned Artistic Research PhD.

Fig. 2. State Of Security – Production Still 2 (Svalbard Archipelago, High Arctic), 2024

Yet before explaining these terms, a different kind of beginning: imagine the opening shot of *State of Security*. In the beginning, there was the depth of the bass sound, and the thermally vaporous place revealed to us in the aerial shot opening the film is its resonant expansion. Then came the word, shaped in the film from the 2nd minute as narration weaved into the soundscape. The narrator places us historically, describing the rise of the Disciplinary Societies, political structures shaped by growing economic powers. Deleuze wrote about these societies as the precursors to Societies of Control — the ones that rule our contemporary lives, replacing the older disciplinary models with something more fluid, more invasive. These militarized modules would soon ruin any mass ecological mobilization hoping to balance the carbon footprint of extraction-based economies. Through their molded inequalities, resistance collapses easily. Instead it exponentially accelerates the ongoing 6th extinction event, which it involuntarily forces most of humanity to heavily finance through a volatile mixture of technological overconfidence,

digital obedience and overall ignorance. Although she refrains from addressing it in so many words, the female narrator in *State of Security* acts as a successor to Dante's Virgil while guiding us through our current newly and almost invisible layers of inferno – through an archaeology of the future[6] within an undefined contemporary.[7]

Now, returning to the two key terms:
Extinction Economies describe economic systems that actively accelerate mass environmental destruction, with Extractive Capitalism as a prime example. These economies fuel species extinction, climate collapse, and resource depletion for the sake of impossible endless growth. The societies of control that Deleuze addresses are precisely such sort of systematic regimes, propagating endless exploitation of all resources (labor, raw materials, salvage, etc.) for the sake of market expansions and capital accumulation by all means, and especially escalating conflicts,[8] which in accord with the same logic of late capitalism,[9] are efficiency epitomized.[10] In order to do so, they set to continuously develop *Threshold Technologies*, which

6 "Control' is the name Burroughs proposes as a term for the new monster, one that Foucault recognizes as our immediate future." Ibid.

7 In the sense of 'overcoming the contemporary' as suggested by Rolando Vázquez, for example in his conversation with Sammy Baloji in *e-flux Architecture Appropriations* published May 2023 (retrieved 27/11/2024). See: https://www.e-flux.com/architecture/appropriations/536663/overcoming-modernity/

8 "the corporation constantly presents the brashest rivalry as a health form of emulation, an excellent motivational force that opposes individuals against one another and runs through each, dividing each within." Deleuze, Gilles. "Postscript on the Societies of Control." October, Vol. 59. (Winter, 1992), pp. 3-7.

9 As alluded by Jameson in his seminal text *Postmodernism, or the cultural logic of late capitalism*.

10 As dictated by their endless encroachment of all into cost-effectiveness, even if only into a horizon of total depletion and destruction, filled with Sacrifice Zones. See: Bullard, Robert D. "Sacrifice zones: the front lines of toxic chemical exposure in the United States." (2011): pg. 266.

simultaneously act as catalysts within *Extinction Economies*, making them more pervasive and accelerating their impact, particularly in fields such as surveillance and resources exploitation.

Threshold Technologies are a category of innovations that mark a significant rupture from previous technological frameworks, often forming asymmetrical power relations. Disrupting established ontologies, *Threshold Technologies* create shifts in power dynamics and alter how societies interact within themselves, with each other and with their surroundings. Such *Threshold Technologies* form new ways of perceiving the world by actively rearranging and refracting it. These technologies are capable of reshaping social, ecological and political structures, typically prioritizing control and the profits it consolidates over environmental equality and sustainability. Drones are a clear example: serving as groundbreaking control tools, they extend surveillance and dominance over landscapes and populations, while also symbolizing a suggested technological supremacy over nature. Cinema, too, functions as a Threshold Technology. Playing a pivotal role in shaping public perception, it constructs narratives and contemporary founding myths that may reinforce rather the question (especially in recent decade) the motives of *Extinction Economies*. These, meanwhile, prioritize economic growth with its relativist immediate easily manipulated profits – often with little regard for long-term ecological costs. Such regimes drive systematically multi-habitat destruction, immense biodiversity loss, and increasing climate instability by using *Threshold Technologies*: on the one hand as highly-effective tools to exponential resource extraction and enforce control over impacted areas, and on the other hand as uncontested promises for future fantasies of *Dues-Ex-Machina* tech solutions which will fix all the exorbitant devastation – and therefore justify and accelerate it into a nightmarish loop.

Fig. 3. State Of Security – Production Still 3 (San Francisco, California, US), 2024

Investigating the relations between *Threshold Technologies* and *Extinction Economies* through my practice-led PhD, which *State of Security* is prominent part of its artistic research, I've focused on how drones and cinema[11] both restructure perception and power. Drones, with their aerial gaze, alter our sense of space, geopolitics, and control over nature. Cinema, through its storytelling and myth-making powers, tend to collaborate with agendas favoring profits over ecological equality and survival. Especially in its contemporary, conventional, commercially oriented and conservative form, cinema tend to propagate the ideologies of *Extinction Economies* through its cultural markers and markets. Yet it also holds the potential to critique and expose their harms, suggesting various ways of repairing the widening and deepening damage.[12]

11 And better still, drones in cinema.

12 "To repair it all" as suggested in one of these radical cinematic example, Primer by Shane Carruth (2004).

Fig. 4. State of security – Production Still 4 (The Dead Sea, Great Rift Valley, Middle East)

Cinema can act by making its own rules in the realm of radical possibilities. *State of Security* attempt to tap into this by rejecting some of the medium's ingrained habits. For starts, there's no protagonist to bond with, and no easy geographical pointers to orient us. The film's aerial views collapse diverse and drastically different environments[13] into one impending global disaster zone: from pandemic-stricken San Francisco blurs into calving Arctic glaciers in in the far reached archipelago of Svalbard. This corresponds to how drones erase boundaries, imposing a new logic of control and surveillance with their invasive presence over accelerated landscapes.

Ultimately, this text and the film call for us to revisit and rethink Deleuze's *Postscript on the Societies of Control*. But more urgently, they ask us to recognize how *Threshold Technologies* and *Extinction Economies* reinforce each other — and how we might disrupt that deadly loop. If we want to survive ecologically, we should look beyond

13 Liam Young in a discussion in *Szita, Jane, A New View from Above, a report on the Drone Salon* in *Unmanned*, p. 116.

extractive models and imagine alternative narratives. Cinema, a medium invented and invested from its inception in interspecies relations – settling a bet whether a horse actually lift all 4 feet from the ground while galloping – has the subversive potential to so, if only audience members are willing to actively accept it.

Password: 2025

The Splitting Ambition

ALVES LUDOVICO

What are the ideological and ecological effects of humanity's desire to leave Earth and expand into space? This question is at the core of an ongoing body of work titled *Echoes Through Light Years*, from which this reflection emerges. As part of this broader inquiry, and within the framework of ecological arts research, I focus here on the implications of humanity's ambitions for outer space. Specifically, I consider how the pursuit of space projects may signal not only a technological aspiration but also a symbolic rupture, a growing disconnection from Earth as a living system.

The planet humans have the privilege of inhabiting is not just a physical landscape but a living, interconnected system where every element plays a role in sustaining life. Within Earth's complex web, life thrives through symbiotic relationships, like those between coral and algae or between oceans and forests. To me, the ambition to transcend this system and establish human existence beyond may represent a detachment from our planet as a dynamic, ecological entity. As Thomas Halliday observes in *Otherlands* book, "gatherings of species in time and space may give the illusion of stability, but these communities can only last as long as the conditions that help

Fig. 1. Detail from the installation *Spaceways to Earthly Matters*, from the series *Echoes Through Light Years*. Mixed media installation features coffee particles, metal fragments, and growing crystal structures. Photo by Luis Bustamante, 2024.

to create them persist."[1] This reminder of impermanence underscores the fragility of ecological balances and calls into question the notion of leaving behind the very systems that make life possible. The particular combination of factors that have converged on Earth, its distance from the sun, magnetic field, atmospheric composition, biodiversity, and billions of years of evolutionary processes, has created an environment uniquely conducive to life as we know it. These conditions are not only rare but deeply interdependent and have fostered a biosphere in which complex organisms, including humans, can thrive. To seek life elsewhere without fully understanding or honoring this interdependence risks forgetting just how finely tuned and irreplaceable our earthly home may be.

Space colonization is often framed as humanity's next frontier, but it feels to me less like progress and more like an ecological rupture. If one day humans colonize a novel planet, most likely it will be an isolated environment, where survival depends on fragile, artificial systems that cannot adapt or evolve like Earth's ecosystems. Ecology, the study of life within a shared home, finds its essence in interconnectedness, a quality that space colonies will not possess. On Mars or similar worlds, life may exist, but will always lack the deep interdependencies that define our ecosystem. Instead, these colonies will function as static curations of organisms, fully dependent on human or human-made intervention.

For some humans, space represents a seductive vision of reinvention, a chance to escape Earth's environmental collapse and begin anew, free from the burdens of history. Yet this vision is steeped in contradiction: the logics of exploitation and disconnection that have devastated Earth threaten to be replicated in these imagined

1 Thomas Halliday, *Otherlands: A World in the Making* (London: Allen Lane), 2022, p. 18.

off-world futures. As Mary-Jane Rubenstein critically observes in the *Astrotopia* book, "Thanks to rhetorical phrases like 'the future of humans,' 'a multiplanetary species,' 'the light of consciousness,' and 'the spirit of exploration,' the Space Barons [Musk and Bezos] are trying to convince us that the prodigious damage they're doing on Earth is instrumental to their messianic missions."[2]

Beyond the romanticized ideals of exploration and reinvention, space colonization may also be driven by significant financial interests. The current involvement of private companies in space extends far beyond the pioneering narratives; it includes ventures in space tourism, satellite technology, resource extraction, and surveillance. These companies see space not only as a new frontier to expand human horizons but also as an emerging and highly profitable market. Satellites, for instance, play a critical role in telecommunications, navigation, and Earth monitoring, generating substantial revenue streams while concentrating power over data and surveillance infrastructures. While such technologies are undeniably transformative, they frequently prioritize corporate profit over ethical considerations, raising urgent concerns about privacy, governance, and environmental impact.

This intersection between public institutions and private enterprise is critically examined in the *Today, Explained* podcast episode "Buy Me to the Moon," hosted by Noel King and featuring journalist Christian Davenport, who covers NASA and the space industry and is also the author of The Space Barons: Elon Musk, Jeff Bezos, and

2 Mary-Jane Rubenstein, *Astrotopia: The Dangerous Religion of the Corporate Space Race* (Chicago: University of Chicago Press, 2022), 84.

the Quest to Colonize the Cosmos.[3] Davenport explains how NASA, once dependent on private companies primarily for construction, is now shifting toward a model where these corporations are entrusted not only with building but also with owning and operating spacecraft. This shift signals a new phase of the commercial space race, wherein corporations are no longer just contractors but key actors shaping the trajectory of space exploration. The episode reveals how financial motives are deeply embedded in the operations of both governmental and private space programs, offering a crucial lens through which to understand the political and economic dynamics driving this renewed interest in the cosmos.

The resources devoted to space colonization, satellites, and surveillance could instead address urgent planetary challenges such as developing renewable energy, restoring ecosystems, and ensuring a sustainable future on Earth. As Benjamin H. Bratton argues in *The Terraforming* book: while "terraforming" typically refers to making other planets habitable for Earth-like life, the ecological crises of the Anthropocene demand that we now terraform Earth itself to keep it viable for its own life.[4] By redirecting space ambitions toward Earth regeneration, humanity could confront the root causes of ecological collapse rather than seeking refuge in the stars or advancing corporate agendas under the guise of progress. The allure of space colonization often distracts humans from Earth's pressing needs, presenting escape as a solution while neglecting responsibility. In prioritizing distant ambitions, humanity risks turning away from the only planet capable of sustaining life.

3 Noel King, host. "Buy Me to the Moon." Today, Explained. Produced by Victoria Chamberlin. Edited by Matt Collette. Fact-checked by Laura Bullard. Engineered by Patrick Boyd. Vox Media, March 28, 2024. Podcast, 27:40. https://www.vox.com/todayexplained .

4 Benjamin H. Bratton, *The Terraforming* (Strelka Press, 2019), 6.

Artists have long questioned the ideologies behind space exploration, probing the contradictions between technological ambition and ecological neglect. Tomás Saraceno and Larissa Sansour offer compelling critiques of space colonization narratives. Saraceno's work imagines outer space as a public sphere, challenging its corporate privatization and proposing models of habitation based on interdependence and ecological reciprocity. Sansour uses speculative fiction to confront the colonial and exclusionary ideologies underpinning space exploration, questioning who is allowed to inhabit the future and which histories are preserved or erased. These artists "are exploring visions of 'free' space, of outer space as a public commons and place of projective imagination," alternatives to the extractivist and militarized logics that dominate mainstream space discourse.[5]

Critiquing the scientific and logistical assumptions behind space colonization, Kelly and Zach Weinersmith in *A City on Mars* expose the ecological shortsightedness of current plans. The illustrated book exposes the failures of closed biospheres and warns against techno-utopian fantasies, aligning with artistic approaches that resist the myth of progress by highlighting its ecological and ethical costs. Through speculative and counterfactual storytelling, such practices encourage us to reconsider what forms of life and memory we value, preserve, and risk leaving behind. Informative and often satirical, the Weinersmiths' work outlines the immense hurdles to extraterrestrial settlement, ranging from biology to international law. They make clear that Mars, often romanticized as a second Earth, is far from hospitable: "Mars [is not] just an off-world Death Valley ... its soil is laden with toxic chemicals, and its thin carbonic

5 Eva Díaz, "We Are All Aliens," e-flux journal no. 91 (May 2018), https://www.e-flux.com/journal/91/197883/we-are-all-aliens/.

atmosphere whips up worldwide dust storms that blot out the sun for weeks at a time."[6]

Spaceways to Earthly Matters, part of the ongoing series *Echoes Through Light Years*, serves as a sculptural inquiry into the contradictions between extractive futurism and ecological entanglement. By assembling organic and industrial residues, coffee particles, sugar and found objects, the installation constructs a fictive debris field of space colonization. This material speculation raises questions about the fate of Earth's matter when uprooted from its ecological context and repurposed within techno-utopian environments.

The inclusion of organic residue in *Spaceways to Earthly Matters* also functions as a counter-narrative to sterile, hyper-controlled visions of space habitats. Much like the works of Saraceno, my installation resists escapist imaginaries by re-rooting cosmic ambitions in the soil, literal and symbolic, of Earth's compromised ecologies. By using decay and transformation as material strategies, I hope to emphasize not only the fragility of life-sustaining systems but also their regenerative potential when approached with care. Through ongoing research with biomaterials, I aim to prototype sculptural practices for a post-petrochemical world, where production no longer relies exclusively on fossil-fuel-based matter but embraces biodegradable and renewable substances.

6 Kelly Weinersmith and Zach Weinersmith, A City on Mars: Can We Settle Space, Should We Settle Space, and *Have We Really Thought This Through?* (New York: Penguin Press, 2023), 119.

Fig. 2. Detail from the sculpture *SHIPSPACESHIP*, part of the installation *Spaceways to Earthly Matters*, from the ongoing body of work *Echoes Through Light Years*. Mixed media sculpture composed of found objects coated with sugar-based material developed by the artist. Artist's documentation, 2024.

Fig. 3. *Enhanced Wide Hand* reshapes a landscape of coffee particles in the installation *Spaceways to Earthly Matters*, part of the ongoing body of work *Echoes Through Light Years*. Mixed media, dimensions variable. Photo by the artist, 2024

In cutting ties with Earth, humanity gambles with the very essence of life itself. True resilience lies not in isolation but in the connections that sustain and nurture existence. Any quest to explore space must begin with recognizing what we should not lose—a living planet with the complexity and renewal that make life possible. As Rubenstein reminds us, such an endeavor is only meaningful "if we can find a way to study it without doing further damage to its ecology and our own, and without escalating human violence."[7] Her words urge us to reassess the ethical and ecological costs of cosmic ambition and to question whether space exploration can be reimagined not as escape, but as a practice rooted in care, responsibility, and planetary continuity.

7 Mary-Jane Rubenstein, *Astrotopia: The Dangerous Religion of the Corporate Space Race* (Chicago: University of Chicago Press, 2022), p. 189.

Memories of Planet
What if not central to Universe?

KATINKA VAN DER JAGT

I still can feel it—this thick green layer covering a small part of my body—the lush and overwhelming atmosphere—the air thick with fragrant humidity enveloping this very small part of my heavenly body. Who would have thought that this crop, my vibrant vegetation would impact one of my dwellers so exorbitantly? Some time ago, some say 300 million years have past[1], I was bolstering a very different appearance on this patch of my outer skin, I carried a moist and humid shell, full of mega forms of life. But this was not so important to me, then. This was only a scratch on a small patch of my surface, then[2].

I have been blessed with a heavenly body. *Hemellichaam* to some, or celestial object to others, my heavenly body. I am quite aware that I am one of very many such *hemellichamen (pl)*, but to some dwellers my peculiar body is central to their existence. So, I would

1 Jussi Parikka, *The Anthrobscene* (University of Minnesota Press, 2014), 54., accessed in January 2025, https://manifold.umn.edu/read/the-anthrobscene/section/bfbc3528-d8fa-4dec-a484-48447a03b566. Parikka addresses earth as a transcendent entity outside historical change. Earth is present here as observer with projected non-linear experience.

2 Marina Guzzo et al., "Artistic Practices in the Anthropocene", *Annual Review of Environment and Resources*, 49(1) (2024): 223–247, https://doi.org/10.1146/annurev-environ-112922-112400. See also p. 226: "the proposition to bring art closer to the issue of climate crises and without separating what is human from what is other-than-human", and summary points 1 and 2 on p. 241.

think it would be me, the protagonist, taking center stage in their short-lived performance but they choose to make it all about them.

My *hemellichaam* has a mass of 5.9722 x 10^{24} kilogram, a volume of 10^{10} km^3 with a fierce and fiery core[3]. Only a very small part of my heavenly body is part of their performance. Using their inaccurate system of taking measure I have tried to wrap my senses around this. Scratching their surface so to say. Well, my exterior amounts to 510 km^2 according to them, of which what they call land takes about 30 percent, but we know that is changing. Of this land they affect various amounts. Of course, they dig 'deep' for their ever-growing need for power. The deepest little sting I felt was about 12 kilometres. The deepest artificial point on Earth, drilled during the Sakhalin-1 project. The Kola Superdeep Borehole SG-3 reached 12 kilometres deep into my mantle in 1989, still some 'yards' short from my 1220 km deep core[4]. In their search for power, they tickle my mantle.

They search for power. Well, rumour has it that they are going to invest again in one of the oldest powers in the universe, a nuclear renaissance so to say, to feed the power needs of their artificial intelligence. Theirs? Well, let's consider the meaning of 'artificial', as in *e.g.* artificial skin. Skin made by humans rather than occurring naturally. Usually used in the context of a copy of something. What does artificial intelligence mean in this context. Intelligence made by humans, rather than occurring naturally? But let's not get sidetracked.

3 David R. Williams, NASA Earth Fact Sheet, last updated 15 November 2024, https://nssdc.gsfc.nasa.gov/planetary/factsheet/earthfact.html

4 Jennifer Walker-Journey, "Why did the Russians seal up the deepest hole in the world?", HowStuffWorks, October 20, 2023, https://science.howstuffworks.com/engineering/civil/kola-superdeep-borehole.htm, accessed January 2025.

Nuclear processes are at the core of my heavenly body. Something harnessed in by the Universe far before my body took shape. They seem to think that they can reproduce or 'control' this themselves , as if they have 'invented' it. I would crack my crust, cast a crusty smile if I could[5] But I have other concerns. I can feel that the wet coat covering my body is starting to change its formidable fit, it tickles a little, reshaping its volume. As if it has not always been in constant change[6]. Reminds me of the fragrant ferns again. This lush thick carpet that covered once a large part of my earth based heavenly body, this carpet that they have been burning through in an infinitesimal amount of time. I note that only some tend to a small amount of my living organisms. Others excavate at logarithmic scale my material that took me millions of years to form from the decomposing dead. With an urgency as if their life depends on it. And ironically it does.

So many secrets still to uncover. When seeing myself from the universe I am a peaceful place[7]. But I have my worries. Collision being one of them. I vividly remember the impact some 66 (!) million years ago, that altered my course. The Chicxulub impactor had

5 Amitav Ghosh, *The Nutmeg's Curse: Parables for a Planet in Crisis* (University of Chicago Press, 2022), 75.

6 Jan Buisman, *Duizend jaar weer, wind en water in de lage landen 1675-1750*, Volume 5. (Uitgeverij Van Wijnen, 2006): 998 p. Buisman's 5th volume covers the period 1675-1750 of the little ice age in the Netherlands. This volume describes the first systematically recorded weather data with instruments by Nicolaas Kruik, noting the longest uninterrupted instrumental weather measurement series in the world (300 years). In Jan Buisman's book these measurements are placed in their time. How the weather determined the course of Dutch history. Buisman describes the struggle of scientists to get a grip on the weather.

7 Martta Heikkilä, *Deconstruction and the work of art: Visual arts and Their Critique in Contemporary French Thought* (Rowman and Littlefield, 2021), 239-266.

a mere 10 kilometre diameter[8], but it placed me on track for the collision path of now.

I know of other heavenly bodies coming my way. I am hit quite regularly (every 10.000 years with significant impact according to their calendar). A collision is imminent I would say, having been around for 4.54 x 10^9 years[9]. Nuclear fission in my fiery centre is constantly taking place and my power is always shifting. I worry, is it reversing my strength? What when my frenemy stops fuelling my body. This will take place soon too. And how about black holes excavating my entire body. My planetary reach is much wider than theirs, I can sense this other heavenly body approaching. The power that they are bringing is off the scale relative to human in(ter)vention. And I am going faster and faster in their direction.

But what am I reminiscing about again, drifting back to my lush and humid coat affecting my atmosphere with its leaky hole. Am I not central to Universe? I tremble under the power of others. I shake and move in the direction of the immeasurable source. Leading me into an unfamiliar realm. Justify me.

By that time few ferns remain, will they have harnessed in some unrelated source of power, affecting my fierce and fiery core?

8 "Deep Impact and the Mass Extinction of Species 65 Million Years Ago," NASA Science Editorial Team, December 3, 2001 (last updated Jan 24, 2024) https://science.nasa.gov/earth/deep-impact-and-the-mass-extinction-of-species-65-million-years-ago/, accessed January 2025.

9 International Planetarium Society (IPS) Official Statement on the Ancient Age of the Earth and Universe https://www.ips-planetarium.org/page/age , accessed March 2025.

Photographs by Katinka van der Jagt (2022).

Fig. 1–2. *On the 26th of June 2022 at the exact moment when discussing the receding of Sólheimajökull Glacier and the impact of climate change a large piece of the glacier wall collapsed. On site, the author was informed that had not happened before. The act of collapse as communication was the onset for revisiting anthropocentric narrative.*

Fig. 1. Whyte&Zettergren, *Red dust fragments*, still image of bauxite soil and vegetation viewed from a car window near Milk River, Jamaica, 2023.

The Soil, the Ocean and the Sample

RUT KARIN ZETTERGREN

A hot summer day. A blue car drives through a landscape of tropical vegetation and red soil. The dust from the soil has settled on the plants' leaves. On the right side of the road, a long train loaded with bauxite ore is passing, transporting it from the nearby mine to the alumina plant.

On May 5, 1494, the European explorer Cristoforo Colombo, known in the English-speaking world as Columbus, reached the island of Jamaica, landing with his ships at what is today called Explorer Bay. Since 1952, Port Rhoades, with its alumina plant located in the same bay, has been one of the key ports for exporting alumina and bauxite from the island. The driver moves slowly through the area, while the passenger points a camera toward the bauxite mine. The scene becomes blurry as the car accelerates. We are witnessing the extraction of bauxite ore, the primary component of aluminium and Jamaica's leading export product[1]. Red bauxite rich soil is found in many parts of the island, particularly in regions rich in tropical forests. Mining activities have declined significantly since Jamaica was the largest producer of bauxite in the world in the 1950s [2], as easily accessible deposits have been exhausted. Despite its relatively small

1 Observatory of Economic Complexity, "Jamaica (JAM) Exports, Imports, and Trade Partners," accessed April 19, 2025, https://oec.world/en/profile/country/jam.

2 Jamaica Bauxite Institute, "Industry," accessed April 18, 2025, https://www.jbi.org.jm/industry/.

size, Jamaica is still listed among the ten largest bauxite-producing countries in the world [3]. To sustain the industry, new mining areas are being explored, while concerns over environmental and public health impacts continue to be raised by local communities and environmental organisations[4].

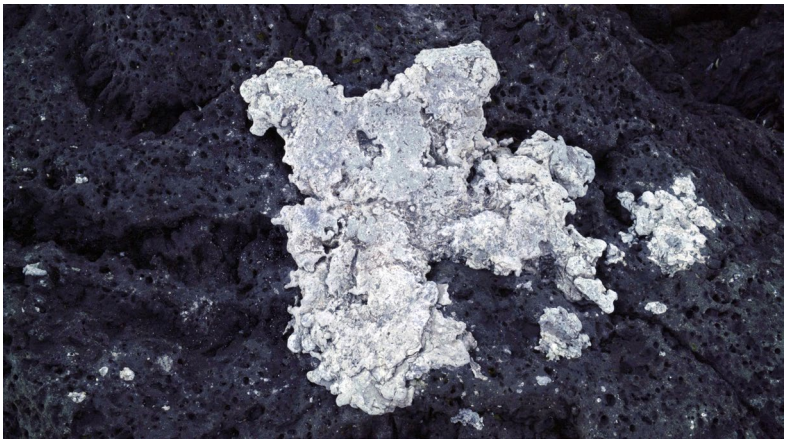

Fig. 2. Rut Karin Zettergren, *SPL*, still image of SPL fused with lava stone at a beach in Straumsvík, Iceland, 2024.

A beach in early winter, it's sunny but windy, in the background of the scene an aluminium smelter towers over the heaps of kelp.

3 HARBOR Aluminum, "Top 10 Bauxite-Producing Countries in the World," accessed April 18, 2025, https://www.harboraluminum.com/en/bauxite-production-by-country.

4 Jamaica Environment Trust, *Red Dirt: A Multidisciplinary Review of the Bauxite-Alumina Industry in Jamaica* (Kingston: Jamaica Environment Trust, 2020), accessed April 20, 2025, https://jamentrust.org/download/jet-red-dirt-book/?wpdmdl=17737&refresh=68051fe42c23e1745166308.

Three people are walking along the shoreline, focusing on the ground. They are picking up lumps of spent pot lining (SPL) that the ocean has washed ashore. These lumps are believed to be remnants of industrial waste, likely originating from when the aluminium refinery disposed of slag into the ocean as a form of cheap waste management in the mid-1970s[5] .Now, 50 years later, this toxic [6] material mixes with volcanic rocks, seashells, washed-up ship parts, and other debris from the North Atlantic Ocean.

Fig. 3. Olando Whyte, *Mi old mango tree rock mi nice an easy wid di breez*, still image of a mango tree on a street in Kingston, Jamaica, 2025.

5 *Morgunblaðið* 157. tölublað og Íþróttablað, July 15, 1975, 35, "Mengunarvaldar voru í gjallinu frá álverinu," accessed April 14, 2025, https://timarit.is/page/1464965#page/n34/mode/2up.

6 Regína Þórðardóttir, *Aluminum Production Waste Mapping – A Case Study of the Icelandic Aluminum Industry* (MSc thesis, University of Iceland, 2018), 21, https://skemman.is/bitstream/1946/30590/1/MSc_Reg%C3%ADna%20%C3%9E%C3%B3r%C3%B0ard%C3%B3ttir_31052018.pdf.

A warm evening, after an even hotter day, the stars are out, and the pinkish streetlight lights up the big mango tree at the entrance of the yard. A child and a visitor are sitting on the trunk of a blue car parked in front of the gate, a man stands beside them and talks on a mobile phone.

The planned research trip to visit the new bauxite mining areas near Accompong Town is cancelled after the phone call. The relatives of the man who lives in the area, advised that a visit to the maroon town would be too dangerous at this time. The Maroons are descendants of Taínos, the island's indigenous people, and runaway enslaved Africans [7]. Since the Jamaican government approved exploration in Maroon lands and shifted the border of the protected area [8], tensions within the community have escalated [9]. Due to the conflict over land rights and concerns about the environmental impact of mining on the land and its role as a critical watershed for the island's water supply, the Accompong Maroons are suing the government of Jamaica for what they perceive as illegal mining on their land[10].

7 State of Accompong Maroons, "Recognition & Achievements," accessed January 20, 2025, https://stateofaccompong.org/recognition.

8 Jamaica Information Service, "No Mining in Cockpit Country Protected Area," accessed April 19, 2025, https://jis.gov.jm/fwd-no-mining-in-cockpit-country-protected-area/.

9 VICE News, "The Fight Against a US Mining Company in Jamaica Continues," YouTube video, 13:28, April 20, 2022, accessed January 8, 2025, https://www.youtube.com/watch?v=mVluoyJEXn0.

10 Marie Widengård, "Saving the Forest to Secure the Mine in Jamaica's Cockpit Country," *Edge Effects* (2024) [2023], accessed January 18, 2025, https://edgeeffects.net/cockpit-country-mining-conservation/.

Fig. 4. Whyte&Zettergren, *Mouth open, belly empty*, still image of opened smelters in SAL aluminium plant, Straumsvík, Iceland, 2024.

A conference room with big windows overlooking the Atlantic Ocean. A man in working clothes *representing a multinational aluminium company and five visitors are sitting around a table shaped as a ship.*

The man in work uniform blocks the ocean view with wooden slidable curtains and turns on the projector. The aluminium coating on the projector's reflector directs the light and shapes the image, which is then magnified through the lens and projected onto the wooden surface. The information provided in the PowerPoint presentation by the communication manager gives an overview of the global company structure and the importance of aluminium production for Iceland's economy [11]. When the safety video ends, and the visitors are dressed in protective coats, helmets, and glasses, they

11 Nordregio, "Aluminium Overtakes Fish in Iceland," *Journal of Nordregio*, no. 2 (2011), accessed April 20, 2025, https://archive.nordregio.se/en/Metameny/About-Nordregio/Journal-of-Nordregio/Journal-of-Nordregio-no-2-2011/Aluminium-overtakes-fish-in-Iceland/index.html.

are guided into the smelter hall. Half of the production is at halt due to electricity shortage and the smelters are open [12]. The man from the company points and explains how the alumina is dissolved in molten cryolite within a smelting cell and subjected to an electrolysis process. A high electric current is passed through the solution, separating the aluminium ions, which collect as liquid aluminium at the bottom of the cell, ready for extraction.

The tour guide tells the visitors that about two-thirds of the island's electricity is consumed by the aluminium industry[13]. He avoids answering questions about whether the now depleted cryolite from Greenland was used in the smelter during its early days of production[14]. (Nordregio 2011)He also evades questions about whether Jamaican bauxite or alumina is currently being processed there[15]. He notes that other plants in Iceland use Jamaican bauxite, but that in general it's hard to know the origin of the raw material, as multinational companies frequently exchange alumina batches to optimize shipping. When the visitors ask about the Greenlandic cryolite and Jamaican bauxite for the second time, the tour is abruptly

12 Arctic Portal, "Climate Change Affecting Electricity Production in Iceland," *Arctic Portal*, accessed April 20, 2025, https://arcticportal.org/ap-library/news/3552-climate-change-affecting-electricity-production-in-iceland.

13 Lin Zheng and Barbara Breitschopf, *Electricity Costs of Energy Intensive Industries in Iceland – A Comparison with Energy Intensive Industries in Selected Countries* (Fraunhofer ISI, 2020), accessed April 19, 2025, https://www.stjornarradid.is/library/01--Frettatengt---myndir-og-skrar/ANR/ThKRG/Report%20Iceland-FINAL.pdf.

14 Dawn Alexandrea Berry, Cryolite: Lessons from History for Contemporary Practice, in Proceedings Artek Event 2013: Sustainability in Mining in the Arctic (2013), accessed April 17, 2025, https://www.academia.edu/3383748/Cryolite_Lessons_from_History_for_Contemporary_Practice

15 Mines and Geology Division, "Jamaica's Mining and Quarrying Sector Performance 2023," October 15, 2024. Accessed April 19, 2025https://mgd.gov.jm/2024/10/15/jamaicas-mining-and-quarrying-sector-performance-2023/.

cut short. Apparently, the 15 minutes, which, due to health and safety regulations, is the time limit for staying inside the smelter hall without appropriate protective gear, had passed.

Fig. 5. Bryndís Björnsdóttir, *The Contingency Sample Training Trails*, still image of Whyte&Zettergren conducting geological training at sites near Lake Mývatn, where the Apollo 11 astronauts trained before their mission to the moon, Iceland, 2022.

Cut between two scenes: 1. An endless cosmos of dark space, a spaceship is traveling towards the moon, its aluminium body reflecting the distant light of the sun. 2. A grey day on a lava field in Iceland, two persons in oversized green military raincoats and black boots *are walking around looking at the ground.*

The Apollo 11 command module, *Columbia*—echoing the name of Christopher Columbus, the first European to reach Jamaica—landed on the Moon on July 20, 1969.The ship was primarily constructed

using aluminium alloys for its outer shell and internal framework[16]. The first action of the Nasa astronaut that landed on the moon, was to use an aluminium tool to scoop up a sample of dust and stones: the contingency sample[17]. This ensured that, even if the rest of the mission failed, they would still bring back a piece of the celestial body to Earth. Iceland served as a training site for the Apollo 11 astronauts, as the geology of Iceland's highlands was considered one of the most moon-like landscapes on Earth[18]. The stone samples brought back from the moon have since been analysed and include traces of basalt, rocks formed from solidified lava, and anorthosite[19]. Two figures in green raincoats bend down to pick up rocks, examining them closely before collecting a few. They are training for a space exploration program, as part of an artwork that explores the new space race, its colonial roots, and its futuristic vision of mining metals and ores from celestial bodies[20].

16 NASA, "Apollo 11 (Command Module Columbia)," National Space Science Data Center, last modified August 13, 2009, Accessed April 19, 2025, https://nssdc.gsfc.nasa.gov/nmc/spacecraft/display.action?id=1969-059A.

17 J. H. Allton, Lunar Samples: Apollo Collection Tools, Curation Handling, Surveyor III and Soviet Luna Samples (NASA Johnson Space Center, 2009), accessed April 19, 2025, https://ntrs.nasa.gov/api/citations/20090011852/downloads/20090011852.pdf.

18 NASA, "NASA's Artemis II Crew Uses Iceland Terrain for Lunar Training," NASA Science, September 14, 2024, accessed April 18, 2025, https://science.nasa.gov/missions/artemis/nasas-artemis-ii-crew-uses-iceland-terrain-for-lunar-training/

19 Lunar and Planetary Institute, "Apollo 11 Mission: Lunar Samples," accessed December 9, 2025, https://www.lpi.usra.edu/lunar/missions/apollo/apollo_11/samples/.

20 Whyte&Zettergren, "Galaxy Revolution – Space Travel as a Tool for Reconfiguration," VIS – Nordic Journal for Artistic Research, no. 13 (March 18, 2025), https://www.en.visjournal.nu/vis-13-whyte-zettergren.

Note: The scenes are drawn from research trips within the project *Contingency Sample*, which explores the extractive links between bauxite mining in Jamaica and aluminium production in Iceland, led by artists Bryndís Björnsdóttir, Olando Whyte, and Rut Karin Zettergren.

Fig. 1–2. Still: John Hubley helping to build the UPA studio space, uncredited, date unknown.

Turning the Heap

ORLA MC HARDY

> Everyone was respected as an artist in his own field, and we all had the same presence. Everyone - even the ink and paint, which is usually the bottom of the heap - everyone was invited to the story conferences. We were all on the same level - no second class...I think this was the first time in the industry that someone tried a system with no hierarchy - and no lowerarchy. [1]

Take the plastic covering off the heap. Put it aside. Grab your pitchfork, placing one hand lower down on the handle. Bend slightly at the knees. Dig the pitchfork into a heap composed of layered scraps of vegetable, fruit, cardboard, twigs, seaweed, garden waste. Grip, pause for a fraction of a second gathering strength, then arching backwards, lift the fork loaded with composting matter out of the heap. Flip the contents over as you might an egg on a frying pan. Return to the first standing position, back upright. Move the fork to another section of the heap. Repeat this movement over and over, allowing the materials to mix together, letting the air in. When the contents of the entire heap are turned, set the pitchfork aside. Cover the heap with plastic sheeting securing its edges.

Every week you return to the compost heap and fork over the contents again. Waiting and watching, over time - weeks, months - depending on the makeup of the layered matter and the weather

1 Jules Engels, Animator at United Productions of America (UPA) in Maureen Furniss, *Art in Motion - Animation Aesthetics* (Indiana University Press, 2014), 140.

conditions - it heats up and breaks down, combining to form a nutrient rich food for future plant growth. Compost is a non-hierarchical system; an interdependent space that enables other beings to thrive on a micro and animal level - fungi, micro bacteria, worms and plant waste interact, collaborate and re-generate each other.

It takes a long time. You've got to stay with it.

Compost is a time-based media, a timeline that layers and holds scraps of content on top of and alongside each other. Over time the materials change each other - a form of reciprocal metamorphosis, a form of expanded animation, where animation is when scraps of time placed alongside each other become enlivened because of their accumulation.

In media production, we usually encounter a timeline in video editing software. Clips are imported to the media(compost) bin. You assemble, cut, paste and layer the clips in the timeline window. You have the option of adding sound. You conceive of a whole, where the sum becomes greater than its parts. You save your file. Later return to it, rewatch, tweak and reorder the elements. When it feels right, you export the file and share. To edit in a timeline is to build a heap, "where the common feature of this "heap" is not the type of object or the type of materials it consists of but the act of combination itself."[2]

2 Dave Beech, *It's Actually an Ethic*, Art on the scale of life, Kathrin Böhn,HDK-Valand/The Showroom/Sternberg Press, 256

Fig. 3. Still from Jolly Frolics series, UPA studios.

Fundamental to animation is the concept of 'timing and spacing'. The first step when animating any movement is to set the tempo. You might break down the movement into its main phases. When animating the walk-cycle, a single step is typically broken into the four stages a foot makes - contact, down, passing position, up. How an animator chooses to organise the spacing of the action dictates the texture of the movement. When done 'correctly', it will give a sense of believability to the movement, believable in that it relates to a normative perception of how 'we' experience movement in the human world. Disney, the dominant voice in the animation industry between the 1920s and 1960s, set this as the standard for movement in animation - from which other temporal experiences deviated.

Disney's studio operated as a model of patriarchal order, its productions credited to the genius of a sole individual.[3] The labour production line was hierarchical and segregated along gender lines. Its assembly line-like processes were influenced by Taylorism, a system aimed to extract as much content as efficiently as possible from the studio workers while ensuring a predictable and uniform output to maximise profit. Studio based hand drawn animation lent itself particularly well to the Taylorist assembly line processes as many people are needed to produce the many thousands of images drawn, coloured and shot to create an animation.

In the Disney studio system, the breakdown of labour went top down in terms of status and pay; top of the heap were keyframe animators, followed by the breakdown artists, and then the in-betweeners. Lowest in the pecking order were the artists colouring in the backgrounds, the inkers and painters. For a long period of time, this was the only work that women were allowed to do in the studio. Frequently this work went uncredited.

In the 1930's union organising took hold in the animation industry. In 1941, several hundred animators went on strike outside the studio, after tensions escalated at the Disney Studios "when profits from Snow White and the Seven Dwarfs (1937) were used to construct a new building that segregated the once unified crew into separate floors based on their position in the hierarchy and their pay."[4] For close to four months the unionised employees picketed and disrupted film production at the studio. Disney fired some union organisers before the official picketing occurred and subsequently fired over two hundred strikers.

3 Maureen Furniss, *Art in Motion*, 123.

4 Maureen Furniss, *A New History of Animation* (New York: Thames & Hudson, 2016), 209.

Fig. 4. Still from Jolly Frolics series, UPA studios.

Several animators who left Disney because of the strike set up United Productions of America (UPA). Although UPA was considered a style leader, it did not have a studio style per se, partly because it did not have a typical studio production pipeline. It was democratic, not hierarchical, allowing the style of every UPA film to evolve in response to the subject matter at hand. Every director was allowed to develop their own style for their short film.

UPA developed a limited animation technique. Limited animation takes many forms. In general, it calls for fewer drawings than the Disney style, and it tends to break some (occasionally most) of Disney's rules. Drawing influence from the flat planes of modern art, blocks of colours spilled beyond the confines of their outlines. Favouring striking graphic compositions with little to no dimensional shading, movements were snappy, less complicated and used

looping to great effect. A character could pop from one pose to another. Within a vibrant composition, the animation could be isolated to a single element; an eye blink, a spoon stir - while the rest of the body held still. The camera panned over still images to create a sense of cinematic motion. Sound became an integral part - jazz soundtracks, narration and voiceover propelling the stories forward. These combined strategies allowed for films to be both more cost effective and experimental as they were less labour intensive to produce. Both structurally and in terms of its output, UPA was formed in response to a crisis, growing into a stylistic and organisational alternative to the restrictive animation studio system.

Fig. 5. Compost heaps, Boihy, Co. Leitrim, Ireland (own photo)

A rotting, growing pile.
A rotting, growing timeline.
An animation.

Turning the heap of repetitions and holds.
Turning the heap of animating cycles.

Looping non-hierarchical systems that self-sustain. Looping time back on itself as an alternative to the linear forward progression of capitalist clock time. Loops as a time of rest within movement.

A loop returns to the initial thing, re-appraising what is already there and what we have had all along. A loop is a thing that holds itself. A hold, where letting a bed rest for a season before replanting gives it time to recover. In the looped cycle of compost/animation breakdown, different lived experiences of time and movement mutually coexist, caring for the present and in the process, growing the conditions for a future.

Fig. 6. Still from The Unicorn in the Garden, UPA films, 1953, directed by William Hurtz.

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Biographies

Samir Bhowmik is a Helsinki-based multi-disciplinary artist, architect, and scholar. He is an Academy of Finland Research Fellow at the University of the Arts Helsinki, where he teaches and explores extractivism and ecology through film, installation, and performance. His current research project *Terra-Performing* (2022–27), examines extractivism and environmental change through intelligent performance research. Samir received a Doctor of Arts (2016) from Aalto University, Finland, and a Master of Architecture (2003) from the University of Maryland, United States. His collaborative artistic works and writings have appeared in Leonardo (MIT Press), Helsinki Biennial 2021, and the Venice Architecture Biennale 2021.

Kati Kivinen (PhD) is art historian and curator based in Helsinki, currently working as Head of Exhibitions at the HAM Helsinki Art Museum (2022-) and Head Curator for the Helsinki Biennial 2025 with Blanca de la Torre. Her recent curatorial projects include *Haegue Yang: Continuous Reenactments* (2023) & *Nastja Säde Rönkkö: Survival Guide for a Post-Apocalyptic Child* (2024). Previously she was Chief Curator for Collections at the Museum of Contemporary Art Kiasma in Helsinki (2017-2022) and Curator for Temporary Exhibitions also at Kiasma (2003-2017). There she curated (a recent selection): *50 Hz*: *Mika Vainio* (2020); *Dry Joy*: *Iiu Susiraja* (2019); *Coexistence - Human, Animal and Nature in Kiasma's Collections* (2019); *Second Shift: Pilvi Takala* (2018); *Demonstrating Minds: Disagreements in Contemporary Art* (2015); *Tonight No Poetry Will Serve*: *Alfredo Jaar* (2014). Her independent curatorial work includes numerous interdisciplinary exhibitions, most recently *Acts of Care*, the Finnish Pavilion at the 15th Gwangju Biennial, South

Korea (2024), *Fragile Times* at Galerie im Körnerpark in Berlin (2020) and *Materiell Tanke* at Varbergs Konsthall, Sweden (2017).

Blanca de la Torre is PhD in Fine Arts, art historian, researcher, curator and artistic director whose work is situated at the intersection between visual arts, political ecology and sustainable creative practices. She is currently the director of IVAM (Art Modern Institute Museum of Valecia) and Head Curator of the Helsinki Biennial (Finland) with Kati Kivinen. She was chief curator of the 15 International Cuenca Biennial, and artistic co-director of the multidimensional project Overview Effect at MoCAB Museum (Belgrade) and Con los pies en la T(t)ierra at CAAM, Centro Atlántico de Arte Moderno (Las Palmas de Gran Canaria). From 2009 to 2014 she was chief curator for ARTIUM, the Museum-Center for Contemporary Art of the Basque Country (Vitoria-Gasteiz, Spain). She has since curated exhibitions at international museums and art centers, among which the Salzburger Kunstverein, Salzburg, Austria; EFA, Elisabeth Foundation Project Space, New York; the Center for the Arts of Monterrey, Mexico; the Carrillo Gil Museum in Mexico City; the Contemporary Art Museum of Oaxaca, Mexico (MACO); NC-Arte Bogota, Colombia; RAER, Real Academia de España en Roma, Rome, Italy; LAZNIA Center for Contemporary Art, Gdansk, Poland, Exhibition Center Alcalá 31, Madrid; CentroCentro Art Center, Madrid; NGMA, National Gallery, Delhi, India; the MUSAC, Contemporary Art Museum of Castilla y León; 516 Contemporary Arts Museum Albuquerque, EEUU, among others. She has also published more than a hundred specialized texts in books, catalogs and magazines, and regularly participates in international conferences and symposiums on culture and sustainability.

Frank Brümmel is an artist and educator with a background in stonemasonry. He graduated as a *Meisterschüler* (2006) from the Academy of Fine Arts in Nuremberg, Germany, and received a Master of Fine Arts (2008) from the Finnish Academy of Fine Arts in Helsinki. He currently serves as Lecturer in Sculpture at the Academy of Fine Arts, University of the Arts Helsinki, and has been developing his doctoral candidacy since 2021. Brümmel's artistic research project is centered on the question *Allegory for Pedagogy – Sculpture as an Educational Tool?* It approaches this theme from the perspective of artists as teachers, the necessity of artistic communal work, and the development of fictional archaeological stone artefacts. For Brümmel, working in stone—and considering stones as active agents—are key artistic methods within his current project.

Chong Gua Khee is a Singaporean director and dramaturg. At its core, her work is about creating spaces where people can explore and embody gentler ways of being with themselves and other human/object bodies. Recent projects include co-directing composer Yuto Obata's new chamber opera *Piggy Sparkle* (2025), *nesting, resting, 1 2 3!* for the Singapore Night Festival (2024) and *CITRUS fest: Who Cares?* (2024). Gua Khee's essay draws on her research for *to eat, or not to eat?,* a multilingual documentary music theatre performance slated for January 2026 that is her artistic thesis project as a Master's of Directing student at the University of the Arts, Helsinki. *to eat, or not to eat?* is the first in a new series by Gua Khee that explores the complex relationship between food and the environment. Her other long-term projects include *HOT POT TALK* (2017-ongoing) and *Tactility Studies* (2019-ongoing).

Vera Boitcova is a theatre director, dramaturge, artistic researcher, and queer performance artist. She is currently pursuing a doctoral degree at the University of the Arts Helsinki, focusing on "otherness," "belonging," and "home searching" in performance dramaturgy through the lens of queer migrant experiences. Boitcova holds MAs in Comparative Dramaturgy (Uniarts Helsinki and Goethe University Frankfurt) and Theatre and Performance (Queen Mary University of London). Over the past 12 years, she has lived and worked in the UK, China, Germany, Spain, and Finland. Boitcova's works, featured in festivals and theatres across Europe and Russia, often explore queer narratives and political themes, examining identity and activism through multimedia, site-specific, and immersive formats. In her projects, she aims to bridge art and activism, focusing on creating space for underrepresented voices within queer and migrant communities.

Katrin Enni is an artist and doctoral candidate at the University of the Arts Helsinki, Sibelius Academy, Department of Music Technology. With a background in sculpture and installation art, her practice-based artistic research explores interactive sonic sculptures as hybrid musical instruments, investigating music as an embodied and participatory experience. Through experimental sonic sculptures, she examines how listening, movement, and interaction shape our perception of space, the body, and the imaginary.

Berenike Melchior is a German-American physicist and dancer turned interdisciplinary artist. She has showcased work throughout Europe and the United States. Utilising methods of data science, video, field work, and choreography, as well as media studies discourses, her work explores the "datafied contemporary" through its manifestion in the body, globalisation, and online culture. She is

currently examining the possibilities that more-than-human storytelling can provide to grasp the complex and far-reaching systems we find ourselves immersed within.

Jack Faber is a Subarctic-based artist–researcher whose work explores the intersections of ecology, militarization, and the rights of both human and non-human lives. Merging filmmaking, artistic research, and creative transgression, he examines the hidden infrastructures, environmental violence, and systems of control shaping our world. His recent solo exhibition Accelerated Landscapes at CCAT reflects these themes through tensions between drone imagery from the High Arctic and ground-level observations from Central Asia. Faber holds a BFA in Fine Arts & Screen Arts and an MA in Artistic Research / Film from the Netherlands Film Academy, and is currently pursuing a PhD. His projects have been supported by the Kone Foundation, Berlin-Brandenburg Film Fund, Nessling Foundation, and Taike, among others. Through residencies from Greenland to Benin, he develops a unique site-specific, research-driven practice. Faber's writing includes contributions to Drone Aesthetics (Open Humanities Press, 2024) and Eco Noir (2021), reflecting his commitment to community-engaged, ethically grounded and collective artmaking.

Alves Ludovico is a Helsinki-based artist whose practice has been devoted to exploring the vague connections between material consumption, interspecies well-being, and ecological harmony. Currently pursuing an MFA in Sculpture at the Academy of Fine Arts, Helsinki, with an MA in Contemporary Design from Aalto University (2021). Ongoing projects include *The Emergence of Anthropocorallius*, a speculative narrative linking diabetic bodies to bleached coral reefs, and Echoes *Through Light Years*, which examines space colonization

through the lens of ecological detachment and constructed identities. Through installation, Ludovico employs found objects and biomaterials, such as sugar and coffee, to examine the ethics of material use and the fragile interdependencies that sustain life on Earth.

Katinka van der Jagt is an artist and scientist. Her background is in painting and environmental sciences. In van der Jagt's artistic practice and research she works from themes such as intuitive wisdom, human subjectivity, planetary environment, and phenomenology. The artist explores these themes in a move away from the anthropocene, where the human perspective is the focal point, and seeks to break away from anthropocentric boundaries. Her interest stems from a question she had from a very early age that is, can you conceive universal communication to create common understanding? In her current works she explores how cognition relates and translates in- to art. Her work has been exhibited internationally and she is currently pursuing a writing and publishing degree in contemporary art.

Rut Karin Zettergren is a visual artist whose works explore histories and theories surrounding technofeminisms, military technological heritage, the construction of modernity, and futurism. Zettergren uses speculative fiction and science fiction as tools to weave together and investigate these subjects through drawing, performance, moving image, installation, as well as through artistic collaborations such as S.O.N.G and Whyte&Zettergren. Rut Karin is currently pursuing a PhD in Fine Art with the research project *Cyborg Perception* at Uniarts Helsinki.

Orla Mc Hardy is an artist and educator based in the Northwest of Ireland. Her work has been exhibited and screened internationally.

Working through expanded animation, video, text, documentary, collage, sculptural installation and within a tradition of feminism(s), her current work examines where value is placed (and not placed) on the hidden time of care, love and labour.

Unfolding Island Ecologies
Eds. Samir Bhowmik, Kati Kivinen and Blanca de la Torre
Art theoretical writings from the Academy of Fine Arts (23)

PUBLISHER
Academy of Fine Arts, University of the Arts Helsinki

GRAPHIC DESIGN
Marjo Malin

COVER PHOTO
New Island – Production Still from the film *Vespertine* (Baffin Bay, North Greenland), 2025, Image Credits: Jack Faber

PRINTING
Hansaprint, 2025

ISBN 978-952-353-496-4 (printed)
ISBN 978-952-353-497-1 (pdf)
ISSN 2343-1008

The publication is available in the University of the Arts publication archive Taju.
https://taju.uniarts.fi/

ART THEORETICAL WRITINGS FROM THE ACADEMY OF FINE ARTS
23

Unfolding Island Ecologies brings together a collection of essays by artists, curators, and researchers reflecting on contemporary environmental and artistic practices. Set against the backdrop of the Helsinki Biennial 2025, the texts explore themes such as ecological interdependence, extractivism, food waste, material cycles, and the agency of non-human entities. Through case studies, fieldwork, and artistic projects, the contributors examine how islands, both literal and metaphorical, serve as sites for imagining sustainable futures. Together, these contributions offer insights into the challenges and possibilities of working with and within fragile ecological contexts across different disciplines and geographies.

Contributors: Vera Boitcova, Frank Brümmel, Gua Khee Chong, Alves Ludovico, Blanca de la Torre, Katrin Enni, Jack Faber, Orla Mc Hardy, Katinka van der Jagt, Kati Kivinen, Berenike Melchior, and Rut Karin Zettergren.

UNIARTS HELSINKI
ACADEMY OF FINE ARTS

ISSN 2343-1008
ISBN 978-952-353-496-4
9 789523 534964