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OCEAN AND SOCIETY

Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life

Volume 2

2025

Open Access Journal

ISSN: 2976-0925

Edited by Helge Mooshammer and Peter Mörtenböck

Ocean and Society, 2025, Volume 2
Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life

Published by Cogitatio Press
Rua Fialho de Almeida 14, 2º Esq.,
1070–129 Lisbon
Portugal

Design by Typografia®
http://www.typografia.pt/en/

Cover image: © mel-nik from iStock

Available online at: www.cogitatiopress.com/oceanandsociety

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https://doi.org/10.17645/oas.11807

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EDITORIAL

Open Access Journal

The Art of Ocean Research: Artistic Inquiry and Ways of Seeing Oceanic Life

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Submitted: 19 November 2025 **Published:** 17 December 2025

Issue: This editorial is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

This thematic issue explores the possibilities offered by the optics of artistic production for gaining a better understanding of the social, ecological, and political dimensions of oceanic life. It argues that such inquiry can enhance epistemic plurality by accommodating underrepresented perceptions, experiences, and interpretations in research processes. Art has always played an important role in depicting and exploring the manifold dynamics of the oceans and has contributed to a better understanding of human relationships with these environments. When employed as an autonomous mode of knowledge production and guided by specific research questions, artistic practice can intervene in hegemonic canons and bring to light previously unexplored aspects of human engagement with the seas. This thematic issue addresses these developments through a series of complementary contributions that employ participatory, interventionist, analytical, and poetic methods to examine the interface between ocean and society and outline an emerging repertoire of artistic research approaches that shed new light on life in and around the oceans.

Keywords

art; artistic research; collective knowledge production; creativity; media; ocean studies; participation; representation; visualisation

1. Artistic Research and the Oceanic Turn

Oceans are commonly perceived as unstable entities constantly changing in appearance due to fluctuating water levels, clarity, and surface currents. Unlike marine species, humans are unable to access oceans for

longer periods of time without the aid of technical devices such as floats, vessels, and submersibles. Humanity's land-bound nature has often been reflected in the portrayal of oceans as wild and in need of taming. Throughout the centuries, artistic works have given visual form to the human struggle with the ocean's raw and unpredictable forces. There is a long tradition of artistic practices that depict such attempts to tame this mysterious quantity and integrate its elusive dynamics into broader areas of inquiry. Such artistic practices approach oceans as territory (geography), as materiality (physicality), and as ecology (system). This plurality of perspectives is evident across a wide range of artistic works: from classical maritime imagery to William Turner's paintings of slave ships and whalers, from impressionist seascapes to new media installations engaging with oceanic environments.

The task of mapping and representing oceans and their transformations has long been at the heart of marine research, not least because Western mythology has long framed oceans and ocean life as a trope of the unseeable and hence, unknowable. In recent years, amidst global transformations and an awakening scholarly interest in "disorderly entities" (Helmreich, 2023), "hyperobjects" (Morton, 2013), and "watery embodiment" (Neimanis, 2017), new imaginaries of ocean life have emerged. These developments coincide with a rise in artistic research that has gained significant traction over the last two decades. Theorising different kinds of mobilities across biotic, political and (post)colonial boundaries, as well as critical, eco-feminist ontologies of the sea, the oceanic turn in the humanities and social sciences (Deloughrey, 2016), in particular, has unleashed a wave of artistic research that aims to forge new ways of seeing marine life. As Borgdorff (2012, p. 148) has pointed out with regard to artistic knowledge production: "works of art and artistic practices are not self-contained; they are situated and embedded." This embeddedness positions art both as an agentic sphere of practice within ongoing processes of cultural, social, and economic transformation and as an independent form of knowledge production distinct from other research traditions. Combining these dual capacities of research in and through art practice, the Vienna Declaration on Artistic Research, a policy paper developed by major players currently active in the field of artistic research in Europe, has sought to define this confluence of aesthetic experience, creative practice, artistic production, and reflective engagement as "epistemic inquiry directed towards increasing knowledge, insight, understanding and skills" (Society for Artistic Research, 2020, p. 1). Like all research traditions, artistic research is the subject of ongoing debates concerning its institutions, methodologies, forms, and objectives. Yet in practice, it often thrives in transdisciplinary settings, where its emerging set of approaches is combined with methods developed in other research traditions.

Since the seminal project Solid Sea by the collective Multiplicity—presented at Documenta 11 in Kassel in 2002—which explored the intersecting yet disconnected routes of tourists, migrants, seafarers, and others, there has been a steady growth of artistic research seeking to visualise the complexities of life in, on, and around oceans. This growing engagement is reflected in the development of numerous new PhD programmes in artistic research around the world—sometimes offered jointly by art institutions and universities of the social sciences or humanities—in which oceanic research plays an important role. The significance of this development is evident in initiatives such as Forensic Oceanography, a collaborative project between Lorenzo Pezzani and Charles Heller, which developed out of forensic architecture, the human rights-oriented research agency based at Goldsmiths, University of London. Another notable example is Ocean Space, an initiative launched and directed by TBA21-Academy. Through its high-profile exhibition programme in Venice, Ocean Space offers a collaborative platform for oceanic imagination and activism. Among its landmark shows is Oceans in Transformation (presented in 2021), an expensive

multi-screen installation by Territorial Agency (Ann-Sofi Rönnskog and John Palmesino) focusing on the integration of science, architecture, and art in the analysis of planetary changes.

This thematic issue seeks to chart the new perspectives artistic research can contribute to the evolving discourse on oceans and society by tracking the breadth and scope of key works and practices in this field, while also identifying potential new avenues opened up by current research. This does not imply any claim to an exhaustive analysis of contemporary artistic research into oceanic life. The aim here is rather to advance current discussions around the complexities of oceanic life today and to engage with the possibilities that different approaches within artistic research are opening up within these debates.

2. Approaches in Artistic Research and Contributions to this Thematic Issue

The articles presented in this thematic issue examine current societal, ecological, and political issues that shape life in and around the oceans, and highlight different aspects of artistic research that distinguish this approach from other research traditions. Taken together, the texts delineate a field of interventions within the existing canon of marine research, drawing attention to the novel perspectives and principles that artistic research is bringing to bear on the study of the oceans.

2.1. Concepts Emerging in and Through Art Practice

At the core of Mörtenböck's article "Ocean as Metaphor and Embodiment" is a close dialogue with art practices and their political agency. Drawing on the spectacular data-driven artistic practice of Refik Anadol, this article questions the uncritical instrumentalisation of figurative terms and metaphors commonly associated with the ocean's currents, particularly notions of fluidity and liquefaction. These metaphors, Mörtenböck argues, are mobilised as leitmotifs in contemporary discourses of social transformation to soothe pervasive feelings of instability, insecurity, and loss of control that have emerged in response to an ongoing fragmentation of social cohesion. The article challenges such eye-pleasing artistic approaches by foregrounding the work of artists such as Liam Young, Ursula Biemann, and the Otolith Group, whose practices insist on the necessity of embodiment and material presence. These artists situate societal transformation within oceanic environments fractured by the historical and material forces of planetary ecological crises, colonial extractivism, and cultural imperialism.

2.2. Aesthetic Interventions in Existing Narratives and Imaginaries

One of the ways in which artistic research generates new forms of knowledge about marine habitats is by intervening in the imaginaries that guide our perception of the oceans and our interactions with them. Mooshammer's text "Decolonising Ocean Matter" questions the validity of the vision of the high seas as one of the most symbolically laden forms of global commons. He traces how the long tradition of colonial displacement and exploitation has turned oceans into a perpetual frontier—an arena contested by numerous interests, all of which violently interfere with marine ecologies in pursuit of power and control. He argues that contemporary practices of marine resource extraction are often disguised as scientific endeavours in the service of humanity in order to distract from what are in fact neo-colonial aspirations. Challenging such possessive, anthropocentric investments in oceanic territories, he uses the example of the long-term collaborative art project World of Matter (2011–2016) to show how artistic research can not only produce

knowledge about exploitative processes, but also, often in collaboration with local communities, generate decolonial narratives and imaginaries that point the way towards alternative futures.

2.3. Participatory Action and Collective Knowledge Production

Various forms of civic participation in artistic research processes are the focus of the articles "From Riverbank to Ocean: Involving Young Generations With Their Territory Through Artistic Practices" by Ana Clara Roberti, Kim von Schönfeld, and Rui Monteiro and "Komuna Maro: Artistic Research as Collective Knowledge Production in a Capitalocene Seascape" by Ana Jeinic. For Roberti, Schönfeld, and Monteiro, artistic research is a way of providing schoolchildren with a platform to engage meaningfully with the natural and cultural water heritage of their surroundings. They describe how they worked with school classes in Portugal's northern coastal regions to explore the significance of proximity to the sea and the role of water in everyday life. The authors contend that the use of different artistic formats, such as new digital media, illustration, wood construction, plastic arts, and painting, played an important role in supporting participation processes and stimulating creative interventions. Intergenerational workshops, in which participants shared their own images, texts, and poems with others, facilitated dialogue, participants' connections to the environment, and helped contextualise local social, economic, and ecological challenges. Based on the artworks, documents, and materials that emerged in this process, the article concludes that this creative approach has led to greater awareness and appreciation of endangered heritage and created a holistic basis for younger generations to care for their environments. Art as a means of collective knowledge production plays a similarly important role in Ana Jeinic's analyses of contested marine and coastal environments. Her article engages with networks of marine communities, technologies, and infrastructures in the northern Adriatic and focuses on epistemic and methodological approaches developed in the artistic research project Komuna Maro, which means "common sea" in Esperanto (2023–2027). This project employs three symbolic "levels of perception"—the atmospheric, the littoral, and the submarine—which are interwoven in the production of experimental cartographies. These maps are intertwined with crowdsourced online maps, satellite data, and diverse artistic research approaches, including art photography and videography, communication design, and multimedia installation, to make visible hidden structures and dynamics within maritime ecosystems. The article describes how, in this process, participants from groups as diverse as fishermen, activists, policymakers, and planners act as informants, interlocutors, and co-creators in the formation of a critical atlas of the northern Adriatic.

2.4. Community Entanglement, Civic Engagement, and World Building

Examining the intersection of natural catastrophe, post-disaster development and artistic representation in coastal regions subject to ongoing threat, Hakan Topal's contribution to this issue moves away from a direct involvement of local communities in the research process in order to critically reflect on the tension between affirming and unsettling the notion of community—a space in which the political force and ethical urgency of artistic practice can be situated. Topal deals with the complex vulnerabilities and entanglements of communities in areas impacted by natural disasters and focuses on the quiet, intimate, and slow responses of those living through aftermaths, which are often overshadowed by the monumental gestures of rapid reconstruction and technological mastery inherent in post-disaster coastal fortifications. Drawing on the work of Jean-Luc Nancy and extensive on-site research in Miyagi Prefecture after the 2011 Tohoku earthquake and tsunami, he examines how the subdued sentiments and voices of local communities

can be given space in artistic engagement that aims at revealing the "unseen" and "unspoken" aspects of the disaster.

2.5. Poetry, Fiction, and Art Writing

The final article by Ayesha Hameed and Jol Thoms takes the form of a poetic examination of issues of loss, grief, and ecological collapse rooted in a visit to Lamu, an island just off the coast of Kenya that once served as a key port within the Indian Ocean trade network. The text expresses feelings of bodily, haptic connection to the smell, sound, textures, shapes, and colours of marine and terrestrial matter and its entanglement with layers of mournful personal, ecological, and political history. Echoing artistic (research) practices such as fictioning (Burrows & O'Sullivan, 2019)—an experimental practice in which new forms of existence are created or anticipated through performances, diagrams, or assemblages—Hameed and Thoms use their composition of short texts and photographs to create space for alternative ways of experiencing and understanding marine regions. Their work makes visible new connections between lived experiences, material practices, planetary change, the shelter of political consensus, and the burden of impending oceanic collapse.

3. Making the Currents of Artistic Research Tangible

The artistic investigations presented in this thematic issue contribute to charting new paths for research at the intersection of ocean and society that seeks to adopt previously overlooked, neglected, or suppressed perspectives and engage more accurately, inclusively, and sustainably with pressing contemporary issues. The effects of the currents set in motion by artistic research are already being felt in many forums, both within and outside the academic world, not least in transdisciplinary discussions addressing the environmental changes driven by ocean degradation. The narrative and dialogical dimensions of artistic research play a crucial role in illuminating the social aspects of marine research and promoting its transdisciplinary relevance and political impact.

Funding

This editorial draws on research funded by the Austrian Science Fund (FWF) [AR 633].

Conflict of Interests

The authors declare no conflict of interests.

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Ocean and Society
2025 • Volume 2 • Article 9396
https://doi.org/10.17645/oas.9396

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ARTICLE

Open Access Journal

Ocean as Metaphor and Embodiment

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Submitted: 12 October 2024 **Accepted:** 16 December2024 **Published:** 10 February 2025

Issue: This article is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

In a climate of increasing political instability and social transformation, scholarly discourses have started to foreground the fluidity of form as essential for human and inter-species co-existence. There is a pervasiveness in contemporary society of what Zygmunt Bauman, in his analysis of "liquid," software-based modernity, refers to as form immersed in and affected by conditions of uncertainty, insecurity, and unsafety. Many anthropologists and sociologists have argued that the efficacy of such a form is grounded in its state of emergence, that is, in the ways it both exceeds and is continuous with its constitutive parts. Artists expressing this contingent fluidity often draw our attention to the ocean as a site of emergence and creation. Today, much of this artistic reimagining of ocean life is executed digitally and dramatised by liquefying solid objects that morph into other, less familiar shapes. New environments are being generated, particularly by means of AI, that are freed from the burdens of the present. The association with the ocean's currents frames the liquefaction of unmoored, drifting, and blurred entities as an opportunity for change and a metaphor for the world to come. Discussing the work of media artists such as Refik Anadol, this article situates the agency of artistic production within a broader shift towards the conditions of liquid modernity and suggests ways to confront aesthetically pleasing sensations with art that recognises the inequitable impacts of societal transformation. It argues for an ocean that is both metaphorical and embodied, liquid, and more than wet.

Keywords

artistic agency; AI; liquid modernity; media art; ocean art

1. Introduction

In *Echoes of the Earth: Living Archive* (2024), an immersive installation work and exhibition by media artist Refik Anadol, iridescent, wave-like structures incessantly move across all the surfaces of the exhibition space. They constantly collapse into each other, changing their shapes and colours and forming new organic entities that are reminiscent of raging ocean currents. As if out of control, pulverised liquids splash in all directions, triggering further dynamics and transforming the surroundings into ever-new ecologies (see Figure 1). Some of these AI-generated shapes are inspired by coral reefs (see Figure 2), others by the flora and fauna of rainforests. On show at London's Serpentine Gallery in the spring of 2024, *Echoes of the Earth: Living Archive* has received critical acclaim from peers, art critics, and the art community for its lavish production and innovative use of AI technology. It is just one of many recent digital art installations that use the ocean's potential for change as a setting to explore the liquification of form and its relationship to contemporary challenges for human and inter-species co-existence.

In this article, I will trace the different ways in which digital art has turned to the ocean as a site, metaphor, and embodiment in its engagement with current societal changes, in particular with the widespread feelings of instability, insecurity, and loss of control that have emerged in response to an ongoing fragmentation of social cohesion. A central reference point of these analyses will be Zygmunt Bauman's notion of a "liquid modernity," which he coined in the 1990s to examine the late modern state of unfinishedness, incompleteness, and underdetermination that has evolved into a pervasive condition affecting individuals around the world. In contrast to the stable ideological frameworks that once characterised the period of "solid" modernity and guided human social interaction, liquid modernity denotes a state in which everything we interact with becomes transient, replaceable, and subject to rapid transformation. Perfection has given way to permanent improvement; mutual engagement has been superseded by facile escape; trust and

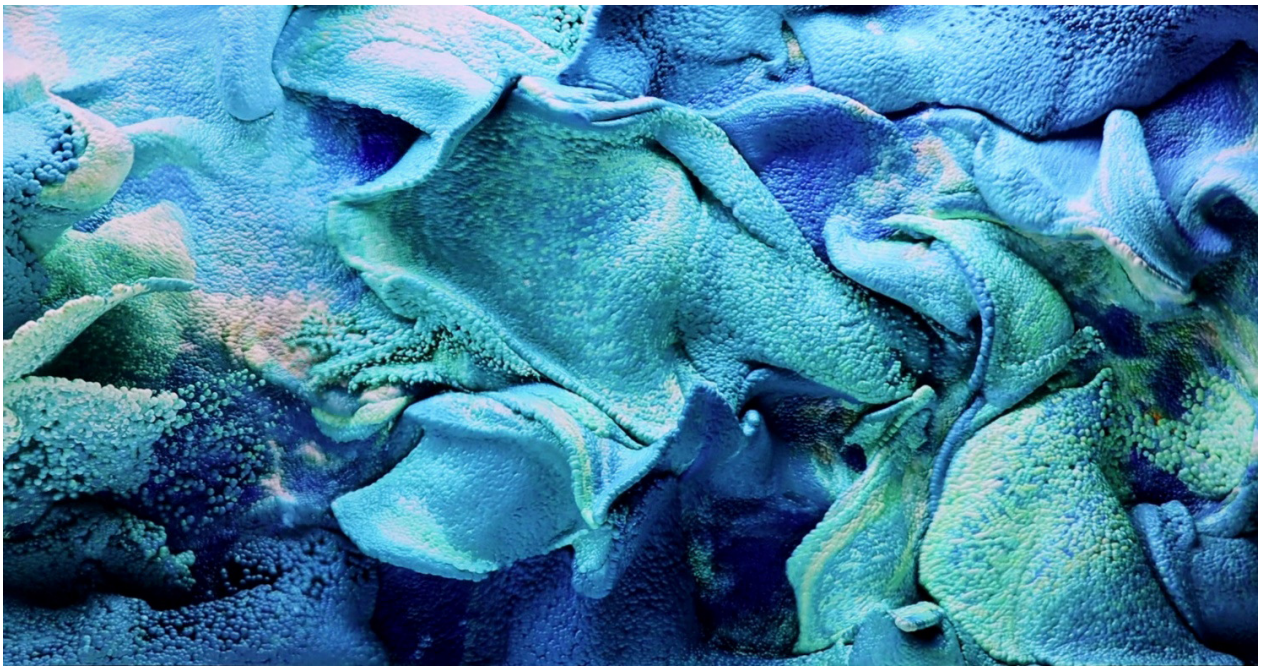

Figure 1. Refik Anadol, *Echoes of the Earth: Living Archive*, installation shot (detail), Serpentine Gallery, London (2024).

commitment have succumbed to the need for flexibility and adaptability; and everlasting realities have disappeared in favour of a hopeless pursuit of infinite chances.

This is the backdrop against which contemporary art digs into the depths of oceans in search of clues that help us navigate the many crises linking humanity and the sea. From climate change and rising ocean levels to maritime pollution, coral degradation, and the global loss of marine biodiversity, there is an endless list of unsettling phenomena that connect ecological calamities with the ongoing erosion of fixed axioms, routines, and rules. In this diminishment of old certainties and the rise of more "liquid" connections, can art offer a place where more durable visions emerge, where new ideas can accommodate existing realities, and where an escape from disaster becomes possible? Or does contemporary art production merely serve to assuage such crises by using eye-catching aesthetics to advocate change as the new guiding principle? Does art on the ocean floor get to the bottom of the problems of existing geography, history, and reality, or does it distract from the complexities that characterise our present condition? These questions arise when we consider the aquatic world as a source of potential, as is increasingly happening in digital art.

2. From Conceptual Art to Contractual Art

When Zygmunt Bauman introduced the term "liquid modernity" in his eponymous book at the turn of the century, he did so as a way of characterising the loss of certainty and stability in contemporary life and the increasing prevalence of more fleeting social experiences (Bauman, 2000). Bauman considered "fluidity" and "liquidity" as useful metaphors for the conceptualisation of the nature of the present. Liquid connections differ from solid bonds in their transient character, their orientation towards opportunities, and their endless adaptability. Liquidity is associated with a higher degree of mobility. It signals lightness, inconsistency, and underdetermination. It is not difficult to see these attributes reflected in everyday life today. We encounter them in the form of precarious employment, political instability, shifting ideological agendas, and the ordeal of never-finished tasks. Such processes of liquefaction are pervasive and, importantly, entail a shift of responsibility from the macro to the micro-scale, from the system to the individual. Moreover, this shift means that increasingly individuals now have to deal with patterns of agency and interdependence as opposed to solid objects and configurations. As Bauman (2000, p. 7) has argued, the liquidising forces have moved from the system to society, from an all-determining framework to the finest pores of social interaction and cohabitation.

While Bauman's analysis of liquid modernity certainly helps to elucidate the manifold demands and aesthetic seductions of liquefaction, the work of internationally renowned artists such as Liam Young, Ursula Biemann, and the Otolith Group situates these developments in oceanic environments fractured by the historical and material forces of planetary environmental crises, colonial extractivism, and cultural imperialism. Their depiction of contested oceanic environments highlights the uneven geographies and experiences that characterise these evolving spatio-temporal configurations. Moreover, these developments are also finding echoes in other cultural arenas dedicated to creating new experiences and reimagining familiar realities. At the nexus of art and technology, in particular, developments have occurred in recent years that engage with the various facets of liquefaction in strikingly different ways. Interdisciplinary approaches to digital worldbuilding facilitated by advanced technologies such as quantum computing, blockchain, and AI form one such arena.

Refik Anadol's work as a digital artist and entrepreneur and his rather abstract aesthetic compositions can be confronted in this context with Eduardo Kohn's view of poetry as "ethnography by other means" (Kohn, 2013, p. 2) or with what Zygmunt Bauman hints at in his comparison of poetry and history. Accentuating Derrida's fundamental insistence on the embodiedness of writing and the inscribability of the body, Bauman (2000, p. 203) argues that "poetry and history are two parallel currents…of the autopoiesis of human potentialities." Both history and poetry tend to disclose and create ever-new possibilities obstructed by the walls erected by prevailing ideological frameworks. They do so by piercing and demolishing the wall and shedding light not on what was hidden behind it but on things that have been part of the wall from the very beginning. This spatial metaphor aligns with Bifo Berardi's (2019) conceptualisation of poetry as a therapeutic apparatus, as a form of dealing with uncertainties that cannot be grasped in a way that would help one regain a sense of agency concerning one's own situation—as an excess of the given field of signification. Whether it is poetry that lights the "islands of visible forms in the dark sea of the invisible and marks the scattered spots of relevance in the formless mass of the insignificant" (Bauman, 2000, p. 207) or other forms of artistic expression, art is able to provide the clues to connections that not only typically elude our conscious attention but also sustain and propel the conditions of uncertainty we find ourselves immersed in today.

Immersion also plays a vital role in Refik Anadol's oeuvre, which ranges from site-specific, three-dimensional data sculptures and paintings to audio-visual live performances and expansive multi-media installations. At the heart of his practice is the manipulation of vast datasets, which are processed with machine-learning tools to transform existing entities and their relationships into new structures and textures. Gigantic screens that display colourful creatures flowing into one another, forming abstract patterns and constantly morphing shapes, appear in many of Anadol's works and are often interpreted as visualisations of unseen worlds and as the creation of artificial realities in response to disappearing nature. One critic has described his art practice as "a series of Borgesian software installations made from all the world's memories and data, writing and coding a form of optimistic science fiction that takes our universe as its subject matter" (Kissick, 2023, para. 7).

Charged with similarly grand gestures, *Unsupervised*, an installation piece 50 square metres in size that Anadol metaphorically refers to as a "machine hallucination," took over MoMA's Gund Lobby in November 2022. On view for more than 50 weeks, the work makes use of 200 years of art that MoMA has in its collection and includes more than 100,000 images and text materials in a machine-learning model, interpreting the museum archive and generating hundreds of richly coloured, ultra-high-resolution abstractions to be sold as non-fungible tokens (NFTs). The continuously undulating waves confronting visitors in MoMA's atrium transformed the unique collection of the museum into a swirling datascape ready to be consumed like ultra-processed food in a drive-through restaurant. Suggesting a grounded complexity within these dream-like image series, additional data was derived from weather conditions and (using surveillance technology) the flow of museum visitors and fed into the algorithm. *The New York Times* reported a six-figure sales value of some of Anadol's blockchain-based artworks, with part of their proceeds also serving to boost MoMA's faltering finances ("Even as NFTs," 2022). Unsurprisingly, *Unsupervised* has also become the first tokenised artwork in MoMA's renowned permanent collection, signalling a watershed moment in the history of NFT art at a time when museums are eager to reach out to new, tech-savvy audiences and new breeds of funders such as crypto-millionaires.

Anyone who finds a lengthy examination of the wealth of works in MoMA's permanent collection, with all their historical contingencies and contemporary connections, too laborious may enjoy the playful "lightness" of *Unsupervised*. Yet, the fluidity and lightness of these art-inspired images, along with their high-tech formalism and ignorance towards practices of cultural meaning-making that form the basis of museum archives, obfuscate the many dimensions that connect the work's cultural agency with technologies of surveillance, the control of human creativity, and the embellishment of abstract, disembodied data. Ben Davis (2023, para. 19) has argued that "it is because Anadol has created such a purely decorative, cheerleader-ish style of AI art that he received so much support along the way from the tech giants." His concern is that imagery generated in this way is stripped of social context and historical depth and expresses "nothing about anything in particular except for the machine's ability to do what it is doing" (Davis, 2023, para. 16). The question remains, however, whether this machine—or by extension the permeated "wall" previously referenced in relation to Bauman's concept of liquid modernity—operates outside of social, ideological, and historical contexts or rather forms a dispositif introduced into the art world with the help of AI and quantum computing to re-segment and re-signify the field of culture.

For Refik Anadol's *Unsupervised* installation, MoMA teamed up with Bitmark and their digital art wallet, Autonomy, to provide visitors with digital souvenirs on the second floor of the museum outside the Marron Atrium. Visitors were invited to scan a QR code displayed on a wall, download an app and receive a memento minted in limited editions of 5,000. As a result, free mementoes for 20,000 collectors, many of them probably new to blockchain technology, were minted on the Tezos blockchain throughout the course of the installation from November 2022 to October 2023. This memorable experience incentivised museum visitors to engage with a burgeoning culture of "digital collectables" at a world-leading art institution. However, this experience raises concerns. As one critic put it:

> It is the cultural work that the spectacular AI is doing to normalise surveillance systems, to turn environmentally devastating computation into something pleasing and even soothing, and to actively participate in the refinement of technologies that can and certainly will be used by the military that is the problem. (Lossin, 2023, para. 8)

This list of problematic cultural interventions could easily be expanded by considering the technology-aided financialisation of art experiences, the manipulative regime of chance and control in the creation of new world-building archives, the dehistoricisation of human and inter-species relations, and the propagation of liquefaction as the supreme and all-pervasive parameter of social order.

3. Liquification Will not Save the Planet

If we turn our attention from the generated object to the machine, we see how much the heightened interest in the artistic creation of endlessly malleable dreamscapes and its harnessing of unsupervised conditions align closely with the aspirations of tech innovators, capital markets, investors, and international financial flows. The boom in NFTs prior to the crypto crisis in 2022, and the way in which NFTs have merged art and money into a single concept in such a short space of time, point to the momentum unleashed by the merger of AI technology, non-fungible tokens, and immersive art experiences. The fact that museums, art dealers, and private collectors alike entered this market so quickly can be explained not least by their search for new income streams and investment opportunities in a period of increased uncertainty caused by the

Covid-19 pandemic. Amidst this uncertainty, quantum computing, AI, and NFT art proved to be a "crucible for change," serving younger generations who "embraced NFTs as a symbol of their own rising power in society" as well as propelling a "shadow banking system of alternative assets and hedged liquidity" (Small, 2024, pp. 9–10). Even after the entire crypto market collapsed in early 2022, the complex connections between the art market, banner artists, technology companies, and the financial world were able to remain intact and become normalised through continued investment in the underlying technologies.

When in May 2022 Christie's auctioned Refik Anadol's NFT *Living Architecture: Casa Batló*, a work inspired by Antoni Gaudí's Barcelona monument of the same name, the piece sold for an impressive 1,380,000 USD (Christie's, 2022). One of the World Economic Forum's Young Global Leaders Class of 2024 and recognised by *The Economist* as "the artist of the moment," Anadol has since collaborated with a diverse array of companies, such as Rolls Royce, Turkish Airlines, Wimbledon Foundation, and Dior Parfums. He has also received support from wealth management firms such as Julius Bär, who commissioned the debut projection of Anadol's *Glacier Dreams* on the façade of Singapore's ArtScience Museum in June 2023, a work that the artist describes as an expression of "glaciers disappearing across the globe but in a way that brings hope, inspiration and joy to humanity" (Bank Julius Baer, 2023, para. 5). Technology companies such as Google, Microsoft, NVIDIA, Intel, and IBM have partnered with Anadol in the production of such elaborate installations and his work has provided the backdrop for numerous significant sites and events such as the 2023 Grammy Awards ceremony and the world's largest programmable LED screen, The Sphere in Las Vegas. For the latter project, he collaborated with NASA's Jet Propulsion Laboratory to present *Machine Hallucinations: The Sphere* in 2023.

Known for works such as *Machine Hallucinations*, *Synthetic Dreams*, and *An Important Memory for Humanity*, Refik Anadol runs his own digital gallery featuring an impressive collection of meticulously priced NFT art with links to dedicated online marketplaces such as OpenSea (https://nft.refikanadol.com). Anadol's ventures are marked by superlatives and impressive collaborations with the elites of the technology and financial worlds, creating a sense of sparkle and glamour that can overshadow the underlying causes of the environmental degradation addressed by works that reference the thawing of the poles, rising sea levels, and the loss of biodiversity. There is ample information about the data informing the algorithmic calculations, but no mention of the hidden environmental costs associated with quantum computing systems and the enormous energy consumption involved in the required cooling processes, let alone the resulting rise in greenhouse gas emissions and the depletion of non-renewable energy resources. The rhetoric surrounding Anadol's installations is frequently studded with metaphors that shift the focus from the profit-driven exploitation of nature to its conservation and refinement in a virtual context. The man-made climate crisis and the multiple crises of the world's oceans are mystified by claims about "advancing our planet and well-being," setting a "new global standard for how we interact with and preserve our natural world," and redefining our "homage to Earth's irreplaceable ecosystems" (Refik Anadol, n.d.).

One of the artist's most ambitious endeavours in this respect is Dataland, a digital museum and Web3 platform dedicated to AI art and data visualisation. The first initiative of this platform, *Large Nature Model*, is an open-source generative AI model trained on an extensive dataset of the natural environment that focuses entirely on creating AI-enhanced nature scenes. It promotes a kind of "digital environmentalism" that is based on the algorithmic modification of environmental data sourced by Refik Anadol Studio on-site or from the databases of institutions such as the Smithsonian Institute, ConellLab, London's Natural History

Museum, and National Geographic. From fanciful, stunningly detailed landscapes to swirling, crashing waves, the model generates a range of nature-related imagery, sounds, and scents. It includes billions of images of coral reefs and rainforests that have been transformed into a succession of hyper-realistic depictions of environments and more abstract, brightly coloured organic shapes that continuously flow and evolve with the currents of the data ocean fed into the system. In this perpetual state of movement, mutation, and reconfiguration, nothing remains static. The dazzling, ever-changing visuals are accompanied by soft ambient music and a soundscape of flowing water, rustling leaves, and chirping birds to evoke the appeal of a powerful, immersive experience of nature. Since the *Large Nature Model* is a programme trained to eliminate all imperfections and smooth over all gaps in meaning, its allure largely stems from the creation of a sense of absolute harmony and perfection.

In his use of the *Large Nature Model* to create the opulent *Echoes of the Earth: Living Archive* at London's Serpentine Gallery in 2024 (see Figures 1 and 2), Anadol even included fragrant scents co-created with Bulgari to enhance the level of sensory stimulation and the experience of change (Banks, 2024). This introduction of artificially generated rainforest scents adds an additional dimension to the AI-driven vision of a constantly reimagined liquid nature. *Large Nature Model* cloaks Zygmunt Bauman's deep concern about liquid modernity's state of uncertainty in a compelling narrative suggesting that ubiquitous liquefaction could save the planet. In his critique of the seductive fluidity and lightness of modern being, Bauman (2000, p. 2) stresses that fluids "neither fix space nor bind time….Descriptions of fluids are all snapshots, and they need a date at the bottom of the picture." This perspective allows us to view the *Large Nature Model* as an evolving archive capable of generating an almost unlimited number of descriptions crystallised into

Figure 2. Refik Anadol, *Echoes of the Earth: Living Archive*, installation shot, Serpentine Gallery, London (2024).

marketable NFT art. Just as NFTs multiply the possibilities of creating "unique" works of art (tokenised and minted digital assets that contain unique identification codes), NFT snapshots—providing information about wallets holding NFTs from specific collections—further multiply the possibilities of financial speculation with NFT art. Similar to other instruments that quantify creative work, these snapshots serve as tools in digital environments to siphon off value from cultural or biological life for individual profit, regardless of whether the source material originates from art history, outer space, or marine nature.

4. More Than Wet: Emergence, Extension, and Excess

Shrouded by its alleged mission to explore AI's possibilities for saving ocean and rainforest ecosystems, the *Large Nature Model* operates and intervenes in a vast, historically loaded archive of interconnected practices that carry social meanings. By capturing data on a wide range of terrestrial and marine species, cultural artefacts, natural landscapes, and weather phenomena, the model suggests it can generate not only impressively detailed representations of life but also uncover new relationships within the algorithmically crafted patterns, sequences, and clusters. However, the visual metaphors and acoustic allegories derived from the data fed into the AI modelling process remain completely detached from the socio-historical context of the respective locations. Cultural artefacts, for instance, embody particular social ideologies; uneven distributions of wealth contribute to pockets of enormous environmental pollution in disadvantaged regions; and ocean life is intertwined with the histories of colonial slave trade, illegalised migration, climate-fuelled displacement, and global capital flows. None of these webs of relatedness are present in the *Large Nature Model*. Oceans may seem to be endlessly malleable and ever-changing assemblages, but these confluences cannot erase the materiality of the sea beyond its liquid form—the concrete histories of ethnic struggles, political confrontations, and all the projects that have started to question the ideological frameworks driving environmental degradation and the inequitable distribution of resources.

In short, what is lacking in so many blockbuster AI interpretations of oceanic nature is a recognition of the sea as a space of politics, one that reshapes prevailing narratives of land, sea, history, and territory not on a purely metaphorical level, but with a sense of embodiment and material presence. As Steinberg and Peters (2015, p. 261), state:

> Thinking from the ocean as a means toward unearthing a material perspective that acknowledges the volumes within which territory is practised: a world of fluidities where place is forever in formation and where power is simultaneously projected on, through, in, and about space.

Steinberg and Peters' citation casts significant doubt on the relevance and meaning of repeated claims that the *Large Nature Model*'s data is ethically sourced, its computational model open to all, and its machine hallucination a vital contribution to preserving the culture of Indigenous people. Such statements and the media reports about Refik Anadol Studio's work that is filled with them, play skilfully on the claviature of the art market, which eagerly applauds the sensory experience conveyed by media artists who touch the rainforest, listen to the sound of jaguars, live with snakes and birds, and immerse themselves in "untamed" nature—just for a while before heading back to the studio. These performative gestures towards embodied sensations are not simply about demonstrating harmony with the forces of nature. They are also meant to give an account of the artist's mastery of all the challenges posed by the "liquid" materiality of a changing world. Reports about access achieved to the inaccessible, as well as the hunt for ever-new superlatives and

the control over a growing mega-archive of global environmental data, are thus important ingredients of the fascination that emanates from Anadol's work and lubricates the NFT art market. They create space for an AI-generated ocean whose logics and means of production are obscured, while stark images and striking visual metaphors of data distract from the ocean's embodied realities beyond liquidity.

Returning to Eduardo Kohn's view of poetry as "ethnography by other means" and following his understanding of anthropology as an ontological endeavour, one might say that the many components typically associated with the ocean's liquid materiality cannot be meaningfully grasped in terms of their separate formal trajectories, as they "are caught up, constrained by, and forced to harness a shared form that partially exceeds them" (Kohn, 2013, p. 165). For Kohn, their emergence is characterised by the "appearance of unprecedented relational properties which are not reducible to any of the more basic component parts that give rise to them" (Kohn, 2013, p. 166). The emergent ontologies of oceans created by artists with the use of advanced digital technology can thus be conceived of as the manifestation of relational properties enabling fleeting arrangements of human technology, marine species, ocean currents, sea level rise, and many other elements contributing to and emanating from the ocean. Such emergent ontologies are to a certain degree detached from the processes from which they arise (technology development labs, marine evolution, water density, etc.) as much as they are connected to the materialities that are accessed and incorporated into complex assemblages. Artists experimenting with sophisticated digital tools have seized the opportunities arising at this disjuncture/continuity nexus in very different ways.

Liam Young, a filmmaker, designer, and producer whose work has been shown at art institutions such as the Venice Biennale, the New York Metropolitan Museum, and M Plus Hong Kong, is well-known for his breath-taking visualisations of imaginary futures. His research spans fiction and documentary in an attempt to critically and speculatively engage with topical issues involving city-making, labour, colonisation, and the environment. Young's (2023) *The Great Endeavor*, for instance, a cinematic planetary-scale design fiction developed in response to the ongoing climate emergency, highlights the critical role of oceans for renewable energy infrastructures. This para-fictional worldbuilding project includes motion graphics and visual effects at a scale that makes saving the world by geo-engineering the entire planet on land and at sea seem uncannily within reach. In the film, carbon dioxide is removed from the atmosphere and transformed into a liquified gas that is pumped deep beneath the ocean floor. Young's spell-binding imagery depicts how this fictional project involves a mobilisation of labour, resources, and means of production that is unique in scope and how gigantic infrastructures being built in the sea and on land engage the ocean as a volume penetrated by material-semiotic interventions in all its depths and layers.

Operating across many different registers, *The Great Endeavor* demonstrates how the physical act of reengineering the ocean, the collective human effort involved in it, and the decarbonisation of the planet are all as relevant to understanding the emerging oceanic assemblage as the decolonisation of the atmosphere and the imaginary ocean of impending disaster. Metaphor and matter are constantly intertwined and inextricably linked to the possibilities and fictions that extend beyond the current reality of impending environmental catastrophe. Acknowledging the interconnectedness of material and symbolic operations, Young provides a poignant example of the current lack of such thinking when arguing that architects developing fancy building envelopes for the tech industry's corporate headquarters are "just set-dressing the waiting rooms, distracting us with expressive displays while the machines programme our planet, hidden behind windowless walls and anonymous forms" (Young, 2019, p. 13). By contrast, the emergent forms in

Young's work expose the dynamic entanglement of physical processes and human experiences, environmental narratives, and oceanic inscriptions on bodies.

5. Bodies at Sea/Bodies of Water

The body at sea is both concrete and abstract insofar as the body's expressivity extends into an incorporeal realm of potential. Bodies are shaped by the material forces of currents, waves, and winds, as well as by various human and non-human interactions, and can give rise to the formation of new socio-linguistic assemblages. In his interventions in art and architecture discourse, Brian Massumi, among many others, has repeatedly drawn attention to this "liminal realm of emergence, where half-actualised actions and expressions arise like waves on a sea" (Massumi, 1995, p. 92). Today, the question is increasingly being asked as to whether insisting on the ocean's liquid materiality, motion, and temporality is "sufficient in light of the ways in which the ocean *exceeds* its material liquidity, and its felt wetness" (Peters & Steinberg, 2019, p. 294). Peters and Steinberg argue for a "more-than-wet ontology" and have begun to challenge concepts that *either* understand artistic marine research only as an engagement with language and symbolic meaning *or* favour a way of thinking of and beyond ocean spaces that is blind to the different experiences of bodies immersed in "flow," "liquidity," and "wetness." Peters and Steinberg (2019, p. 304) suggest that:

> By relying on our understanding of the ocean in all its complexity to connect the biological, the material, the environmental and the atmospheric, we nourish an imagination that destabilises not just our fantasies of stable, place-based land but also the counter-fantasy of a repetitive, rhythmic, dynamically liquid ocean of flows.

Questioning the exclusive emphasis on material factors as a prerequisite for insightful accounts of contemporary co-existence, Sara Ahmed (2008, p. 36) has warned that "in claiming to return to matter, we might be losing sight of how matter matters in different ways" for different people over time. What more-than-wetness brings to the table in this regard is a view of, with, and beyond the ocean that encourages us to rethink our engagement with the world not just in terms of unrestricted flexibility and boundless potential but also concerning the experiences and challenges of different bodies—how material phenomena and conditions are "lived, felt and internalised in the bodies of those experiencing them" (Peters & Steinberg, 2019, p. 297).

Similar to how Liam Young considers the ocean as both metaphor and embodiment of social and environmental crises in his para-fictional films, a growing number of artists have recently embraced the shape-shifting potential of computer-animated worlds to build an understanding of the ocean as a more-than-wet space. Bassam Issa Al-Sabah's (2022) *I am Error* (see Figure 3), for instance, revolves around queering the military ethos of video-game masculinity by immersing the body in a sea of "open bindings" (Ingold, 2022). In this artist's work, these bindings enmesh human experiences with a variety of physical processes, biological productivity, and other life forms that merge into the body and threaten its distinct properties. Computer-generated images show the floating body featured in this animation in constant flux, opening to the outside, blending into its surroundings, and converging with flowers and tentacular ocean creatures. The work's vision of transformation casts imperfections, disruptions, glitches, and decay as a form of resistance against traditional norms and structures. It draws on an understanding of oceanic excess, with bodies immersed in the sea exhibiting more than their typical shape and the space of the ocean itself also

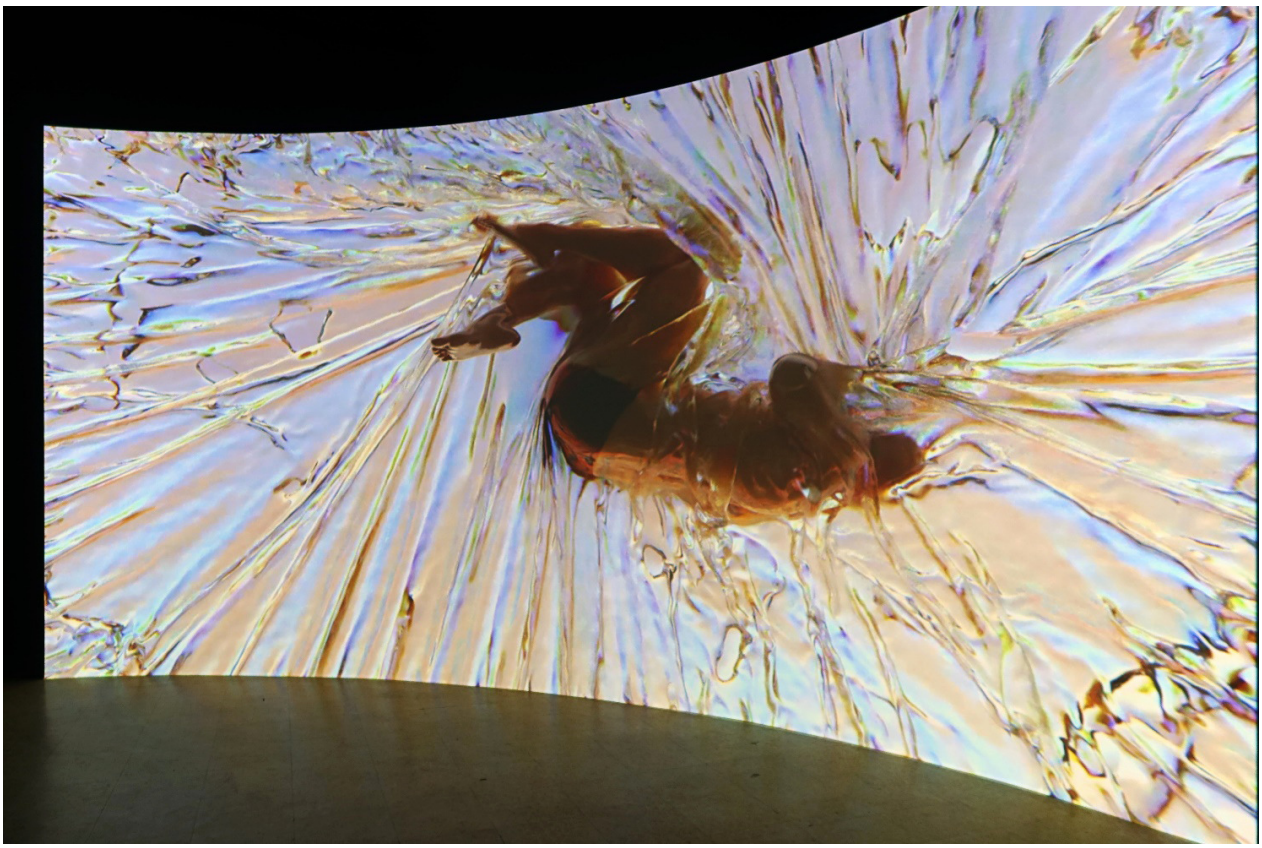

Figure 3. Bassam Issa Al-Sabah, *I am Error*, installation shot, De La Warr Pavilion, Bexhill (2022).

always beyond itself—beyond the confines of a sealed entity, exceeding itself and its liquidity, becoming embodied, "internalising itself within the subjects that constitute the marine environment" (Peters & Steinberg, 2019, p. 298). As Peters and Steinberg put it (2019, pp. 297–298):

> This materiality of the ocean in excess meshes together with human life in such a way that embodied experience transcends liquid, "wet" engagement. The ocean's materiality is sensed through a concatenation of smell, sound, sight, and taste as well as touch, exceeding the unidimensional physical property of wetness.

Another example of world-building digital art positing an ontology that acknowledges the character of the ocean as a more-than-wet space is Gabriel Massan's (2023) *Third World: The Bottom Dimension*, an experimental video game, exhibition and web3 project. This project aims to explore the Black Brazilian experience as it intersects with the impacts of colonialism and environmental extractivism. The video game offers audiences the opportunity to immerse themselves not only in a world populated by humanoid creatures, eerie monsters, and energy crystals but also in the logics and mechanics of a game that experiments with unconventional forms of storytelling, decentred experiences, and intentional absence of navigational tools. Experiencing this digital world through the lenses of decoloniality, queerness, and multi-species co-existence, viewers incrementally learn to navigate its temptations and challenges, as every intervention in the ecosystem elicits a particular range of consequences. The glimmering lagoons of this simulated world are intrinsically connected to all kinds of water creatures, sculptures bordering on animate

form, and strange objects that blur the boundaries between the known and the unknown. There is a quality to these environments that evokes Timothy Morton's (2013) "hyperobjects," a term coined to articulate the interobjective bonds and non-local extensions that are at the heart of ecological dilemmas such as rising sea levels and warming oceans, phenomena that are massively distributed in time and space and defy simplistic imaging. In their use of the term "hypersea," Mark and Dianna McMenamin have described a similar excess of oceanic wetness linked to the "sea" and formed by life on land via the physical connections between animals, plants and fungi through which fluid circulates (M. McMenamin and D. McMenamin, 1996). Rendering the terrestrial world as an extension of oceanic wetness, their proposition acknowledges the deep entanglement of physical processes, material compositions, and human experiences. It offers a more holistic view of the environment, "a perspective that recognises volume, matter and emergence" (Steinberg & Peters, 2015, p. 248), yet also reflects the different encounters with fluid matter and the ways in which these processes resonate with the bodies of those who experience them.

Within contemporary art production, this inextricable concurrence of embodiment and the wet matter is particularly evident in works that highlight, in Astrida Neimanis' (2017, pp. 3–4) words, an "understanding of embodiment as both a politics of location, where one's specific situatedness is acknowledged, and as simultaneously partaking in a hydrocommons of wet relations." This watery character of embodiment is prevalent, for instance, in Ursula Biemann's video installations *Subatlantic* (2015) and *Acoustic Ocean* (2018, see Figure 4). Both works feature fictional female scientists exploring North Atlantic marine ecologies, adapting and expanding their own range of sensorial instruments as they interact with water, ocean plants, and sea creatures, as well as the respective natural and cultural histories of this remote region. Water, as

Figure 4. Ursula Biemann, *Acoustic Ocean*, installation shot, MQ Freiraum, Vienna (2024).

Bauman contends, may not fix space and bind time, but these works demonstrate how it extends embodiment in time. It facilitates the becoming of other bodies. In *Acoustic Ocean* the responsiveness and care of a Sami biologist-diver for her environment demonstrate that "as bodies of water we are *both* different *and* in common" (Neimanis, 2017, p. 4).

Similarly, the subaquatic speculative space in the Otolith Group's *Hydra Decapita* (2010) and their more recent *A Sphere of Water Orbiting a Star* (2023) links historical atrocities of colonial exploitation and the transatlantic slave trade with speculative archives that engage with the repressed fear of a wet planet. Weaving together fiction and non-fictional counterparts, these works create an ocean of excess, one that extends the boundaries imposed by geography and provides space for exploring different kinds of embodiment, a space "where healing, understanding, and empowerment is possible" (Kruglyak, 2023, para. 8). The same can be said of John Akomfrah's three-channel video installation *Vertigo Sea* (2015), which brings together multiple narratives that depict the ocean as a site of linkages that are at once material, cultural, and historical: images of black bodies in the hold of slave ships are juxtaposed with scenes of whale and polar bear hunting, refugees adrift in the ocean, and the Zong Massacre of slaves in 1781. What emerges from these speculations and juxtapositions are bodies of water that insist on being both in common and fundamentally different from each other. They relate to a shared history of watery environments as much as they are at odds with all its conventions, logics, and instruments.

6. Conclusion

In this article, I have looked at contemporary art production to outline some of the ways in which digital technology's pursuit of constant improvement, unlimited adaptability, and marketable superlatives, in particular at the frontiers opened up by AI and NFT art, complicate the recognition of bodies of water as both porously interconnected and specifically situated. Plugged into the global circuits of finance capitalism, advanced technology can often stand in the way of engaging with the more-than-wet character of oceans, with conditions of wetness that are experienced differently by the bodies immersed in them. I have argued that questions of encounter, agency, and excess need to be dealt with in an attempt to truly acknowledge the multiple ways in which oceanic bodies are connected to life off sea. By engaging with complexities beyond the ocean's geographic boundaries and placing dense webs of material-discursive ocean phenomena centre stage, works of art can reveal new human and non-human dimensions that add complexity and specificity to our experience of water, thereby enhancing our understanding of what lies outside of the conventional boundaries of oceanic knowledge.

An important aspect of such contributions is their insistence on an understanding of the body as lived. This insistence on bodily experience and encounter, on the more-than-human embodiment, and flows of significance, is currently being confronted with the neoliberal abstraction of transcorporeality (a term I use to register the significance of human/non-human entanglements and the fluidity between material and theoretical bodies), with the expanding scope of digital liquification and with financialised control over access to processes of transformation. As shown in the discussion of Refik Anadol's work, contemporary art may sometimes be utilised to constrain, manipulate, and aestheticise the lived experience of wateriness—one's own as much as that of other bodies of water—but it can also experiment with how fluidity, wetness, and watery liminality are an expression of ontological relations that shy away from inherited ideas of mastery. Following Neimanis (2017, p. 145), intimacy is not mastery and the way in which

we intimately relate to the watery conditions we are part of is therefore always beyond a full sense of finality and control. In place of the colonisation of other bodies of water and ourselves, contemporary art that engagingly explores more-than-wet bodies of water takes up Michael Taussig's (2020) call for a mastery of non-mastery and the possibility of mutuality that his proposition entails.

Such artistic endeavours offer an encouraging response to Bauman's analysis of liquid modernity and its devastating effects on human and non-human entities. They do not merely challenge the uncritical glorification of liquefaction but also draw our attention to the instrumental role of liquidity in profit-driven extractive operations and their disastrous consequences for people, communities, species, and environments. Similarly, Steinberg and Peters' notion of more-than-wet ontologies does not dismiss Bauman's general assumptions about how liquidity has evolved into a central tenet of today's neoliberal governmentality but contends that its operational logics cannot be fully grasped without an awareness of how the phantasma of boundless liquification often serves as a smokescreen to hide the elastic regime of porosity and the equally elastic application of material constraints—the permissions given to particular bodies and denied to others. The complexities of forced migration and the legacies of colonialism, extractive capitalism, and ecological disintegration are based on divisions between bodies, as much as they benefit from the dissolution of boundaries that threaten the flows of capitalist desire. Contemporary art can open up ways to navigate this contested landscape of oceanic futures by pointing to the more-than-wet character of their material and semiotic fabric.

However, the quest for more-than-wet ontologies has been challenged by the ubiquitous use of AI, machine learning, and big data, perpetually reconfiguring the frameworks of thinking about and beyond ocean spaces. More than ever, the inherent limitations of AI and NFT art—representational, environmental, legal, and ethical concerns—and its reductive depictions of transcorporeal relations make evident how much a critical artistic attunement "to the differences of bodies that together world our planetary hydrocommons" (Neimanis, 2017, p. 62) is needed to do justice to the plurality of differences and linkages on our more-than-wet planet. Recognising that the ocean is not only what we make it (Linton, 2010) but that the ocean also makes us, artistic production focused on the meshwork of human life and the ocean in excess has begun to explore what it means to be immersed in the waters we are constantly becoming. With that mutuality in mind, there is perhaps nothing more truly artistic than developing forms of careful attunement to liquidity that are in synch with hyperseas yet to come, and to do so on the level of both physicality and experience, metaphor, and embodiment.

Funding

This article draws on research funded by the Austrian Science Fund (FWF) [AR 633].

Conflict of Interests

In this article, editorial decisions were undertaken by Helge Mooshammer (Goldsmiths, University of London / TU Wien).

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Ocean and Society
2025 • Volume 2 • Article 9397
https://doi.org/10.17645/oas.9397

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Decolonising Ocean Matter

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Submitted: 12 October 2024 **Accepted:** 9 January 2025 **Published:** 17 April 2025

Issue: This article is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

Oceans occupy a central place in the centuries-long unfolding of European colonialism. They form the interstice between the base of the coloniser and the "overseas" territories of the colonised. As an unsettling body, a realm that cannot be settled in, oceans at once separate and connect the Earth's different continents. This simultaneity of separation and connection has become indicative of the contradictions shaping the pursuit of interests in oceanic and "overseas" territories up to the present day: from the competitive, speculation-driven race to stake claims to ocean resources to the ostensibly peaceful agendas driving the scientific exploration of oceans' final, unknown frontiers. This article examines the essential role of cultural storytelling in facilitating these processes by looking at how a growing wave of scientist settlements is encroaching on remaining unconquered spheres in the most remote parts of the oceans such as the polar regions. It highlights how an incessant spectacularisation of their futuristic architectures domesticises these endeavours to master a hostile environment as a matter of making oneself at home and settling in. In order to challenge such possessive, human-centric investments in oceanic territories, the article contrasts these developments with two examples of artistic research, *A World of Matter* (2014) and *Frontier Climates* (2017), which aim to offer a decolonial perspective through other forms of representation and knowledge production. Discussing the conceptual approach of these projects, it draws attention to more-than-human ecologies to reframe our understanding of marine life away from contested rights of access and towards global commons.

Keywords

artistic research; colonialism; decolonisation; polar architecture; polar research

1. Introduction

Ever since the much-mediatised race between the British expedition led by Robert Falcon Scott and the Norwegian one led by Roald Amundsen to the South Pole in 1911, remote areas of the oceans have been framed as territories "out there" waiting to be discovered and claimed by heroic adventurers. While the party of Robert Falcon Scott apparently lost this particular race to the Norwegians, this did not stop the British Empire and its successors from establishing a strong presence in the region and commanding a leading role in the division of control over the Antarctic. Initially, the British aimed for sovereignty over the entire territory. A 1920 memo by the then Under Secretary of State for the Colonies, Leopold Amery, states that "it is desirable that the whole of the Antarctic should ultimately be included in the British Empire" (Leeper, 1929, as cited in Beck, 2016, p. 328), adding:

> And that, while the time has not yet arrived that a claim to all the continental territories should be put forward publicly, a definite and consistent policy should be followed of extending and asserting British control with the object of ultimately making it complete. (Leeper, 1929, as cited in Beck, 2016, p. 328)

Although the subsequent Antarctic Treaty of 1959 is often hailed as the first international arms control agreement in the face of the Cold War, supposedly foregrounding a shared human interest in scientific exploration, it eventually consolidated the historical framework of dividing up the whole globe between the major European colonial powers, a legacy seamlessly appropriated by their successor states.

In this article, I want to shed light on the powerful impact visual culture has on laying the groundwork for and shoring up such geopolitical interests and strategic interventions. With this in mind, I draw, amongst other sources, on the work of popular media outlets and the self-representations of actors in the region in order to grasp the intentions of mainstream narratives. Providing compelling visions of progress and human triumph vis-à-vis mesmerising spectacles of nature, a diverse range of storytelling is continuously called upon to help camouflage the exploitative motives behind these concerted forays into the extreme frontiers of our planet. By the same token, visual culture can also launch meaningful opportunities for intervention by tapping into the strong ties between seeing and thinking, between images that surround us and the way we can imagine things. To this end, I will discuss in more detail the role of art, architecture, and design in "bringing home" a vision of remote ocean regions as both exciting and familiar orders of habitation. I will also reflect on two projects of artistic research I have been involved in over the last decade that seek to unleash the potentialities embedded in the connection between images and imagination: *A World of Matter* (2014) traces the complex and multiple entanglements of resource flows in times of globalised capital circuits that virtually implicate every corner of the world, with oceans forming the base threads in this web of interdependences; *Frontier Climates* (2017) takes this critical examination a step further by highlighting how the specific qualities of frontier zones (e.g., fringe locations in geographic, cultural, political, or other terms that render them sites of exception prone to colonial appropriation) are not inherent traits of specific spaces but the product of intentional framings. Together, these two projects provide multiple reference points for the argument that demands for decolonisation cannot be reduced to debates about the re-distribution of control over material assets but actually imply the dissolution of a hegemonial, Western-centric gaze into an infinite spectrum of multi-perspectivities. Drawing on these models of engagement with a diverse register of positionalities, I will subsequently argue that efforts to decolonise our interactions with oceans in the broader sense (including

ocean life, territorial regimes, resource extraction, ecological relations, etc.) involve not just a (pseudo) change of taxonomy but a shift in practice on numerous levels, from politics to academia to the everyday.

2. Unknown Territories

While in abstract terms the attribution of remoteness is inherently subjective, the prevailing discourse has largely been shaped by perspectives from the Global North. As a result, the Earth's poles are not only seen as the ends of the planet but have also begun to imaginatively merge with their surrounding oceans. Due to the long journey across the oceans required to reach them, the polar regions can seem like distant islands despite their substantial landmass, whether composed of rock or ice. Given the accelerating climate crisis, the blurring of the distinction between poles and oceans is occurring not only in a figurative but also an increasingly physical sense. At the time of writing, comparisons of the measurements of Arctic sea ice taken by the US government show that summer sea ice has shrunk by 12.2 percent per decade since 1979, triggering a cycle of warming oceans and diminishing ice regeneration (NASA, n.d.). In addition to shrinking, Arctic sea ice is also thinning: NASA scientists reported in 2018 that in that year Arctic sea ice had become the youngest and thinnest since observations began in 1958 ("With thick ice gone," 2018). Changes in the Antarctic sea ice are more variable, with strong fluctuations across the different regions of the continent. In its 2022 summary on Antarctic climate change and the environment, the Scientific Committee on Antarctic Research, a member of the International Science Council, warned that the mass loss of the Antarctic Ice Sheet had accelerated and that by 2300 the West Antarctic Ice Sheet may be lost altogether (Chown et al., 2022). From a global perspective, the National Snow and Ice Data Center at the University of Colorado Boulder reported that in August 2024 global sea ice extent was at a "record low for that time of the year" ("The chill is gone," 2024).

These developments are justifiably spurring calls for intensified research into the changing conditions for life on our planet and broader cosmic interdependencies. However, this liquification of oceanic relations and a subsequent rise of the unknown also tie into a long history of mystifying oceans' volatile composition as a distant, intangible world. Attempting to comprehend these ever-shifting formations is thus framed as a heroic endeavour of scientific exploration rather than one driven by interests of national hegemony and capital gains. In the case of Antarctica, this approach is most markedly anchored in the Antarctic Treaty System, initiated by the Antarctic Treaty signed in Washington on 1 December 1959 during the International Geophysical Year of 1957/1958 and subsequently supplemented by further agreements such as the Madrid Protocol on Environmental Protection signed on 4 October 1991. The Antarctic Treaty ostensibly prioritises scientific research over national interests, and Article I begins with the resolution that "Antarctica shall be used for peaceful purposes only" (The Antarctic Treaty, 1959, Article I, para. 1). Article II then stipulates that "freedom of scientific investigation in Antarctica and cooperation toward that end…shall continue" (The Antarctic Treaty, 1959, Article II). Indeed, in many communications these two opening statements are often combined, as reflected in the headline "Peaceful use, freedom of scientific investigation and cooperation" posted on the landing page of the website of the Secretariat of the Antarctic Treaty (Secretary of the Antarctic Treaty, n.d.-a).

At the same time though, the Antarctic Treaty also helped to secure the territorial claims of the signatory parties, initially "the twelve countries whose scientists had been active in and around Antarctica during the International Geophysical Year (IGY) of 1957–58" (Secretary of the Antarctic Treaty, n.d.-b). Paragraph 2 of Article IV declares that "no acts or activities taking place while the present Treaty is in force shall constitute a

basis for asserting, supporting or denying a claim to territorial sovereignty in Antarctica or create any rights of sovereignty in Antarctica"; and most importantly, that "no new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica shall be asserted while the present Treaty is in force" (The Antarctic Treaty, 1959, Article IV, para. 2). Thus, while ostensibly enabling an environment for peaceful and cooperative scientific exploration, the treaty effectively "froze" the territorial claims in Antarctica by colonial empires' successor states indefinitely (see also Scott, 2011). In the case of the British Empire, today's sectorial claims by the UK (20°W–80°W), Australia (160°E–142°E, 136°E–44°38'E) and New Zealand (150°W–160°E) amount to a 56 percent share of the polar area south of 60°S.

The International Geophysical Year 1957/1958 was an enlarged version of the sporadically held International Polar Years organised by the International Council of Scientific Unions. This period saw several significant scientific milestones, including the launch of Sputnik I by the USSR on 4 October 1957 and the establishment of the Halley Research Station in Antarctica by the British Royal Society. In fact, research stations, their architecture, and the ways in which their occupants have transformed them into temporary homes have become a central trope in the narrative of Antarctica's rise as a beacon of peaceful scientific exploration for the benefit of all humankind. Before the opening of the first Halley Research Station in 1956, the British had already established a series of posts, including Base A, Port Lockroy, the first permanent base erected in 1944 as part of the wartime mission Operation Tabarin. Today, this historic site, along with other significant posts, is managed by the UK Antarctic Heritage Trust as their "flagship site." It features a museum, gift shop, and post office and welcomes up to 18,000 visitors each season (UK Antarctic Heritage Trust, n.d.).

Halley VI, the most recent incarnation of the primary British polar station, looks like something straight out of a 1970s James Bond movie. From the outside, it resembles a giant toy train with boxy octagonal carriages painted in an icy light blue, all neatly lined up with an oversized dining car in bright red at the centre (see Figure 1). The entire structure is elevated on four sturdy "legs on skis," allowing it to sit on a floating ice shelf and making it relocatable. In 2016/2017, the modules were uncoupled and towed to another site, 23 km upstream (British Antarctic Survey, n.d.-b). Although Halley VI serves as a technical facility, with five of its eight pods housing generators, plants, command, and scientific functions, it is the social spaces that stand out in the design by Faber Maunsell and Hugh Broughton Architects. The so-called Living Module (labelled "The Robert Falcon Scott Living Module" in the British Antarctic Survey's communication material, after the British explorer referred to in the introduction (British Antarctic Survey, n.d.-a) is distinguished by its vibrant red colour and a double-height panoramic window that fronts the communal areas for dining and relaxation.

A similar trend of "homification" is evident in the redesign of other nations' Antarctic research stations, such as India's Bharati Research Station with its "aesthetically designed living, dining, lounge and laboratory space" (National Centre for Polar Research and Ocean Research, n.d.). Though based on an industrial building concept that incorporates the shipping containers needed for transporting material to the site into its structure, publicity photographs of the living areas exude luxury, with soft lighting, a shaded floor-to-ceiling glass wall looking out onto the icy landscape, and swivelling wingback chairs with thick upholstery creating an ambient reminiscent of a first-class airport lounge (see Aland, 2015). In a similar vein, in its review of Brazil's new Comandante Ferraz Research Station opened in 2020, *The New York Times* praised the sleek design by Estudio 41 as something that "could be mistaken for an art museum or boutique hotel," quoting the claim of the firm's principal that they "set out to create a kind of atmosphere that would promote well-being" (Gendall, 2020). This increasingly prevailing combination of a futuristic exterior—

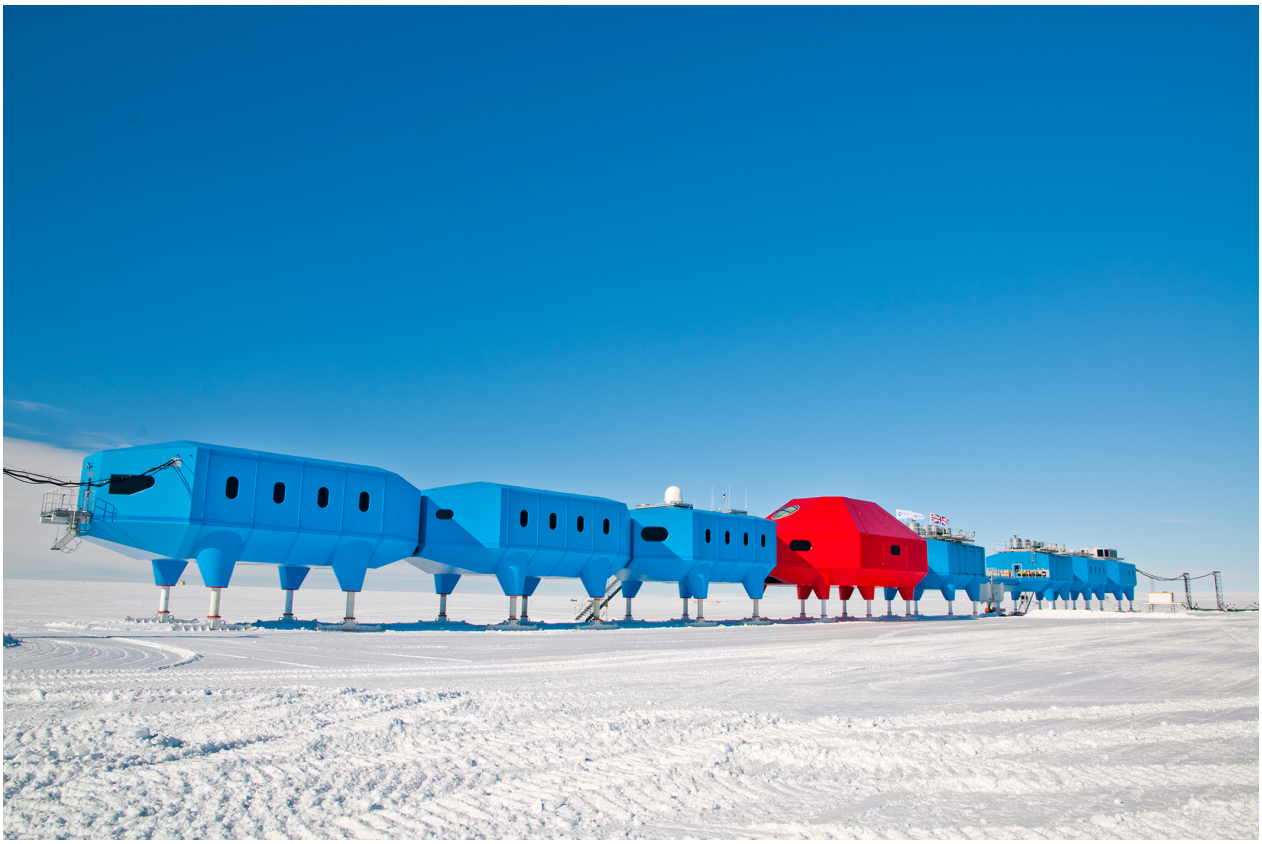

Figure 1. Halley VI Research Station at Brunt Ice Shelf, Antarctica, winter season 2011/2012. Source: British Antarctic Survey; photograph by Antony Dubber.

characterised by aerodynamic shapes elevated on stilts to avoid snow accumulation—with a cosier, more homelike interior billed as enhancing occupant comfort is also evident, for instance, in the new designs for South Korea's Jang Bogo Station (Korea Polar Research Institute, n.d.) and the redevelopment plans for New Zealand's Scott Base (Antarctica New Zealand, n.d.).

In the case of China's new Taishan Camp, completed in 2014 (Polar Research Institute of China, n.d.), the exterior design clearly reflects the space-age aesthetic that has firmly established itself in Antarctica. Similarly, Belgium's Princess Elisabeth Antarctic Research Station, viewed from one side, resembles a rocket launch platform. Inside, the living quarters evoke a sense of rustic mountain huts rather than boutique hotels. This station showcases the potential for permanent, independent settlement based on advanced technical autonomy that ensures zero-emission energy efficiency as opposed to the transformation of harsh environments into settings for leisurely living. The provision of mobile containers with labs and sleeping quarters further enhances this autonomous capability (Princess Elisabeth Antarctic Research Station, n.d.).

What connects these accounts of mastering hostile environments—characterised by temperatures below −50°C and up to four months of continuous darkness during the Antarctic winter—is the portrayal of state-sponsored efforts to install a permanent presence on the continent not only as stories of human ingenuity but above all as an opportunity for designers and architects to showcase contemporary achievements in the creation of high-value work-and-live spaces. In parallel with the arrival of mass tourism in the Antarctic propelled by five-star luxury cruise ships, polar stations have become objects of high-profile

design that infuses these outposts with a sense of glamour resonating with the lifestyle narratives found in glossy magazines. *The New York Times* highlighted this trend in January 2020 with its article "The Coolest Architecture on Earth is in Antarctica" (Gendall, 2020), while the popular *ArchDaily* blog followed up in February with the catchy headline "In Antarctica, Architecture is Heating Up" (Walsh, 2020). Efforts to frame Antarctica as a cultural space have proliferated over the last decade, as exemplified by the Antarctic Pavilion at the 2014 Venice Architecture Biennale, which *The Guardian*'s architecture critic Oliver Wainwright listed among the top 10 pavilions of that year (Wainwright, 2014). The preceding Antarctic Biennale, which, like the Antarctic Pavilion, was initiated by Russian artist Alexander Ponomarev and culminated in a 2,000 nautical-mile voyage around Antarctica involving 18 artists and a total of 12 landings to carry out various artistic projects, described itself as "an international sociocultural phenomenon that incorporates artistic, scientific, and philosophical methodologies to address 'shared spaces,' such as Antarctica, the Ocean, and Outer Space" (Biennial Foundation, n.d.), while heavily exploiting the mystification offered by the trope of an expedition never previously attempted (Adams, 2017). Another example is the art installation *Home, Memories* by balbek bureau at the Ukrainian Vernadsky Research Base, which was widely featured in popular media outlets, such as the influential *dezeen* and *designboom* digital magazines (balbek bureau, n.d.; Ravenscroft, 2023; Zeitoun, 2023). Such storytelling creates visual drama that anchors the question of life on ice firmly in the realms of contemporary lifestyle and light entertainment, on a par with the excitement surrounding the release of a new action thriller or the latest fashion news. Continuing the "legacy" of the first explorations (as in the case of Port Lockroy, now commodified as a well-managed landing point for paying tourists), this emphasis on "experience" foregrounds the "now" while turning a blind eye to how encroaching habitation has long served as an insidious form of colonisation, and still does so. Such narratives not only mask the geopolitical interests driving nations' presence and investment in the region but also obscure the historical trajectories that have shaped today's material-semiotic configuration of the polar regions—an amalgam of rocks, ice, and oceans on the one hand, and geophysical science, ice-conquering equipment, and population-engineering on the other.

3. The Subjects of Polar Regions

In recent years, intense debates have emerged about whether the term "colonialism" can be applied to Antarctica's history of "discovery" and occupation, or whether doing so risks depriving the term of any meaningful currency, or worse, might offend those subjected to colonial violence elsewhere. The debates primarily hinge on whether acts of colonialism are contingent on the subjugation of indigenous people by a non-indigenous group, or if non-human entities, such as animals and environments including the world's oceans, can also be exploited in a way that resembles colonial practices. This gives rise to the related issue regarding whether it can be justifiably argued that oceans, too, have been colonised. Ocean life might be crucial for many communities, but people have never permanently dwelled at sea. In other words, it might be difficult to identify who should be considered indigenous (human) inhabitants of the oceans. Yet oceans are clearly an inextricable component in the mechanisms of colonialism. Their natural obscurity, geographic barriers, predominantly extraterritorial status, and sparse "population" have all significantly influenced the development of the infrastructure that enabled colonial powers to reach nearly every corner of the globe. Oceans serve as sites, sources, and screens for political and military manoeuvring, economic exploitation, and legal deal-making, while also shaping cultural narratives about national achievements. To claim that "no people of the seas means no colonisation of the seas" (i.e., no victims means no crime) would thus be a reductive and flawed perspective. Such a view ignores the many acts of colonial violence that occurred at

sea and overlooks the multiple contemporary ramifications of oceans' intertwinement with colonialism, particularly the role of privatised colonial trade routes in paving the way for capitalist globalisation.

In their introductory chapter to the insightful volume *Colonialism and Antarctica: Attitudes, Logics, and Practices*, editors Peder Roberts and Alejandra Mancilla provide a precise picture of what is currently at stake in the debate about the scope of colonialism, referencing key voices in the field such as Daniel Butt, Adrian Howkins, Margaret Kohn, Margaret Moore, Kavita Reddy, Anna Stilz, Eve Tuck, K. Wayne Yang, and Lea Ypi (Mancilla & Roberts, 2024). Importantly, they propose employing a "colonial lens" as a productive mode of research that allows for the acknowledgement of and engagement with the varied enmeshment of attitudes, logics, and practices activated in processes of colonisation and exploitation. They apply this argument to their territorial topic of Antarctica but I would argue that their perspective is also applicable to many other tropes, including the oceans. They write:

> It makes sense to analyse Antarctica through a colonial lens because doing so illuminates our understanding both of colonialism and Antarctica. Colonialism pushes us to ask questions not only about the practices of humans in Antarctica and the power relations established between them, but also about the overarching logics and attitudes that have governed both specific human activities in Antarctica and larger human schemes to govern Antarctica. At the same time, Antarctica pushes us to ask where the limits of colonialism as an analytical category might lie, and how far the concept's utility extends in providing insights that other frameworks may not. (Mancilla & Roberts, 2024, p. 3)

Such an operational understanding of the unfolding, encroachment, permeation, and pervasiveness of colonialism can open up a set of analytical perspectives and tools for examining, for instance, the linkages and cross-contaminations between colonialism, imperialism, and capitalism, and the myriad ways in which these dominant strands of global power have been constituent of each other without getting stuck in dead-end arguments about contingency. Peder Roberts' own contribution to the volume, together with Kati Lindström, on "Animals, Colonialism, and Antarctica" demonstrates the capacity of this approach to elicit insights into how capitalism and colonialism have intertwined in giving shape and form to "resource colonialism," or "extractive colonialism," as in the case of the violent whaling and sealing that ran in parallel to the exercise of territorial dominance over Antarctica (Roberts & Lindström, 2024). While not necessarily always being "in the same boat" as it were, capitalist interests and imperialist possessive politics benefit from and shore up each other's stake through knowledge, technology, and infrastructures as well as through ideologies of superiority, whether moral or otherwise.

With regard to oceans, centuries of executing and performing colonial politics and interests have produced a plethora of attitudes, logics, and practices that testify to the oceans' entanglement in the process of realising these politics and interests. A case in point is the slow-changing rhetoric of government bureaucracy which illuminates how colonialism's main orientation seems inherently tied to "*overseas* territories." As of 2024, many of the still existing "dependencies" of colonising states continue to be summarised under such terms, as exemplified by the British *Overseas* Territories and France *d'outre-mer*. While the bodies governing them (i.e., the actors) have ditched associations with colonialism in their names—the British Colonial Office has now been absorbed into the Foreign, Commonwealth and Development Office after undergoing a series of changes (War and Colonial Office, 1801–1854; Colonial Office, 1854–1966; Commonwealth Office, 1966–1968; Foreign and Commonwealth Office, 1968–2020; Foreign, Commonwealth and Development

Office, since 2020)—there has been less or slower change on the side of the acted upon (Crown Colonies, until 1983; British Dependent Territories, 1983–2002; British Overseas Territories, since 2002).

Notwithstanding increasing and very valid calls for decolonial critique to look beyond institutionalised procedures of domination in order to avoid reaffirmation and to focus on situated knowledges and experiences instead (Mignolo & Walsh, 2018), this example draws attention to the breadth of situations in which the legacies of colonialism take the form of small surface manifestations of structures shaped by a massive undercurrent of engrained histories feeding today's logics and attitudes. Importantly, such logics and attitudes can operate without their protagonists necessarily identifying with a colonial trajectory. In relation to the British Halley Research Station described earlier in this article, geographer Alice E. Oates argues in her article "Settler Colonial Mindsets at Halley Research Station, 1955–Present" that interviews conducted with winterers at Halley "reveal[ed] a 'Halley identity,' rooted in community, place and shared experience, demonstrating that Halley is specifically a *settled* colonial space, regardless of the presence or absence of colonial intentions among the winterers" (Oates, 2024, emphasis in original). I would suggest expanding the cognitive focus of the term "mindset" and applying the notion of "mentality"—something that Oates also hints at in her conclusion—as this allows for the inclusion of a whole repertoire of cultural sensibilities that become requisite when dealing with non-scripted situations prevalent in frontier environments.

Embracing a situated understanding of colonial mentalities allows us to synchronise our analyses across the multiple registers through which power is exercised today, in a manner that is both simultaneous and mutually reinforcing. These registers can be contradictory and involve hierarchies, but they should not be conceived as situated in a strict order. Rather, it is their speculative convergence that proves to be formative. For instance, oceans have for centuries been at the heart of simultaneous efforts of territorialisation and de-territorialisation for the purpose of political dominance and economic exploitation. The long history extending from mare clausum policies to Exclusive Economic Zones to global trading monopolies and from Hugo Grotius' 1609 *Mare Liberum* to the UN 1983 Convention on the Law of the Sea to the use of "flags of convenience" (whereby the country where the ship is registered differs from the country in which the ship's owners reside) illustrates these multi-facetted dynamics very clearly. Politics, economy, culture, science, and law are then all arenas in which the forces of colonialism do not just continue to have an effect, but where the learned logics and attitudes continue to be applied.

As historian Walter Johnson has pointed out, the above-mentioned usage of flags of convenience played an essential role in the continuation of the transatlantic slave trade *post* the 1807 Act for the Abolition of the Slave Trade, which banned trading in enslaved people in the British Empire, and the 1808 Act Prohibiting the Importation of Slaves into the US. As the latter negotiated a distinction between "slaveholding" and "slave trading," seeking to "align the limits of its economy with its polity, its slavery with its security, and its 'property' with its 'humanity,' " it paved the way for adapting flexible conventions such as "flag switching" (Johnson, 2008), which allowed for a virtually unhindered continuation of the trade, splitting legal text from political practice. The transatlantic slave trade reached a peak in the first half of the 19th century, with 1.8 million enslaved people transported from Africa to the Caribbean and South America between 1821 and 1850, out of an estimated total of 12.5 million Africans forced into the slave trade (SlaveVoyages, n.d.). In his ground-breaking book *The Suppression of the African Slave Trade to the United States of America, 1638–1870* published in 1896, the early African-American activist W. E. B. DuBois recounts:

> From 1830 to 1840 [slave-trading] began gradually to assume the United States flag; by 1845, a large part of the trade was under the stars and stripes; by 1850 fully one-half the trade, and in the decade 1850–1860 nearly all the traffic found this flag its best protection. (DuBois, 1896, p. 143)

Today, conditions on the gigantic vessels ploughing the global trading routes and sailing under "false flags" (i.e., flags of convenience) are repeatedly described as "states of modern slavery," referencing not just the question of legal status—such as full citizenship—but also living conditions, economic dependency, deprivation of mobility, and denial of human dignity. The 2022 report *Global Estimates of Modern Slavery: Forced Labour and Forced Marriage*, for instance, estimates that during the Covid-19 pandemic there were approximately 400,000 seafarers "unable to leave their ships for shore leave when they arrived at ports," becoming essentially trapped in "what many called 'floating prisons,'" further compounding the risk of forced labour (International Labour Organization et al., 2022). Using flags of convenience (i.e., flags of countries with low requirements in terms of tax, labour rights, etc.) plays a crucial role in facilitating these kinds of operations with minimal complications. This situation has been further exacerbated by the fact that this practice has not just become common but dominates global trade, with ships sailing under the flags of Liberia, Panama, and the Marshall Islands in 2022 accounting for 16.6 percent, 16.0 percent, and 13.1 percent respectively, which taken together amounts close to half of the world's maritime trade (UN Trade and Development, 2024).

4. A World of Matter

While the Antarctic Treaty of 1959 supposedly put a hold on military interests in Antarctica, and the Madrid Protocol of 1991 sought to curb commercial mining in the region, the presence of certain parties, both in the physical space and in the arena of political power and diplomacy, privileges some over others. In light of significant ecological changes on the horizon, having a decisive voice in this region is more important than ever. Moreover, it is hard to dispute that such a privileged "front-row seat at the table" is a direct legacy of centuries of expansionist imperialism. The issue of positioning within today's theatre of global politics highlights the performance of power, for which the demonstration of knowledge possession (e.g., through high-profile scientific expeditions) is becoming an increasingly decisive factor.

The inherently performative nature of politics also opens up possibilities for intervention. Performativity not only addresses audiences but enlists them in the production of affirmation. Whether this participation is active or passive, voluntary or involuntary—performativity engenders states of implicatedness. This is most evident in the realms of media and communication, particularly today's social media, but it also applies to areas such as the economy and education. Interventions in the "distribution of the sensible" can evoke the efficacies of *dissensus*, which philosopher Jacques Rancière describes as "residing at the heart of politics" (Rancière, 2010, p. 139). In this reading, dissensus stems from a conflict between how we *sense* something and how we *make sense* of it. Politics, as "an activity that breaks with the 'natural order,'" therefore "re-frames the given by inventing new ways of making sense of the sensible, new configurations between the visible and the in-visible, the audible and the inaudible, new distributions of space and time—in short, new bodily capacities" (Rancière, 2010, p. 139). In a similar vein, artistic re-framings (i.e., interventions in the distribution of the sensible that allow us to *sense* things differently) can participate in the performative process of politics—not in a deterministic way but in the sense of potentialities.

It is within this connection between representation and discourse that the collaborative art project *World of Matter*, to which I contributed over several years, anchors its work. Reflecting on the project's 2014 exhibition at the City University of New York's Graduate Center, the philosopher-activist Brian Holmes notes that such radical imagery aims to foster a relation between "the capacity to make images of worldly things and the capacity to remake an inhabitable world" (Holmes, 2015). Resource extraction is fundamental to global capitalism, yet the reality of these activities remains largely invisible. Most related events occur at locations that are either remote, inaccessible to the public, or absent from our collective consciousness. *World of Matter* seeks to counteract the policing of the affective regime of late capitalism and its expansion of commodity space by responding "to the urgent need for new forms of representation that shift resource-related debates from a market-driven domain to open platforms for engaged public discourse" (World of Matter, n.d., para. 1). Our focus was therefore on "visual source material as a valuable instrument for education, activist work, research, and raising general public awareness, particularly in light of the ever more privatised nature of both actual resources and knowledge about the powers that control them" (World of Matter, n.d.; see also Arns, 2015; Demos, 2016, Chapter 6).

Launched in Brussels in 2013, the project's multimedia platform is at the core of this mission to provide alternative accounts of what is happening in the "world of matter." Its content is derived from extensive field research and media production focussing on primary resources (fossil, mineral, agrarian, and maritime) and the complex ecologies of which they are a part. Organised as an open-access archive, it suggests connections between different *files* (i.e., visual material from numerous fieldwork sites) and highlights the relationships between different actors, territories, and ideas. Rather than being edited into a polished and conclusive "final" narrative, the different media—video clips, photographs, and texts—are broken down into a sort of "raw material," transforming the project itself into a "resource" that can be utilised to stimulate "a variety of possible readings about the global connectivity among these sites" (World of Matter, n.d., para. 4). Themed clusters provide orientation amongst these supply lines, highlighting emerging trajectories that enmesh resource ecologies within the logics of contemporary commodity capitalism. For example, "Resource Cities" points to the linkage between sites of resource exploitation and resource consumption, while "Conflict Matter" examines the spread of elastic border regimes that shape and regulate flows of goods, people, and capital by means of a complex overlapping of flexible citizenship arrangements, extra-territorial spaces, and other engineered states of exception. In exhibition contexts, clusters are combined in multimedia groupings, such as the full-height wall print *A World of Matter* (a contribution by myself, together with Peter Mörtenböck), which incorporates the sites and trajectories from the aforementioned clusters into a dymaxion map, emphasising the overlapping global dimensions of modern resource economies, cultural framings, and political discourse (see Figure 2). The dymaxion map projects the surface of the Earth onto an icosahedron, which can be unfolded into a two-dimensional sequence of segments. The great advantage of this type of cartography—in contrast to cylindrical or pseudo-cylindrical projections such as the Mercator and Robinson maps—is that it more accurately represents the relative surface size of the Earth and its continents. This avoids the so-called Greenland problem of the Mercator map, where Greenland is shown covering an equivalent area to Africa, which is actually 14 times its size. Such distortions can contribute to a general undervaluation of Africa's significance.

By employing such a methodology of co-narration—both in the sense of site visitors acting as narrators themselves in accordance with their navigation of the content and of the creation of tangible resonances between different sites of resource extraction spread across the globe—we sought to develop "a planetary

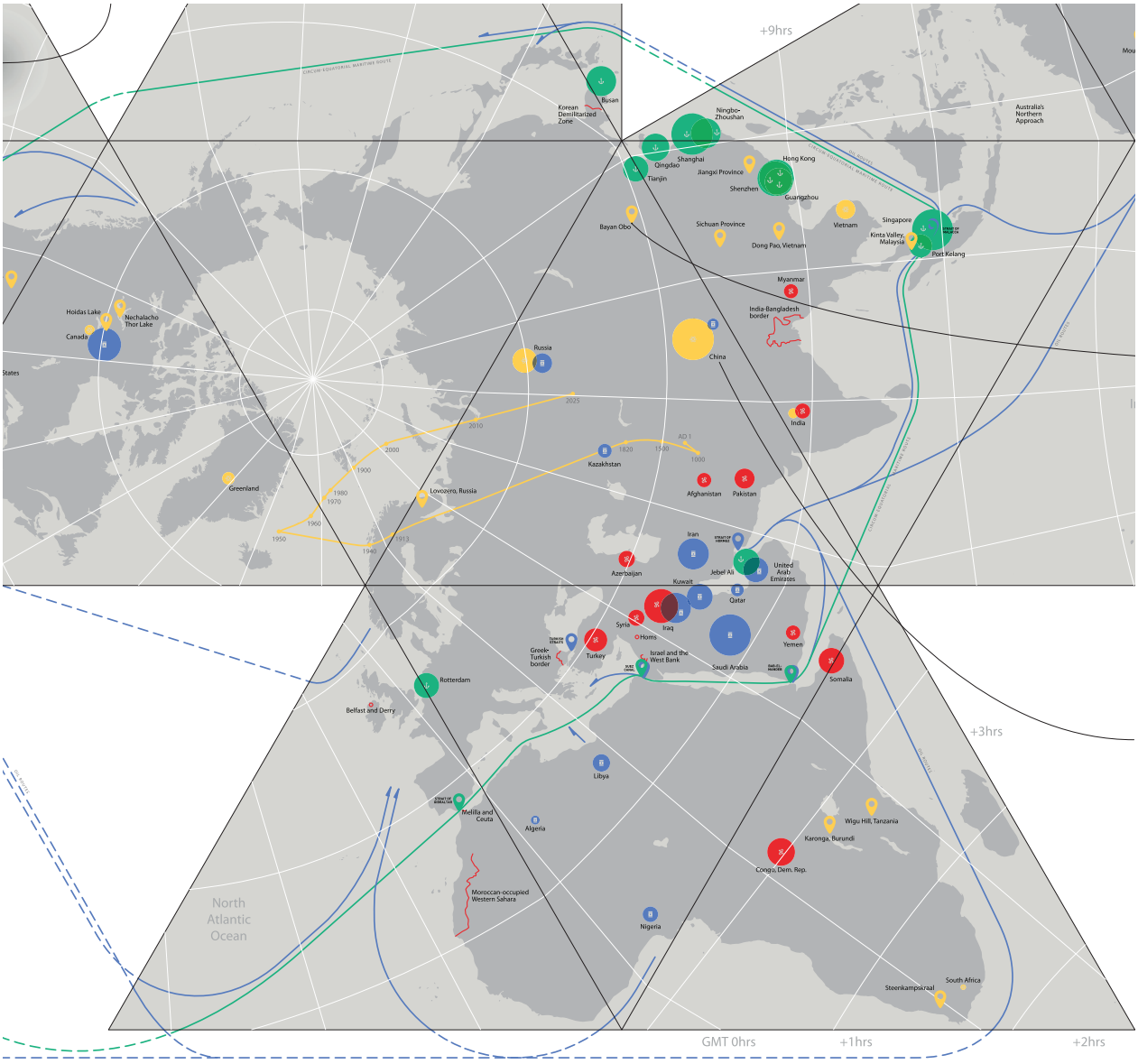

Figure 2. Peter Mörtenböck and Helge Mooshammer, *A World of Matter*, detail of digital wall print, 2014.

perspective on a world that matters" (World of Matter, n.d.) without denying the complex singularities involved in each specific event. Through this emphasis on enabling ways of *seeing and knowing otherwise* in both particular and general terms, *World of Matter* aims to contribute to processes of decolonisation that go beyond what is often perceived as a mere token act, or worse, as yet another example of appropriative acquisition that provides "shelf space" for documents and artefacts of foreign cultures in the archive of human history. Here, decolonisation is understood as needing to actively challenge the workings, genealogy, and legitimacy of hegemonic knowledge systems and their integration in and cooperation with current regimes of institutionalised power (see Banivanua Mar, 2016). Expanding on a critique of the twin projects of colonialism and capitalism's modelling of the world as an infinitely exploitable resource, media theorist Krista Lynes echoes this shift in focus by highlighting how *World of Matter*'s "concerns with enframing, with the constitution of authority…inflect and inform the mediating strategies at play in and across the project: an

attempt to make present the various constitution of subjects-in-process in thick overlapping histories, contradictory social contexts, and material processes" (Lynes, 2016, p. 111).

Over the past two decades, a substantial body of scholarship has emerged that explores the interconnections between resource exploitation and colonialism while emphasising the need for critical modes of decolonisation (see, for instance, Demos, 2016; Lynes, 2016). This work has helped to generate an analytical framework for understanding how extractive capitalism and colonialism have often been related drivers of possessive activities by both state and private actors. While it does not claim that capitalism and colonialism are contingent in every instance, it recognises their mutual reinforcement in many contexts. Colonial empires have pursued capitalist interests in their territorial claims, while capitalist agents have often adopted colonial mindsets when active in colonial theatres (in relation to Antarctica, see Roberts & Lindström, 2024). Central to this approach is Cedric Robinson's introduction of the term "racial capitalism" in the 1980s in order to address the capitalist underpinnings of colonial slavery and the racist foundation of capitalism's development over the centuries (Robinson, 1983). Key to this concept is the recognition of how the development of slavery has been shaped by agendas of resource exploitation in which forced labour is treated as just another category of expendable commodities. This is evident in the adoption of capitalist practices such as categorisation and abstraction (for a recent elaboration of the term, see Johnson, 2017).

5. Performing Ocean Knowledge

In this era of human-induced ecological crises, we are witnessing another cycle in the relationship between colonialism and capitalism. Efforts to address climate change by creating a more "resilient" world have triggered a new scramble for rare resources, such as the minerals needed for innovative "green" technologies. At first glance, embarking on yet another series of expansionist ventures may seem paradoxical, given that the growth paradigm has significantly contributed to the existential threat facing our planet. However, it aligns with the speculative logic of capitalism, which externalises risks by accumulating and securing access to potentials. Influencing public discourse and shaping meaning is crucial in this process. International law scholar Shirley Scott has noted that different waves of imperialism in Antarctica have evolved, with the current wave manifesting as informal empires that exercise dominance through scientific research and multilateral negotiations (Scott, 2017).

As highlighted earlier in this article, performativity plays a crucial role in this context. The assertion of superiority in the production of knowledge is used to legitimise claims to access to exploration and exploitation, often in a monopolistic manner. The ways in which the Antarctic Treaty System merges territorial claims rooted in centuries of imperialism with scientific endeavours is a stark case in point. Another example of the push to merge science with government goals and economic interests is the establishment of the UK's Geospatial Commission in 2018. This expert committee sets the UK's geospatial strategy and "advises government on the most productive and economically valuable uses of geospatial data" (UK Government Digital Service, n.d.). Its aim is to "unlock the significant economic, social and environmental opportunities offered by location data and to boost the UK's global geospatial expertise" (UK Government Digital Service, n.d.). In recent years, many such agencies have increased their investment in maritime research as the search radius for exploitable resources, in terms of both materials and sites, has extended significantly from the solid land mass of the continents to the vast expanses of the world's oceans. This appetite for what geographer Mark Monmonier has called "marginal imperialism" has unleashed a rush

for seabed mapping, which is at once a race for concrete spatial knowledge and a performative demonstration of expertise acquisition and environmental stewardship, which can then be leveraged to legitimise acts of control and possession (Monmonier, 2010, p. 71). Performing lengthy processes of seabed mapping lays the groundwork for resource exploitation in both technical and discursive terms. This dualism is particularly evident in arguments supporting new territorial claims based on the concept of the extended continental shelf. Under the UN Convention on the Law of the Sea, coastal states can extend the area over which they exercise sovereign rights for the exploitation of natural resources if they can prove that their continental shelf extends more than 200 nautical miles from the coast—hence the importance of technical and scientific data (Commission on the Limits of the Continental Shelf, 2024). On 19 December 2023, the US government announced that the US continental shelf in areas beyond 200 nautical miles from the coast covered an area of more than 1 million square kilometres—more than 1/10 of the land area of the US—and that this determination was "the product of [a] two-decade collaboration among the Department of State, NOAA and the U.S. Geological Survey" ("U.S. government announces size," 2023).

Amid the crowded race to advance ocean knowledge is Seabed 2030, a "pioneering initiative" seeking to accelerate ocean mapping efforts and to deliver a complete map of the entire seabed by 2030, an undertaking framed in its publicity material as a "mission to inspire ocean mapping and deliver a complete seabed map for the benefit of people and the planet" (Seabed 2030, n.d.). This joint venture by the Nippon Foundation (funded by Japanese motorboat racing revenue) and GEBCO (General Bathymetric Chart of the Oceans) has been adopted as a flagship programme of the UN Decade of Ocean Science for Sustainable Development (2021–2030). On 21 June 2023, Seabed 2030 issued a statement declaring that so far 26.1 percent of the world's seabed had been mapped, with the latest increase of 4.34 million square kilometres covering an area the size of the European Union ("Seabed 2030 announces latest progress," 2024). The announcement celebrates "the remarkable discoveries made possible through this global effort to uncover Earth's final frontier" and points to the important role of advanced sonar and imaging techniques in revealing previously unknown features of the ocean, including stunning eco-systems and an immense wealth of bio-diversity ("Seabed 2030 announces latest progress," 2024).

Foregrounding natural sciences in tandem with technological advances creates a specific lens that promotes a specific reading of the relevant subject matter. Presenting the world as a mesmerising spectacle waiting to be discovered camouflages the ways in which this kind of political cartography determines, on the one hand, which aspects are visualised and integrated in manageable and governable taxonomies, and, on the other, which occurrences are disavowed, go unrecorded (i.e., not visualised nor narrated), and are thus dismissed as insignificant. This orchestration of hegemonic narratives echoes the processes of humanising, domesticating, and aestheticising exploration referred to above when discussing the current trends in the design of new polar research stations. The relentless insistence on how gaining knowledge through exploratory operations is for the benefit of contemporary societies, i.e., by shoring up the resilience of our capitalist world order, simultaneously and proactively excludes many other realities on the ground.

The seabed is not merely a matter of resources but also a "matter of concern" (Latour, 2004). It is not without reason that the sea has often been described as spurring an "archival impulse." Not least in post- and decolonial research, cultural and artistic work, the notion of oceans as archive has helped engender multi-stranded dialogues about the present and the past as well as visionary conceptualisations of more equitable futures that extend beyond materialistic views of the world. The plethora of concerns presented at

the Oceans as Archives conferences in 2021 and 2022 demonstrates the surging interest in such approaches, particularly amongst young scholars and practitioners (see https://www.oceansasarchives.org). The fate of the 1.5 million people who did not survive the infamous Middle Passage across the Atlantic serves as a powerful reminder of the urgent need to recognise that there is more to the seabed than mapping its topography and so-called natural features. Inspired by the Black Atlantic discourse (see Eshun, 2003; Gilroy, 1993), there is a growing will and desire across a variety of disciplines, including history, geography, architecture, and art, to decolonise ocean research which is beginning to amplify the call "to connect what cannot be connected" in other forms of archive (Foster, 2004).

6. Frontier Climates

Experimental seabed mining in the Pacific is one of many critical forms of resource exploitation that are governed by frontier climates. The frontier combines characteristics of the periphery—geographical remoteness, demographic marginalization, ideological oblivion—and thereby fosters the emergence of phenomena that might not otherwise arise. Its inherently expansionary character makes the frontier a site of interaction and confrontation. It is not a given space, but is rather created through a series of advances aiming to structure a field of options. In other words, the frontier is shaped by the ongoing presence of what can be understood as a frontier mentality. In the artistic research project *Frontier Climates* (in collaboration with Peter Mörtenböck) we traced the forces, ideologies, material realities, and representations that allow this mentality to crystallise into action. Through a collection of sites that engender distinct frontier operations, we sought to address the making of politico-material frontier climates as an active force in neoliberal globalisation. The visual interface of *Frontier Climates*, presented in exhibitions such as *World of Matter: Mobilizing Materialities* at the University of Minnesota's Katherine E. Nash Gallery in 2017 and featured in various print and online publications, offers a polar-centric view of the world. It juxtaposes circular projections of the Northern and the Southern hemispheres such that the polar regions are positioned at the centre of the maps (see Figure 3). This arrangement highlights their embeddedness within a globally interconnected web of relations, one that conventional maps often obscure by positioning these regions at their margins. Mapped onto this perspective are the multiple frontiers currently emerging in global politics, such as seabed mining and the occupation of the low Earth orbits by telecommunications technologies.

The UN Environment Programme's Law Divison, an entity committed to the progressive development of international environmental law, identifies four global commons: the High Seas, the Atmosphere, Antarctica, and Outer Space—resource domains guided by the principle of the common heritage of mankind. In recent years, advances in technology and science have enabled regional economic and military alliances to gain greater access to and control of these domains, highlighting the need for international treaties and conventions to govern global commons. In the absence of robust institutional and regulatory frameworks, terrestrial, marine, and celestial matter has become the battleground for a small set of large players spearheading encroachments on and the destruction of global commons for the purpose of trade, resource, and security advantages. In *Frontier Climates* we explored the decline of these four global commons as defined by international law, tracing the unfolding processes as well as the historical, cultural, scientific, and representational genealogies that have facilitated current dynamics. While we are currently seeing a surge in narratives framing the polar regions as crucial frontiers for maintaining the current standards of human wealth and privileges, such mythologising views are rooted in a lineage dating back hundreds of years. In his

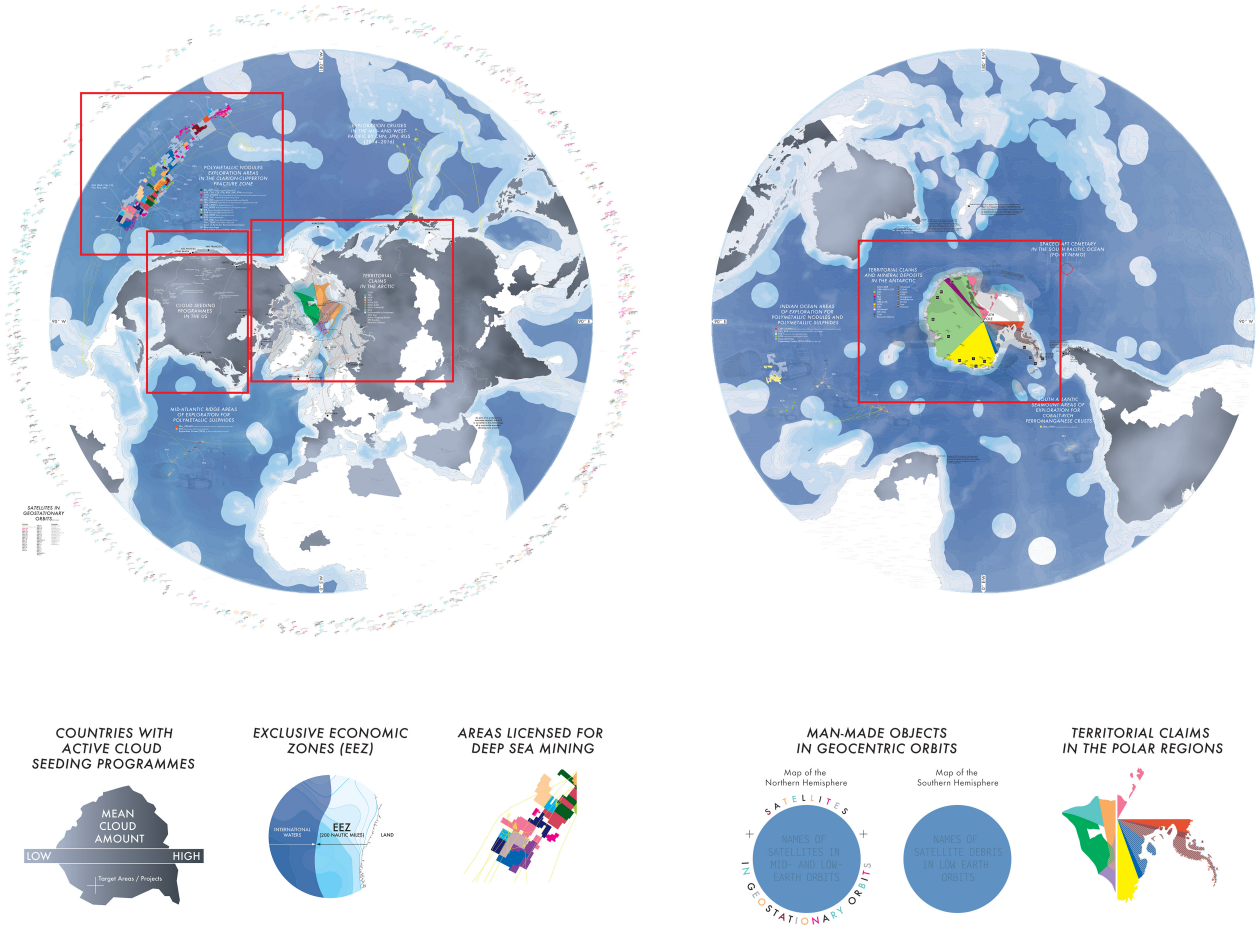

Figure 3. Peter Mörtenböck and Helge Mooshammer, *Frontier Climates*, digital wallprint, 2017.

analysis of US engagement in the Antarctic, polar historian Adrian Howkins highlights the formative role a frontier-oriented mentality has played in shaping attitudes towards exploration, land annexation, and the promotion of scientific research (Hawkins, 2013).

7. Conclusion

After centuries of blatantly imperialist voyages into the unknown commissioned to stake new sovereign claims, today's enlightened world expects of exploration of the remaining frontiers that such ventures serve the production of knowledge for the benefit of all. However, the production of knowledge in itself is not a value-free enterprise. Particularly in our time, scientific interests in "frontier research" have often been co-opted to support various economic and political agendas, whether sponsored as national expeditions or through international collaboration. Oceans, with their vastness, inherent inaccessibility, and invisibility, have come to occupy a central place in this race for the "last frontier."

The constructed remoteness is linked to a corresponding lack of understanding. Efforts to bridge this gap in human control require the generation not only of data that facilitates navigation but also of representations that allow these discoveries to be integrated into established orders of knowledge, such as academic disciplines, taxonomies, and value systems. Since representation involves communication, the use of textual

and visual languages to convey knowledge raises questions of culture and belonging. To illustrate the linkages between politics, science, and the logics of communication, I have examined the recent wave of "futuristic" yet comfort-oriented design in the establishment of new polar research stations in order to address the ways in which the embodiment of knowledge production, and the popular narration thereof, serves to imaginatively tame and domesticate savage environments, transforming the frontier into habitable and harvestable space and perpetuating an essentially colonial mentality.

As debates around colonialism have gained prominence and demands for decolonisation have increasingly entered discourse, questions have emerged around the applicability of terms and the legitimacy of claims. These questions extend beyond decolonisation itself to more fundamental assumptions about colonialism, its constituents, and its contingencies. With regard to oceans, much of the scholarly discourse has focussed on the idea that oceans lack indigenous populations. However, colonialism does not only impact specific people and their livelihoods. In this context, I would like to emphasise that shifts in perspective can be both crucial and particularly productive. Not only do such shifts lead to changes in representation, but they also open up possibilities for broader participation in processes of decolonisation pointing to possible scenarios of an equitable future. Such an orientation towards an arena of dialogical engagement seems particularly pertinent given that symbolic acts of correction can potentially reinforce uneven power relations in terms of who exercises authority over the definition of what is right and wrong, the exploitation and allocation of resources, and the shift from direct control to indirect manipulation.

With climate change no longer a distant threat but a lived reality, oceans are increasingly being seen not as barriers but as vital connections, as a crucial element inextricably linking all of us and our futures together. In this context, it is essential that we acknowledge the legacies of and engagement with colonialism as a connective force as well. Embracing these shared implications provides a future-oriented perspective that can generate productive engagement with strategies and practices of decolonisation beneficial to a multitude of different positionalities.

In terms of art and its interaction with knowledge production, the implications of such an approach are twofold. First, it points to an enhanced comprehension of the requirement for contextualisation beyond the immediate confines of space and time and the need for artistic and cultural production, such as architecture and design, to promote awareness of and research into what lies "beyond." Second, artistic works serve as records that document and analyse change over time, affecting both content and framing. To illustrate productive engagement, I have examined two recent art projects aiming to decolonise knowledge systems by shifting the focus from epistemological disciplines to ontological practices. *A World of Matter* and *Frontier Climates* are part of a wider movement within artistic research seeking to address the contemporary dynamics of colonial logics and attitudes by narrating the complex stories of the habitation and interconnectedness of sites across the world, and in doing so to reframe not just the present but also the future of our planet. Specifically, these projects emphasise the importance of changing both content and practice to foster counter-knowledge. Challenging entrenched perspectives requires not only alternative images but also new ways of viewing them. Since our perspectives are shaped by structures of power, regimes of ownership, and issues of sociality, visual art initiatives like *World of Matter* strive to render the invisible visible and to position art as a common resource.

While narratives of exploration, whether of oceans or other "frontiers," often celebrate human achievement, ongoing expansionist activities such as the rush for seabed mapping are based on not only the spirit but also the colonial practice of establishing infrastructures for exploitation (in this context, for example, for deep sea mining). It is essential to consider these infrastructural perspectives on colonialism in order to understand our contemporary complicity in these systems. We are all implicated in both colonial legacies and neo-colonial practices in numerous ways today. If anything, the urgency of decolonisation is increasing rather than receding into the dark depths of history. This dynamic is particularly evident in the context of platform capitalism, which is driving ever more pervasive modes of deterritorialisation, fragmenting even the most mundane task into countless atomised processes dispersed around the world, as exemplified by the simple act of ordering a small commodity online which then needs to be shipped via container from overseas. The political, economic, and social fabric of global shipping routes, which transport billions of tons of goods every year (see International Chamber of Shipping, n.d.; UN Trade and Development, 2023), continuously evoke and exploit the infrastructural legacies of colonial empires. The complex question of decolonising ocean matter is thus not a distant concern, but an issue that impacts us every day right on our doorstep.

Funding

This article draws on research funded by the German Federal Cultural Foundation.

Conflict of Interests

In this article, editorial decisions were undertaken by Peter Mörtenböck (Goldsmiths, University of London/ TU Wien).

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Ocean and Society
2025 • Volume 2 • Article 9634
https://doi.org/10.17645/oas.9634

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ARTICLE

Open Access Journal

From Riverbank to Ocean: Involving Young Generations With Their Territory Through Artistic Practices

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Submitted: 15 November 2024 **Accepted:** 10 April 2025 **Published:** 11 June 2025

Issue: This article is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

Based on the project Minante: Prototyping a Natural and Cultural Experience for Public Space Co-Creation (2023–2024), this article presents and discusses how schools from a semi-rural region of northern coastal Portugal engaged with the natural and cultural water heritage that surrounds them through artistic practices. A total of four schools with classes of different ages took part (12–18 years old), with artistic interventions related to new digital media, illustration, wood construction, plastic arts, and painting. The project occurred in the public space around the old Minante watermill, on the banks of the Neiva River, near the river mouth. Subsequently, interviews, a survey, and a laboratory workshop were carried out with the involved teachers (and the survey also with students) to analyse and reflect on the Minante project and explore potential future actions in other parts of this territory, namely at the wider Neiva River coastal area. With the help of this empirical material, the article aims to reflect on the question: What can be the role of arts-based local interventions with schools in encouraging young generations' more direct involvement with the material and immaterial heritage of the waterscapes and territories they live alongside and inhabit?

Keywords

arts; cultures of water; intergenerational; schools; territory; youth

1. Introduction

It seems impossible to overstate the importance that an aware and engaged youth can have for the continued care for both social ties and overall life in the local environments of today's world. This article discusses the importance of and alternatives for bringing young generations into the debate and reflections on the history, present, and future of cultures of water. It explores the particular potential of arts-based co-creative pedagogy by schools outside schools for increasing water and ocean literacy (Imaduddin & Eilks, 2024; Santoro et al., 2017) among young people, and how these activities co-create cross-generational understandings of local water heritage. The concept of cultures of water serves as a lens dedicated to looking at "the relationships created between human beings and water, in all its forms, which can be revealed through traditions, memories, arts, history, practices and imaginaries that are most notable among populations living close to bodies of water" (von Schönfeld et al., 2025, p. 7). Young generations are key for giving continued life to these cultures, which highlight "the close relationship between heritage, environment and society through the long-term bond that local populations have established with water" (von Schönfeld et al., 2023, p. 1111). The artistic methods of engagement and research discussed in this article draw attention to territories that incorporate meaningful relationships between local communities and the local rivers and oceans. These methods also help to think about the meaning of the physical presence and inclusion of young people in (the co-creation of) these spaces.

The article presents two initiatives to demonstrate the reciprocal value that is co-created when local artists, NGOs, and schools come together to make artistic interventions for water heritage in coastal regions. Both initiatives took place in the same geographical location and with some of the same people. The first directly involved students and teachers, and the second involved a reflection among teachers and the organizing team from the first initiative and sought ideas for future collaboration. The first initiative was a project called Minante: Prototyping a Natural and Cultural Experience for Public Space Co-Creation (henceforth simply denominated "Minante"). It entailed the implementation of several material and immaterial artistic interventions—ranging from the painting of a tree to the creation of sound installations, among many more. The project took place in the north of Portugal, along the Neiva River, at the Minante watermill and its surrounding space, which gave its name to the project. The project was carried out between 2022 and 2023 and involved the local Rio Neiva environmental NGO (Rio Neiva—Associação de Defesa do Ambiente), city councils of two municipalities whose border is marked by the Neiva River (Esposende and Viana do Castelo), four local schools and their students, and overall more than 500 participants from the local population. The project was investigated by a group of four researchers in history, heritage, arts, design, and planning from the University of Porto. The second initiative was a workshop on the topic of education and territory, which is inserted within the context of a wider action for exploring cultures of water in the north of Portugal, called Laboratory of Cultures of Water (henceforth denominated "Lab.CA"). Each of the two initiatives is briefly outlined here and is then more fully described in Sections 3 and 4.

The Minante project emerged from a need voiced by the local population during a previous project (Stories From Both Sides) during which Minante came up as a place people felt was especially important for local heritage, in both tangible and intangible forms. Stories from Both Sides was a project where local inhabitants connected to the sea and river—through fishing, the old watermills, the artisanal production of linen, popular festivals connected to the river and the sea, etc.—were asked to take a closer look at the history and current situation of the site, thinking about their desires and possibilities for the future. The Minante project then focused on reconnecting various generations around the specific rural location of the Minante watermill,

now in ruins, in such a way that could contribute to safeguarding (some) of the existing heritage, and to opening up to possibilities for new ways of life in this location. These would not necessarily be linked to the ancient functions of the old watermill but would bring several generations together to think about the present and future of the place, closely linked to the evolving local cultures of water that see this as more of a place for leisure and contemplation of nature. The key objectives of the Minante project were to bring back life to this relatively abandoned location through artistic interventions and to create and strengthen the cross-generational connection to local cultures of water. Although the Minante project also included initiatives organized by local artists, and by the Rio Neiva environmental NGO, the involved schools held a key role in helping the Minante project achieve these objectives. It was a unique opportunity for the students from these schools to get to know, and take ownership of, the Minante watermill, the surrounding area, and the Neiva River, as less known areas in the territory despite possessing relevant natural and cultural heritage.

Aware of the schools' special role, the researchers set out to pay attention to the school involvement. First, through interviews with the teachers (6 of 7 participating teachers were interviewed) and an online survey among teachers and students (3 teachers and 31 students responded, distributed across all four participating schools). Next, a workshop was held, denominated Education and Territory, which involved the participation of the teachers and others involved in the organization of the event to discuss and reflect on the work done and what future (joint) activities could be imagined (see more on this in Section 3). The workshop was part of the Lab.CA series, created in 2022 by the same researchers that formed part of the Minante project. The Lab.CA series entails varied activities, frequently including workshops but also film screenings and more classical discussions, always focusing on the interplay between heritage and the environmental and social issues related to oceans, rivers and all freshwaters, and the engagement of various publics about this interplay. As part of these wider aims of the Lab.CA action, and in follow-up to the Minante project, the Education and Territory workshop aimed to reflect on the role the schools had in the Minante project, but also on the role they could have in similar projects in the future. Many of the themes that had arisen during the Minante project and its precursor—Stories from Both Sides—had already highlighted how important a culture around water and the ocean was in the region. While to some extent the Minante's location and project set the focus more on the riverine side of the local cultures of water, during the project the local population clearly indicated their wish to come closer to the ocean in its process of re-enlivening local heritage across generations. Overall, the Minante project and the Lab.CA workshop Education and Territory together allowed for especially valuable insights about the role that arts-based interventions and pedagogy can have in the interplay between heritage, cross-generational change, and local cultures of water—beginning along the River Neiva, and culminating in the Atlantic Ocean.

The remainder of the article is structured as follows. After this introduction, the theoretical framework discusses the role of schools in ocean literacy, in the cross-generational evolution of heritage, and in the use of arts and co-creation concerning Heritage. Section 3 presents the cases of the Minante and the Education and Territory workshop in more detail. Section 4 presents and discusses the processes and results from the cases, and Section 5 concludes.

2. Theoretical Framework: Schools, Ocean Literacy, Arts, and the Co-Creation of Heritage

As Imaduddin and Eilks (2024, p. 2) note: "Water education is [found] crucial in developing water and ocean literacy among students of all ages." As UNESCO (Santoro et al., 2017, p. 6) states "knowing and understanding

the ocean's influence on us, and our influence on the ocean is crucial to living and acting sustainably. This is the essence of ocean literacy." As McKinley et al. (2024, pp. 2–3) highlight:

> Knowledge in the context of ocean literacy must acknowledge, integrate and value different types of knowledge, including and championing local and Indigenous knowledge, and recognising that diversity of knowledges and "ways of knowing" the ocean should be encompassed within ocean literacy discourse.

In many contexts, water—and ocean literacy—is diminishing, because those with long-standing use-value knowledge in various locations are older generations, whose jobs are becoming obsolete, and whose capacity to pass on their knowledges to following generations diminishes when those generations move away to different contexts (Roberti, 2021; von Schönfeld et al., 2023). The family used to be an important source of passing on knowledge about oceans and waters, and about all related forms of work and culture—such as sargassum collection, fishing, or boat-building practices and cultures (Ferreira, 2025; Roberti, 2021). This family role has largely fallen away as an option since compulsory schooling and child-labour laws make such passing-on of practical knowledge more difficult, and as work prospects for young people are chiefly sought in service economies in urban centres (Ferreira, 2025; Roberti, 2021). While ocean literacy forms part of school curricula, this is quite focused on the natural scientific side of this knowledge, and often kept far away from the relevant locations, despite increasing awareness that more active engagement can be very fruitful for ocean literacy (Fauville, 2019; Gough, 2017; Mokos et al., 2020). To combat some of the lack of deeper knowledge and to mobilise ocean literacy across knowledges, various initiatives have emerged, such as Heritage Trails (Franks, 2020), artistic and creative initiatives (McDonagh et al., 2023), and the Minante project presented in this article. The argument here is that direct contact with a place, and most notably engagement through arts, can be important catalysts for deep-seated water—and ocean literacy and cross-generational care for these environments.

The expectation of such results is not a new invention; it comes from a significant evolving literature and experience with arts-based and experiential learning approaches (e.g., Dewey, 2015; Kolb, 2015; Pink et al., 2010; Strand et al., 2022). These not only highlight the added value of such creative and outdoor initiatives but also the important limitations that rigid schooling systems—insisting on largely immobile students learning chiefly through books and only during school activities—have in a rapidly changing, digitizing, smart-phone-based, and large-language-model-integrating world (Neto, 2020; Teschers et al., 2024; Visser & Visser-Valfrey, 2008; Wu et al., 2024).

For the purposes of this article, we highlight the use of arts methods as especially helpful for engaging students and creating connections with the socio-cultural and natural environment. Arts methods of different formats have been used widely to encourage participation and community communication in various arenas (Gregory & March, 2020; McKinley et al., 2024; Strand et al., 2022), and to engage children and youth in planning and placemaking (Derr et al., 2018), among other processes. These arts methods constitute a type of *co-creation* of space, knowledge, and heritage. As with ocean literacy, co-creation highlights the need to include various perspectives and kinds of knowledge when shaping the future of knowledge and engagement with space and history (Meetiyagoda et al., 2024; Ramaswamy & Ozcan, 2018; Shaw et al., 2021; von Schönfeld et al., 2023). For this purpose, co-creation literature emphasises the active inclusion of various stakeholders at all stages of any intervention in a given location, and the value of going beyond verbal engagement to also include more

hands-on activities and inclusion of participants even to the stage of creation and maintenance of an initiative (Meetiyagoda et al., 2024; Ramaswamy & Ozcan, 2018; Shaw et al., 2021; von Schönfeld et al., 2023). Through this active engagement with a place, then, co-creative arts-based activities can be powerful to include diverse knowledges, and bring new life to local heritage (von Schönfeld et al., 2023).

As is shown in the context of ocean literacy, heritage, and cultures of water, young generations will be the key to giving continuation to these realities in material and immaterial, natural, and human-made forms (Del Baldo & Demartini, 2021; Kreikemeier, 2021; von Schönfeld et al., 2023). As various authors have highlighted, heritage is ever-evolving, and new generations will share it in their own way (Del Baldo & Demartini, 2021). When that new interpretation of heritage clashes with the wishes and traditions of older generations, rupture and conflict can be experienced. In other cases, as older generations pass away, their families may see the loss of those people also as a loss of the heritage as a whole, especially when there was never enough time and effort to pass on the stories and experiences of heritage across generations (Roberti, 2021, 2024). Thus, connections created across generations, to local memories and physical environments, can help create a synergistic evolution of heritage, rather than one of rupture and conflict, filled with experiences of loss (von Schönfeld et al., 2023). By jointly weaving evolving tapestries of local cultures of water across generations, the power of these co-creative artistic methods for communicating this heritage socially and politically can be invaluable (von Schönfeld et al., 2023). The cases presented and discussed in the remainder of this article help clarify several of these processes and their potential.

3. Cases: Minante and Lab.CA Workshop Education and Territory

In this section, we introduce the two initiatives mentioned in the introduction in more depth. They function as the two cases which will help us uncover, in Sections 4 and 5, some insights on the ways schools, school teachers, students, and arts—and/or media-based interventions—can help trigger important experiences for students as well as (re)connect them with cross-generational, socio-cultural, and natural local heritages, both tangible and intangible. Examples are knowledge of now-obsolete forms of labour and related social interactions closely linked to water in the coastal region of northern Portugal, whether through the old grain mills, traditional celebrations, or fishing, learning to swim in the river, finding life partners at crossings over the boundary between municipalities embodied by the river, among others. This section shares information about the initiatives, the processes involved, and our methods of studying and following them. Section 4 will then present the results from the initiatives and Section 5 the conclusions.

3.1. Minante

The Minante project involved, over the course of eight months, the co-creation of 13 artistic interventions and 12 co-creative workshops, which overall hosted more than 500 people, from 6 to 80 years old (von Schönfeld et al., 2023). Five of the artistic interventions were led by schools, and these are the interventions this article focuses on—the remaining eight interventions were led by other groups: a collective of architects, a local cultural and artistic association, musicians, and invited and local visual artists. Beyond this, the project produced a documentary film (Roberti, 2024), a booklet (Monteiro, 2023), and a photographic exhibition, all depicting and discussing the artistic co-creation processes occurring during the project. As with Stories From Both Sides, Minante was open to the broader local community, and the strong connection the local NGO has had with the local population for 35 years contributed to a relationship of

trust between the people of the region, the members of the association, and the researchers. This, together with the involvement of schools, ensured a high level of participation—both in terms of numbers of participants and in terms of the in-depth quality of the participation.

The Minante project took place in a semi-rural region in the north of Portugal, in the municipalities of Esposende and Viana do Castelo (see Figure 1), from June 2023 until February 2024. The project was, from the outset, built on the principle that to fulfil its objectives, it had to be collaborative and truly co-created by different agents from the local community and its surroundings. In line with this, the project was led by the Rio Neiva environmental NGO, and counted with the Transdisciplinary Research Center for Culture, Space and Memory (CITCEM, from the University of Porto), and the city councils of Esposende and Viana do Castelo as partners. These objectives also aligned particularly well with those of the New European Bauhaus initiative of the European Commission, where the emphasis is on interconnections between aesthetics, sustainability, and inclusion (EU, n.d.), as also substantiated by the funding support to the Minante project by this EU policy. By connecting arts, sustainable local relationships to rivers and oceans, and the inclusion of diverse groups of the local population, Minante was a perfect fit for this policy.

As was noted in the introduction, Minante was the result of auscultation carried out by Rio Neiva NGO and the local city councils with the local community in a previous project called Stories from Both Sides: Towards a Collective Narrative and Vision for the Neiva River Mouth, in 2021 (Monteiro, 2022). During this project, the older generations, in workshops and interviews, claimed that they wished to understand and be active contributors to how the Minante watermill, and the surrounding area, could once again be important, lived in, and recontextualised. They were not proposing that the watermill should work again and cereals or linen be produced there, as in the past. But they wanted new uses to be co-created in the place, without losing its connection to the past and letting the sense of belonging fade with the older generations. The Minante

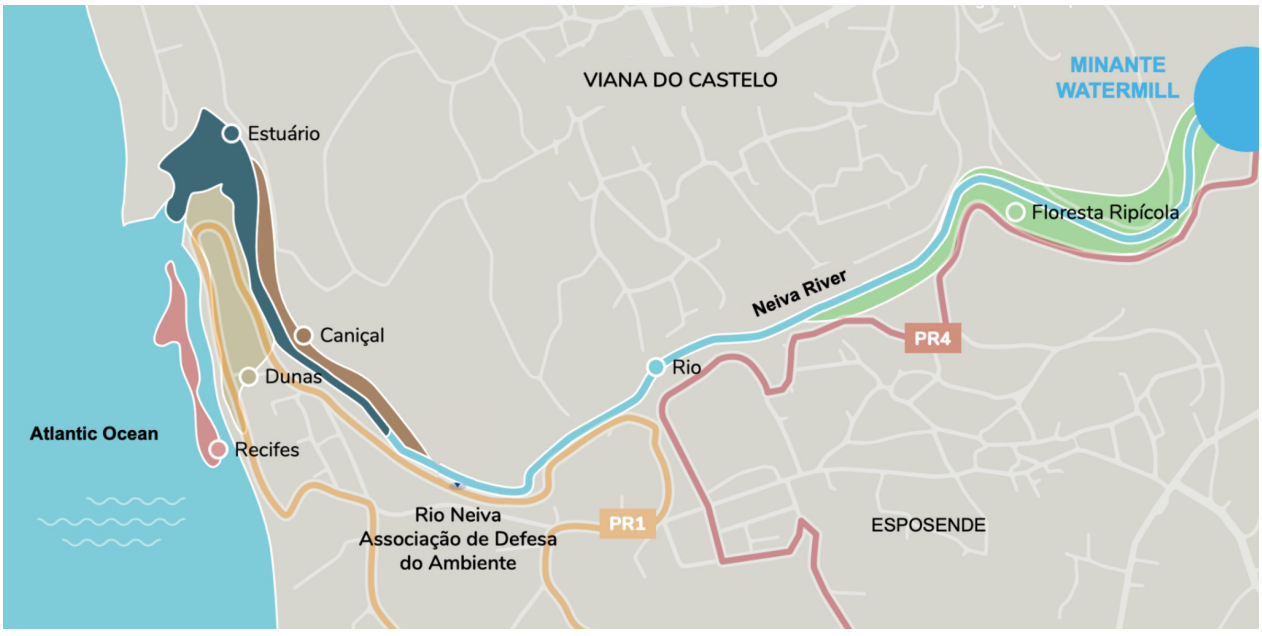

Figure 1. Map of the target area of the project, highlighting the Minante Watermill location, the Neiva River, the Atlantic Ocean, the Municipality of Viana do Castelo (north/upper side), and the Municipality of Esposende (south/lower side). Note: Other colours in the map represent a diversity of habitats.

project was thus built on the aspirations and motivations of the people on both banks of the Neiva River and the region's estuary and coastline. The reason for its existence comes from the desire of the people in the region to maintain a strong connection with water and to bring new generations to this territory, to occupy it, recreate it, and make use of it. This same generation's concerns, bearing in mind this semi-rural area is characterised by an ageing population and consistent population decrease in the past 10 years, helped to highlight a sense of urgency by the community to engage young people in this process; accordingly, local schools became a privileged medium to reach out to them and their teachers. Other agents, such as the local parishes, or artistic and musical collectives, were involved at various stages throughout the project. In this article the focus will be the active participation of the four local schools in the Minante project—which they gave recognition—through fieldwork and study visits to the riverside areas near the ocean and the old Minante watermill, and were able to think of new ways of artistically portraying and bringing life to the region, thinking about its past and present through its connection with water.

Considering the Minante project's community-centred principles, its methodological approach is organically divided into two main phases. The first phase aimed at organising open events and workshops as moments of participation and co-creation of interventions, also serving the purpose of mobilising the community and fine-tuning the project's approach. The second phase partially maintained the organisation of open events but placed greater emphasis on decentralised processes, namely the co-creation of interventions by students from local schools.

The first workshop focused explicitly on generating a dialogue between generations to highlight the various memories and wishes associated with the place. This dialogue was facilitated by the team of researchers, using as triggers a set of visual elements depicting the functioning watermill in previous decades. This approach allowed to set the stage to openly invite those who wished to share their memories and aspirations, resulting in an organic participation. These conversations were, for the most part, video recorded, and the main discussion topics were written throughout the workshop by the NGO volunteers on a large canvas board. Most importantly, this first workshop helped to delineate the narrative framework that ensued, calibrating the matching-up between subsequent interventions and the diversity of community members' interests. As part of the project's previous ethnographic work on Stories From Both Sides, some representatives of the local community were identified and invited to bring old photographs, maps, books, and poems of their own. All of this material was directly related to this population's proximity to water in the riverside and coastal areas and three central thematic axes were highlighted: nature, leisure, and work (Figure 2). The workshop was coordinated by two researchers from the University of Porto, who invited participants to tell their stories and accounts of the past, as well as to ask questions about the present and future of the region and the material and immaterial heritage linked to water. The children and young people were largely brought by their parents, grandparents, and teachers who were present. For this workshop, the art teachers from the local schools were invited to participate, providing the project team with an opportunity to engage and provoke them to join the project, kickstarting the ideation process for what would be their and their students' interventions in the coming months.

As the school year resumed in September, four school groups were engaged—two from each participating municipality. The schools are not located immediately at the river, but rather more towards the urban centres in their respective municipalities, and thus many of the students had never been to the Minante area, even though it is not very far away (see Figure 1, for an idea of the size and distances involved. Note that the area

Figure 2. Young volunteers took notes of keywords and phrases throughout the workshop. Note: At the end of the session, they reported what was highlighted in the areas of nature, leisure, and work. Source: Roberti (2023).

is generally quite car-dependent). Five different classes were involved in the process, each one leading their intervention, according to the following number and age distribution: two groups of 25 students each, aged 12–14 years old; one group of 15 students, aged 14–16 years old; and two groups of 25 students each, aged 16–18 years. In total, 115 students and seven teachers were involved. The results are discussed in section 4.

3.2. Lab.CA Workshop Education and Territory

Created in 2022 at CITCEM (University of Porto), the Lab.CA series has as the basic framework for the rapid pace of transformation of heritage, environmental and social issues related to oceans, rivers, and all types of freshwaters have experienced in recent years. The labs are conducted in different contexts—such as scientific conferences, non-profit environmental associations, in partnership with government agencies, and schools—with the aim to engage in dialogue with a diverse public on this subject, spreading and fostering a plural and complementary vision of the future of cultures of water with different spheres of society—local associations, town councils, schools, universities, and citizens in general. Examples of past Lab.CA activities include workshops about the conceptualisation of blue heritage and cultures of water within a transdisciplinary academic conference; discussions about digital and analogue photographic archiving and capture for (re-)valuing cultures of water with local NGOs and research centres working on digital humanities; the screening of documentaries about water-based local heritage and its relation to environmental challenges of local rivers, oceans, or other bodies of water. The Lab.CA have also inspired the further conceptualisation of cultures of water, through an article published in 2023 (von Schönfeld et al., 2023), and a special issue in the *Journal of Cultural Studies* published in 2025 (see von Schönfeld et al., 2025, for the introduction to the issue).

With this in mind, connecting the insights that emerged during Minante with the local wishes that had been voiced previously seemed a logical next step. Therefore, the Lab.CA Workshop on Education and Territory was created, to reflect on the participation of schools in the Minante project, and on ways those involved might follow up this action with further work in the coastal area of Esposende and Viana do Castelo. The central idea was to identify challenges and solutions for thinking about the future relationship between schools and the territory, and the tangible and intangible heritage linked to cultures of water in the context of the Neiva River and the region's coastline. As mentioned before, this cultural heritage is connected to work, leisure, and nature-related activities (artisanal and commercial fishing, sargassum harvesting, social gatherings in river and coastal areas, nature preservation through local community initiatives, water-powered mills, traditional water-related festivals, etc.).

As already pointed out, the participation of these schools in the Minante Project involved students of different ages experimenting and testing new ways of contemplating and enjoying the surroundings of the Minante watermill, namely the existing public paths and trails that run along both banks. By reflecting on the biggest challenges, strengths, and results of Minante, the Lab.CA workshop highlighted a series of good practices—things considered to not only have worked well in this instance but to be recommended for future joint initiatives—identified by the teachers and researchers who took part in the workshop. These included, for example, involving the school community from the early stages of project preparation and planning, considering the time needed to deepen knowledge and ensure the satisfaction of both students and teachers, and planning for the project's continuity beyond the funding period. The intention was to contribute to the success of future projects involving schools and other partners, such as environmental and cultural associations, city hall, universities, and others.

The workshop was carried out two months after the Minante project was completed, in April 2024. The previous interviews with six of the teachers participating in the Minante project helped shape the final program, which included presentations by the researchers, moments of individual reflection and collective sharing among teachers, and debates between teachers, researchers, and the local association leading the project. The final program was structured as follows:

> Part I—Reflection and sharing about the Minante project: major challenges, strengths, and results).
>
> Part II—From the river to the sea: What remains of the Minante project for the future? What good practices can help schools and partners in future projects and initiatives?; And future projects, i.e., ideas and proposals involving schools, the territory, and partners outside the school, in the context of cultures of water, in the region of Esposende and Viana do Castelo.
>
> Part III: Conclusions and final discussions.

During Parts I and II, post-its were used to give participants the chance to share their individual input, as well as to discuss this afterwards in relation to pre-prepared themes of challenges, strengths, and results (outcomes), and of potential future projects close to the ocean. Part III allowed a more narrative, continuous discussion of overall reflections and ways forward.

4. Processes and Results

This section describes and discusses what the mentioned cases created and revealed, with a special focus on the school-based activities, the teachers' interviews, and the outcomes from the Lab.CA workshop. The results are also directly discussed in relation to the questions surrounding the broader role of schools and art methods with teachers and students for the co-creation of the future of local heritage across generations.

4.1. Minante: Respecting the Old and Shaping the New, Just Like a River

From the early stages of their involvement, the arts and media teachers from the four school groups were immersed in the project through a conceptual and operational briefing. Teachers were asked to adhere to the general rationale of the Minante project, as previously described, while still allowing adaptation to their school curricula and students' needs. From an operational perspective, the project agreed with the teachers that they would conduct field visits throughout their class's ideation and development process with the project team's support. Each class would then collectively decide the format of their interventions, in liaison with the project team to adhere to territorial constraints and environmental requirements. The project and the partner municipalities provided a small budget for materials and transport to the site visits.

Accordingly, each class decided on their own approach, with each teacher guiding the process, whilst ensuring the reciprocal nature of this project and curriculum learning outcomes. Each class, and their respective approaches and interventions, were followed closely by at least one of the researchers, to record the process, who was involved, which themes each group of initiators chose, etc. Some chose the more artisanal artistic approach, working with wood, others focused on creating multimedia pieces based on the student's fieldwork experience, also collecting plant materials for visual arts production, etc. Regardless of the approach, all of them had fieldwork along the river and coastal areas as the fundamental basis for their work. The documentary filmmaker following the work was also a researcher, which helped in both documenting and reflecting on the entire process as well.

Additionally, individual semi-structured qualitative interviews with six of the involved teachers were held towards the end of the project, to reflect on both the process and the outcome they perceived of their involvement. The interviews were audio-recorded by the researchers, and broached the questions of what the idea was behind the intervention the respective teacher had helped carry out with their students, how it came about, what the reactions of the students were, how their relationship with the place evolved during the process, and how the process went for the teachers themselves (including reflections on the process with the students and the involvement of the school, and the extent to which their own relation to the space evolved). A short online survey among students and teachers of the participating schools further explored the evolution of the relationship the participants had with the space.

The following description summarises one of the five interventions/outputs from the participating schools:

1. Signage boards for the living gallery (integration, training, and education program class; EB Darque/Monte da Ola Schools Cluster).

In the wood workshop discipline, students built two signage boards where the name of the space was engraved: Minante–Living Gallery, which aimed to resignify this space by providing it with a name and identifying possible locations for placing the signage boards (Figure 3).

Another description of one of the five interventions/outputs from the participating schools is as follows:

2. Treehouse (Class B of the 8th Year, from António Rodrigues Sampaio Basic School).

The students from Class B of the 8th year from António Rodrigues Sampaio Basic School, identified and intervened on one riverbank tree, with ecological paints that highlight the living ecosystem inhabiting the tree. They also illustrated small logs with images of local species, and placed them hanging in the tree, aiming to raise awareness about the importance of preserving native species that harbour many other living beings; and develop an artistic approach by exploring painting and drawing techniques that are not harmful to the environment (natural pigments and raw materials collected in nature, like invasive plant species).

A further description of one of the five interventions/outputs from the participating schools is outlined below:

3. Fictionalising Minante (12th Grade Class E Scientific-Humanities Course in Visual Arts, at Henrique Medina Secondary School)

This intervention stems from a field trip that sparked a creative analogue and digital reinterpretation, in a process of seeking, discovering, and constructing fictionalised memories of the place. The aim was to promote photographic and video documentation, drawing of local flora, and emotional connections with the Minante space. To this end, the students applied drawing techniques, experimented with digital

Figure 3. Signage boards for the living gallery. Source: Roberti (2023).

transformation of photographic images, and created printed records of these experiences on acetate, on watercolour paper using the cyanotype technique, as well as a fanzine (Figure 4).

Figure 4. Fictionalising Minante. Source: Roberti (2023).

Other interventions/outputs from the participating school include the following:

4. Trash with Style! (class 6ME at António Rodrigues Sampaio Schools Group)

A compact and removable structure was created as part of an installation generated by a set of ideas, designed to highlight the trash bin at the Minante location. The aim was to engage with the community, acknowledging the role of arts in social changes, and utilising various materials and mediums in its creation, employing visual techniques of drawing and painting.

The last intervention/output from one of the participating schools was:

5. Exploring the riparian area: an experience of connectivity with the landscape (12th-grade visual arts students, under the guidance of Multimedia and Drawing teachers, at Santa Maria Maior Schools Group).

This last intervention aimed to explore the area with photography, video, sound, and drawing in the vicinity of the Minante watermill, resulting in transmedia content essays for the landscape experience. The results include 20 sound journeys and a video, aiming to foster relationships between art, science, technology, and nature from the experience of the place (Figure 5).

Figure 5. Exploring the riparian area: an experience of connectivity with the landscape. Source: (Roberti) 2023.

Beyond the ephemeral or immaterial dimension of the interventions and the direct learning outcomes arising from these experiences, namely from an artistic and natural point of view as described further ahead, there is another relevant reflection to highlight. It is about recognizing that the process of executing these interventions by the students is, to a large extent, a reflection of their perspective on how to enrich Minante's public space. This reflects the autonomy and authorship freedom the students were given to imprint their own interpretation of this area. The interventions were therefore a means to an end, as they were designed to assist the process of reflecting on how to act and enrich a common and natural space connected with the local cultures of water.

This feature was also especially consistent with the interventions' objective of engaging local youth through their schools—encouraging them to familiarise themselves with the territory they inhabit, while recognising the Neiva River and the Minante site as both a border between two municipalities and a place that remains distant to most of them in their daily lives. It then also served the purpose of providing a space for this younger generation's social and cultural appropriation of what is a significant heritage site for an older generation. In such a perspective, the engagement of these students was also a way to meet the aspirations and expectations of the area's ageing population.

Further reflections arise from the direct contact with the teachers. In the interviews, all five teachers highlighted the positive impact they felt the Minante interventions had for themselves and the involved students. Whether they knew the space personally prior to the interventions or not, a very positive connection to the location emerged from the interventions. One of the teachers highlighted especially how surprised she was that several of her (around 13-year-old) students at first reacted with fear of nature upon arrival on the space—they did not want to sit on the grass for fear of bugs, for example—but this did not last long, and once they lost this fear, they could create a much closer relationship with the place. This showed

the teacher also the lack of a role for nature in the students' lives—despite living in a relatively rural area—and how much such school outings can mean. Another teacher works a lot with children who frequently miss class and have a difficult relationship with the local culture (including, but not limited to, migrant students), but felt that especially for these students it can be key to have these moments of not only coming to spaces of important local culture and nature but also to be allowed and even invited to make a visible contribution to it.

In terms of the process, all teachers mentioned the importance of the weather for the impact the space had on the students. The ones who experienced sunny weather were marvelling immediately at the space; the ones who experienced rainy weather could go less frequently than they had hoped, and some students were disappointed. A few of the students also preferred to go by rain rather than not at all, and the rainy weather also seemed to have its own charm in the space (Figure 6).

Comments were made about the difficulty of aligning the very tight small schedules of projects such as Minante with the schedules of schools, which often have to plan everything with lots of time in advance, and have added pressure of planning the next activities already as they are carrying out the current ones. Transportation logistics were another challenge noted, as well as, of course, a limited budget limiting the capacity to use certain materials, etc. One teacher noted:

> It was very different and much more attractive (although not easier) compared to most works carried out in an "internal" context [of the school]. The idea of starting a project in the context of Minante immediately brought added value in the planning and reorganisation of the work: the context of the natural environment as the focus of the approach to creative activities, on top of the surprising and positive way in which the students felt the place, enhanced a more interesting motivating energy for

Figure 6. Rain at the Minante during a field trip. Source: Roberti (2023).

> carrying out various activities starting from collections and records. (Translation from Portuguese by the authors; applies to all subsequent quotes from the project)

Two school groups decided to think of non-physical or very small interventions that would emphasise the human as part of a wider ecosystem and one that should not be destroyed, but should be seen as part of the self and cared for. They emphasised the sustainability aspect the project could teach the students. A similar thought process inspired the students with more visually invasive proposals, where the idea was to call the special attention of passers-by to the importance of nature and protecting it (see Figures 5 and 7). For most of the teachers, this was not the first time working with various other actors and in relation to projects, but it was the first or one of the rare occasions during which they were compelled to take the students outside the classroom for activities involving nature and a connection to the outside world. The teachers all highlighted this as a positive aspect and one they considered to have been very valuable for their students. As one teacher put it emphatically: "The best school is one that is lived, experienced in practice, outside the classroom, in a real context."

The survey revealed that many of the students were inclined to value the way the place looks currently, not wanting to make too many physical changes to them, or only relatively small ones (Figure 7). Furthermore, nearly all the students and teachers indeed reported a change in their perception of the space during their participation (Figure 8). For the youngest group, their own intervention was what impressed them most—they noticed some trash lying around during their first visit, and their intervention was of an artistically-shaped trash bin that was meant to resolve this—these students' answers in the survey very much highlighted their sense of pride and focus on this theme. Other students frequently highlighted noticing nature, varieties of plants, etc. One student wrote: "It allowed me to better understand the environmental heritage and the importance of the space in the context of the community, and the high historical and sentimental value in collective memory." Another wrote that they now realized that trees have many more roots than they previously thought, and yet another wrote:

> Because I did not anticipate that the Minante project would be realized in this way, I thought it would be just painting, and we did do that, but beyond that, there was much play, joy, and much merriment. At the start, I thought it would be a bit boring to spend all afternoon painting, but I was wrong, I loved this project, and hope to have more during my life.

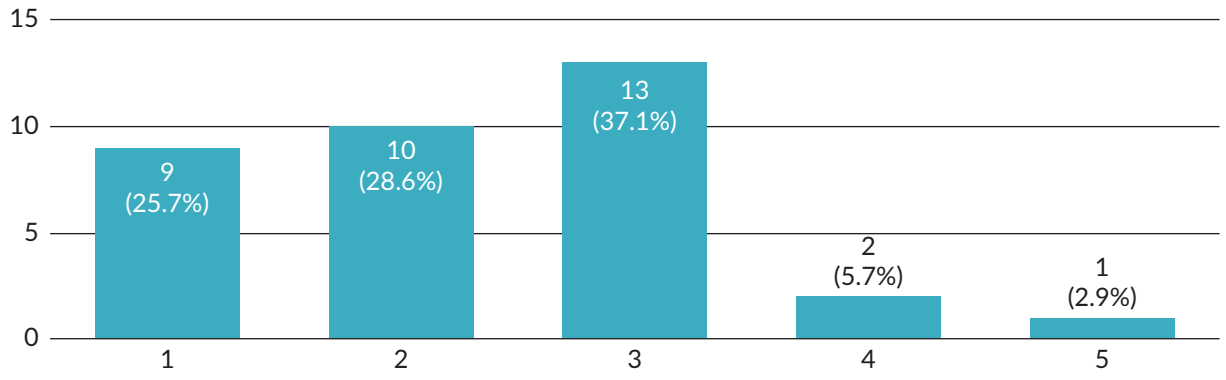

Figure 7. Graph indicating survey responses to the question "Should the future of the Minante [area] look different from what it looks like now? (independently of what the school did)." Note: 1 = *is not at all* and 5 = *is a lot*.

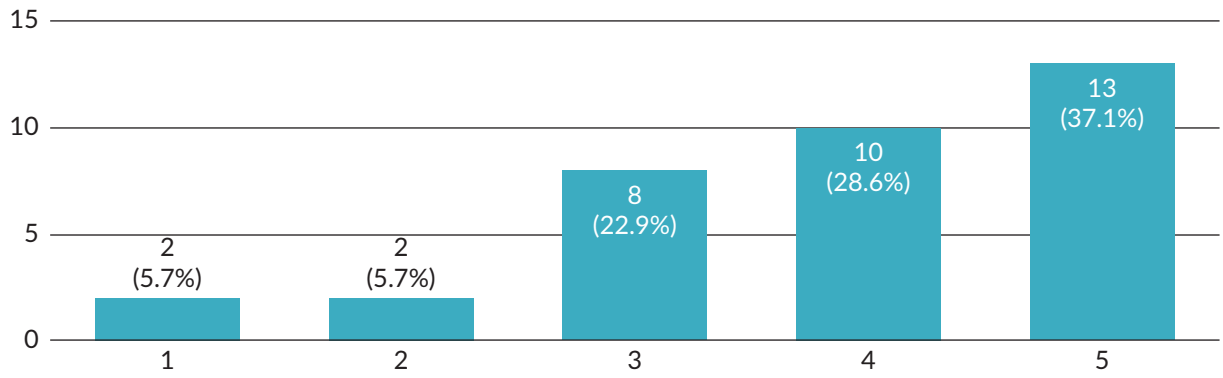

Figure 8. Graph indicating survey responses to the question "Did the participation in the Minante project change your perception of the public space of the Minante [area]?" Note: 1 = *is not at all* and 5 = *is a lot*.

4.2. Lab.CA Workshop Education and Territory: The Future of Heritage Flows Towards the Ocean

The workshop results were structured based on the themes that emerged during discussions between the researchers, the project team, and, above all, the school teachers (see Figure 9, for an example of some of the post-its shared). The emerging themes are discussed in detail below. The aim was to reflect on the Minante project and use this to establish a series of good practices and hopes for future projects, particularly involving the region's coastline.

The first theme corresponds to adequate and timely preparation—involving different partners and territorial agents before starting the implementation phase of a project. The teachers considered it fundamental to actively involve the entire school community in the preparation and planning of the project; to start planning projects early enough to ensure proper implementation; to keep in mind the schools' calendars and the complexity of the students' calendars; to consider the time needed to deepen knowledge and promote the satisfaction of both students and teachers; and to plan the continuity of the project from its preparation, taking into account the role of various actors to this end, after the funding period.

Still, within the preparation theme, teachers highlighted the *preparation* directly related to the execution of the project, taking into account the outdoor fieldwork, outside the school premises. Here, the indications were to anticipate potential challenges, such as weather conditions and transport logistics, and plan with openness to rethink and readjust the methodologies and final results compatible with the experience and ensure the active participation of the students and their immersion in the experience, taking into account the individual characteristics of each class and each student.

The second theme discussed the need for various collaborations and partnerships, where it was emphasised that it is essential, within schools, to promote collaborative projects between different classes, age groups, and schools to enrich the experience and strengthen community ties. Beyond schools, it highlighted the need to establish partnerships with local institutions and other stakeholders to ensure the continuity and visibility of the project and greater valorisation of the initiatives in a larger context, for sustainable development on a large scale. To that end, organising events and activities that involve the whole community, promotes intergenerational interaction and a sense of belonging.

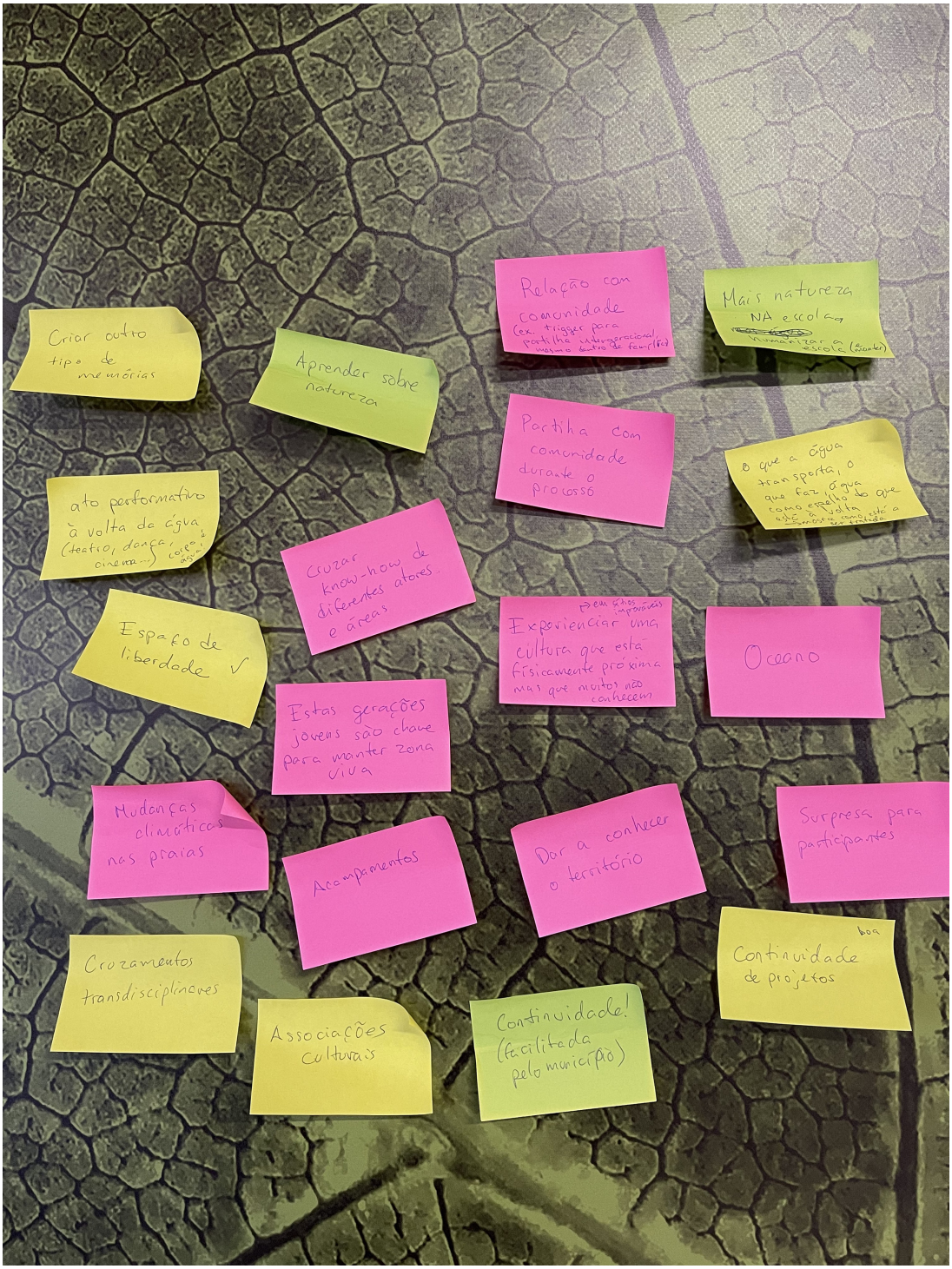

Figure 9. Some results from the Lab.CA workshop's post-it exercise. Note: Transcription and translation of the depicted themes: "Creating another kind of memories," "learning about nature," "relationship with community," "more nature in school. Humanising the school," "performative acts around water (theatre, dance, cinema, etc.)," "crossing know-how of different actors and areas," "sharing with the community during the process," "what water transports, what makes the water a mirror of its surroundings," "space of freedom," "these young generations are key to keep the place alive," "experiencing a culture that is physically close but many don't know," "ocean," "climate change on the beaches," "camping," "allowing to get to know the territory," "surprise for participants," "transdisciplinary crossing," "cultural associations," "continuity (facilitated by the municipality)," and "continuity of projects." Source: Roberti (2024).

A third theme was good sustainable practices, where the teachers emphasised the importance of exploiting resources present in nature itself or inspired by it; exploring, for example, the audiovisual experience, such as video and sound, photography, and illustration, to convey the experience of fieldwork through the creation of artistic interpretations and narratives. Prioritising the use of materials that already exist in schools, biodegradable, recycled, and reused, was also an aspect discussed to promote sustainability and environmental awareness.

The post-its written and exchanged between teachers and team throughout the Lab.CA were systematised into wordclouds so that it was possible to comprehensively visualise the most referenced themes and those with the greatest impact on the discussions. In this sense, especially in the wordcloud referring to future projects (Figures 10a and 10b), it is possible to see a strong emphasis on the words: community, water, ocean, sharing, and continuity. These words essentially portray the positive points of the previous project—the desire to continue with the theme of the oceans jointly and collaboratively.

Figure 10. Wordclouds from the terms used on post-its referring to desired future projects.

5. Conclusion

One of the terms used by one of the teachers involved in both cases presented in this article, who wishes to include arts and engagement with nature and life-long learning in school philosophies and curricula, was the idea of "humanising schools." A key message of this article is to demonstrate that to do this, it is important to go beyond physical walls. Contact with nature—in this case more specifically along the river and the ocean—culture, and local heritage contribute to a broader and deeper sense of belonging and training not just as students, but as citizens, capable of recognising the challenges of the present and actively contributing to the future. This path can bring many benefits for education and the future of valuing the territory and the tangible and intangible heritage surrounding schools (Fauville, 2019; Gough, 2017; von Schönfeld et al., 2023). Yet, it also brings challenges. Creating projects involving different territorial agents can be an asset on this path, contributing to a collective and plural construction of education and more sustainable and inclusive local communities.

The projects presented have reinforced the local diagnosis that, although the place where the schools are located has historically had a close connection with the sea and the riverside areas, today the younger generations are more distant from these practices, from enjoying them and reflecting on the future of these ecosystems. In this sense, artistic practices appear as one (of many) possibilities for bringing the public closer to these issues and future experiences in a free but pedagogically oriented way.

This trend aligns with major public initiatives such as the New European Bauhaus, emphasising the importance of nurturing a creative and interdisciplinary movement based on the triad of sustainability, inclusion, and beauty. The UN Sustainable Development Goals are also strongly connected with these concerns and trends. Goals such as "quality education," "sustainable cities and communities," and "partnerships for the goals" demonstrate this alignment. Regarding the latter goal, and in line with the themes addressed in this thematic issue, it is important to highlight the transdisciplinary dialogues within and beyond artistic research, which can help emphasize research on cultures of water, promoting its relevance and social and political impact. It is in this sense, the two projects presented—Minante and the Lab.CA workshop—brought together school teachers from a semi-rural region in the north of Portugal, an environmental association, and universities. This joint effort demonstrates the urgency and importance of working together to address urgent issues of the present and future in the context of cultures of water.

The concept of cultures of water has been developed by the authors over the years as a way of exploring a comprehensive universe. It involves a diachronic study of coastal and riverside areas, based on environmental concerns and an appreciation of human relations with the oceans, seas, rivers, and their ecosystems. It is in this sense that the projects mentioned feed into these studies in a dialectical way.

For the schools involved in the Minante project to look to the future and to create projects on the seaside, based on their experience of the river banks, the teachers emphasised that having clear transdisciplinary objectives and stressing the importance of nature as a source of learning and creation is essential. We can conclude that taking this step forward means contributing to the valorisation and humanising of the school, as well as the integration of nature into the educational environment, promoting the development of meaningful memories and the knowledge and appreciation of local heritage, to establish lasting impacts that go beyond a specific initiative or project or even the school cycle.

Acknowledgments

The authors thank all the schools, staff, teachers, and students involved in the projects referenced in this article.

Funding

This study was supported by EIT Cross-KIC New European Bauhaus and was also carried out as part of the activities of the Education and Societal Challenges research group and is funded by FCT—Foundation for Science and Technology, under the project UIDB/04059/2020 (https://doi.org/10.54499/UIDB/04059/2020). The contribution by Kim von Schönfeld to this article was supported by the European Union's MSCA-PF 101062953 grant, Mobile Worlds: Empowering Third Cultures for Sustainable and Inclusive Mobility.

Conflict of Interests

The authors declare no conflict of interests.

Data Availability

Some details about all the artistic interventions mentioned in this article can be found on the project website: https://rioneiva.com/minante. The photographic exhibition of the Minante Project in pdf form can be found here: https://rioneiva.com/wp-content/uploads/2024/02/Minante_PhotoExhibition.pdf.

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Ocean and Society
2025 • Volume 2 • Article 11099
https://doi.org/10.17645/oas.11099

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ARTICLE

Open Access Journal

Komuna Maro: Artistic Research as Collective Knowledge Production in a Capitalocene Seascape

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Submitted: 4 August 2025 **Accepted:** 30 October 2025 **Published:** 17 December 2025

Issue: This article is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

The notion of the ocean as a pristine expanse, untouched by human culture and technology, no longer reflects present reality. In what historian and geographer Jason W. Moore terms the Capitalocene, both human and non-human inhabitants of marine and coastal regions are deeply embedded in multi-scalar metabolic processes intrinsic to the capitalist mode of socio-ecological (re)production. Despite the urgency of transforming these planetary circuits, comprehensive and transcultural forms of oceanic knowledge remain scarce, hindered by language barriers and disciplinary divides. Weaving through the story of Komuna Maro, an arts-based research project focused on networks of marine communities, technologies, and infrastructures in the northern Adriatic, the article explores possibilities for overcoming these gaps by engaging with the following questions: How can we conceive of the ocean as a material lifeworld without overlooking the political and economic realities that interact with and leave traces in the depths of oceanic matter? What epistemological framework might establish a logical connection between the brutal exploitation of workers in maritime economies and the devastation of non-human marine life, without resorting to a generalized critique of "Western modernity," which offers limited analytical tools for understanding the maritime dimension of global capitalism? How can we generate and share genuinely popular, critical, transdisciplinary, and transcultural forms of knowledge that call for a (re)invention of an "emancipatory oceanic internationalism," rather than a retreat into localized and fragmented vernacular knowledge systems? Finally, what is—or could be—the role of artistic research in addressing these questions?

Keywords

artistic research; Capitalocene; collective knowledge production; critical ocean studies; experimental geography; investigative aesthetics; maritime capitalism; northern Adriatic; oceanic internationalism; urbanisation of the sea

1. Introduction

This article offers an insight into the artistic research project Komuna Maro, which began in October 2023 at the Institute for Contemporary Art at Graz University of Technology and was transferred, in April 2024, to the Institute of Architecture and Design at TU Wien, where it will continue until the project's completion in September 2027. Focusing on the networks of marine communities, technologies, and infrastructures in the northern Adriatic, Komuna Maro (meaning "common sea" in Esperanto) aims to uncover hidden power structures within the maritime economy, create new "cartographies," and propose alternative narratives for the region.

While the article maintains a close connection to the above-mentioned research project, its principal aim is neither to outline the project's objectives nor to present its interim results. Owing to the arts-based nature of the research, these results only partially take verbal form and cannot be adequately translated into an academic paper. Instead, they are presented, and in some cases have already been presented, through traveling exhibitions, participatory actions and interventions on sailing boats and public docks, open "laboratories" and workshops, non-academic publications, podcasts, web applications, and other non-scientific formats. Rather than functioning as a project report, the text offers a reflexive, meta-level perspective on the research, critically engaging with key tendencies within the emerging fields of the "blue humanities" and ocean-related artistic practice. It identifies the conceptual foundations of these tendencies and assesses their potentials and merits, while also revealing their limitations and proposing alternatives, thereby delineating the particular position that Komuna Maro occupies within the field of related artistic practices.

The status of the project within the text is twofold. On the one hand, it is used as an example to demonstrate how the theoretical positions developed in the argument translate into concrete research practice. On the other hand, the specific socio-ecological context with which the project engages independently shapes the lens through which broader conceptual and methodological questions are approached. Making these reciprocal connections explicit establishes a dynamic movement—akin to circular ocean currents—that creates a continuous exchange between practice and theory, moving beyond a one-directional relationship between "theoretical foundations" and "empirical applications."

Accordingly, the argument does not follow the usual structure of an academic paper—progressing from hypothesis to proof to conclusion. Instead, it moves between a tangible description of the project and an engagement with abstract theoretical questions encountered along the irregular coasts of an interdisciplinary, transcultural, collective, and open-ended research practice. The first of these questions concerns how we might conceive of the ocean as a deeply material lifeworld without overlooking the political and economic realities that interact with and leave traces in the depths of oceanic matter. A further question asks what kind of epistemological framework could logically connect the exploitation of maritime labor with the destruction of non-human marine life, without resorting to generalized critiques of "Western modernity" that offer limited analytical tools for understanding the maritime dimension of global capitalism. Furthermore, the article explores how we might produce and share truly popular, critical, transdisciplinary, and transcultural forms of knowledge that call for the (re)invention of an "emancipatory oceanic internationalism," rather than a retreat into localized and fragmented vernacular knowledge systems. Finally, it reflects on the role that artistic research plays—or could play—in addressing these questions.

In the next section, I describe the emerging area of study in which Komuna Maro is situated, briefly outlining the development of "critical ocean studies," highlighting key publications and tendencies within the field, and relating them to contemporary artistic practices engaging with the ocean. This is followed by a short overview of the specific features of the northern Adriatic that make this maritime region particularly suitable for studying the complex, multi-scalar entanglements of diverse socio-ecological actors and processes characterizing the "Capitalocene" era (Moore, 2017a, 2017b). After this contextualization, I navigate some of the theoretical debates that have shaped the conceptual foundations of the Komuna Maro project and continue to be renegotiated within our research practice. Building on these theoretical considerations, I then outline Komuna Maro's methodological approach and envisaged presentation formats, while situating the project within the broader question of how artistic research can contribute to producing and sharing new forms of popular knowledge about the sea.

2. Research Context: The Blue Turn

The idea of the sea as an empty expanse that invites contemplative solitude and romantic fantasies does not correspond to the everyday reality of marine spaces. The development of legal mechanisms and technologies for governing, monitoring, traversing, and economically exploiting the oceans has led to an increasing "urbanization" of the marine environment (Couling, 2016). Today's oceans are home to a multitude of interconnected trade, migration, communication, and control networks, as well as infrastructures for raw material extraction, aquaculture, shipping, flood protection, desalination, border surveillance, warfare, and research. Together with the changing marine ecosystems with which they are interwoven, these networks and infrastructures form elements of an emerging planetary "bio-technosphere." The ocean—long imagined within modern, land-centered consciousness as a distant realm at the murky margins of law, culture, architecture, technology, and economics—is becoming both a pioneer and an embodiment of a new planetary condition marked by increasingly manifest interconnections between historical and geological time scales, human and non-human habitats, geopolitical and geochemical processes, technological and "natural" objects, as well as microscopic, anthropological, and astronomic scales.

This new perspective on the ocean and the associated shift in its significance—both in scientific and popular discourse—has led to a renewed, interdisciplinary interest in maritime topics, often referred to as the "blue turn" (Braverman & Johnson, 2020a). The first important publications contributing to the emergence of what is now known as "critical ocean studies" (Deloughrey, 2019) examined oceans as social constructs (Steinberg, 2001) or, in dialogue with the scholarly tradition established by Fernand Braudel, viewed oceans as socio-ecological landscapes shaping the history of specific geographical regions (Horden & Purcell, 2000). These groundbreaking texts were followed, since around 2010, by a series of publications rooted in postcolonial and indigenous studies (Ingersoll, 2016), critical infrastructure, design, and architectural studies (Couling & Hein, 2020; Starosielski, 2015; Tavares, 2024), political ecology and human geography (Armstrong, 2022; Steinberg & Peters, 2015), critical legal studies (Braverman & Johnson, 2020b; Braverman, 2022), as well as Marxist (Campling & Colás, 2021), feminist, and neo-materialist approaches (Alaimo, 2025; Helmreich, 2009).

Complementing the blue turn in the humanities and environmental sciences, diverse artistic engagements with the sea have gained prominence, contributing to more inclusive, imaginative, and holistic ways of producing knowledge about the marine world. Allan Sekula's *Fish Story* and his broader engagement with

maritime spaces and economies marked a key turning point, using realist aesthetics to reveal the exploitative practices of globalized maritime capitalism. Sekula's interest in the complex and opaque economic processes taking place in international waters has been further developed in several projects by the interdisciplinary studio CAMP (including the group's 2017 video installation *From Gulf to Gulf to Gulf*) and in Jacob Hurwitz-Goodman and Daniel Keller's film from 2018 on ultra-libertarian seasteading endeavors. Another significant current in sea-related artistic practice—represented by artists such as Robertina Šebjanič, Kerrie O'Leary, Kat Austen, Marco Barotti, and Susanne M. Winterling, among others—has explored the transformative, interspecies entanglements of marine life, probing the intersection of technological and biological processes through interdisciplinary modes of inquiry. These practices challenge entrenched binaries between nature and culture, the bio and technosphere, the living and the non-living, the human and the non-human, and science and art.

A further important area encompasses visual explorations of marine infrastructures and extractive frontiers. In *Prospecting Ocean*, Armin Linke investigated deep-sea mining through legal, technological, and perceptual frameworks (Hessler, 2019), while Trevor Paglen's series of maps and photographs of submarine cables exposed the submerged geographies of digital capitalism. This cartographic impulse was further developed by the Territorial Agency, whose large-scale mapping projects—developed in collaboration with the TBA21-Academy—have visualized emblematic processes and fragile zones of transformation across the world's oceans, combining scientific data with aesthetic and political critique. While Territorial Agency has used modern satellite imaging and cartographic techniques to reveal planetary-scale transformations of the ocean under stress, other artists—including Taloi Havini, Latai Taumoepeau, and Seba Calfuqueo—have interrogated, subverted, or "queered" Western technologies of ocean research and representation, often drawing on indigenous ocean-centered life forms and ancestral rituals.

Although contemporary art's engagement with the ocean has been rich and multifaceted, there appears to be a gap—one that may be difficult to bridge within the conceptual frameworks explicitly or implicitly invoked by many of the aforementioned artistic practices. This gap can be described as a structural absence of projects capable of connecting and jointly articulating the concerns and experiences of the modern, highly internationalized global maritime workforce (rather than those of marginalized local populations or traditional communities) with the problems related to the devastation of oceanic environments. One of the reasons for this absence likely lies in the prevailing combination of new materialist philosophies with postcolonial and indigenous studies that underpins much of contemporary ocean-related art. As I discuss later in the text, none of these discourses offers an adequate framework for an integrated socio-environmental analysis of the complex and interrelated manifestations and effects of global capital that incessantly circulates through and across the world's seas. As a result, many arts-based oceanic experiments and inquiries that aim to connect social and ecological concerns and imaginaries end up substituting artistically articulated, politically grounded analysis with depoliticized moral appeals for "greater empathy with the ocean."

Komuna Maro seeks to address the gap described above. This undertaking has required a profound engagement with the project's theoretical foundations and a continual reworking of its methodological cornerstones, resulting in a distinctive conceptual framework that challenges some of the prevailing assumptions within contemporary sea-related art discourse. A further specificity of the project is that, in order to facilitate an integrative approach focusing on the *interdependencies* among various aspects of

complex marine environments, the research area has been deliberately confined to a relatively small geographic region—the terminal section of the gulf formed by the Adriatic Sea.

3. Northern Adriatic: Charting the Field

While the northern part of the Adriatic Sea has served for centuries as both an element of cohesion and an object of territorial disputes between coastal cities and states, various marine processes and practices have simultaneously interwoven this space with global socio-ecological networks, migration routes, and geostrategic interests. Several factors have contributed to the special characteristics of the marine and coastal zone north of the imaginary line connecting the Kvarner Gulf in the east with the Po Delta in the west.

Firstly, this part of the Adriatic Sea has been the subject of a long series of disputes that continue to this day, resulting from conflicting territorial claims and competing geostrategic aspirations, often involving regional, national, and supranational actors. Today, the northern Adriatic Sea is divided into the territorial waters of Croatia, Slovenia, and Italy, with a section of international waters between them. While tensions between Croatia and Slovenia over the border demarcation in the Bay of Piran persist, the agreement between Italy and Croatia on the declaration of exclusive economic zones, reached in 2020, has added a new component to the complex and layered territorial organization of this maritime area, making it exemplary of contemporary ocean governance. Political tensions are also fueled by the northern Adriatic ports, which, due to their importance for transnational trade networks, have often served and continue to serve as arenas for geopolitical rivalries. Recent manifestations of these tensions, which illustrate the multi-scalar nature and shifting dynamics of the political economy of seaborne trade, include the controversially discussed and ultimately abandoned investments by Chinese port operators in the ports of Rijeka and Trieste (Figure 1). Both ports are embedded in local, national, and regional political-economic dynamics while simultaneously reflecting global geopolitical tensions (Deganutti, 2025; Mohan et al., 2024; Strobel, 2023).

Intensive maritime traffic and related coastal industries, natural gas extraction on Croatian and Italian offshore platforms, the influx of industrial and agricultural wastewater via the Po River, as well as overfishing, microplastics, old fishing nets, and other debris on the seabed all pose a serious threat to the sensitive shallow-water ecosystems of the northern Adriatic. Meanwhile, a series of global ecological disturbances related to climate change, ocean acidification, and possibly other environmental factors—whose origins cannot always be traced to one specific cause or clearly defined location—are also reaching the northern Adriatic. A vivid example of the complex and multifactorial nature of such phenomena is the occurrence of massive mucilage events (Vilibić et al., 2025), whose intangibility, unpredictability, and immeasurability render them characteristic of what Morton (2013) has termed "hyperobjects." A similar case that illustrates the inseparability of economic and ecological marine networks is the uncontrolled spread of so-called "invasive species," many of which—like the Atlantic comb jelly *Mnemiopsis leidyi*—have most likely been introduced into Mediterranean waters via the ballast water of transoceanic ships (Malej et al., 2017).

In addition to non-human marine life, many workers whose livelihoods are tied to and dependent on the sea have also been affected by economic changes and geopolitical shifts that operate on a much larger scale than that of their daily lives. These global processes have shaped migration patterns that directly impact working conditions in local maritime industries. In Monfalcone—home to the largest shipyard owned by the

Figure 1. Construction works at the Zagreb Deep Sea/Rijeka Gateway Terminal, Port of Rijeka, February 2025. Notes: The development of the terminal has been marked by a controversial concession procedure, which resulted in APM Terminals—a subsidiary of the Danish shipping giant Maersk—acquiring the majority stake in terminal operations, following the indirectly enforced withdrawal of a Chinese consortium; Photo by Ana Opalić (Komuna Maro).

Fincantieri Group (currently the biggest European shipbuilding company and one of the few to survive the translocation of the shipbuilding industry to East Asia)—the influx of unskilled foreign workers, which has allowed the industry to keep labor costs low and working conditions appallingly poor, has challenged the structures and operating mechanisms of the traditional trade unions (Panariti, 2024). At the same time, thousands of workers have lost their jobs due to the closure of once-powerful shipyards in Pula and Rijeka. In Koper and Trieste, outsourcing and other forms of port labor precarisation have provoked a wave of large-scale strikes, underscoring the importance of building broad alliances and overcoming cultural and institutional divides to enhance the effectiveness of maritime workers' struggles (Panariti, 2022).

As everywhere on, above, and within the sea, all significant processes and trends that characterize the current socio-ecological realities of the northern Adriatic are mutually intertwined and embedded in multi-scalar relational systems. As such, they require forms of investigation and engagement that transcend the usual boundaries between different languages and national territories, as well as between the humanities and social sciences, research and activism, "subjective" narratives and "objective" information, reflexive analysis and forward-looking speculation. In this sense, Komuna Maro aims to apply and further develop the methods of artistic research in order to explore and rethink the interdependencies between social, biological, and technological aspects of a more-than-human habitat such as the northern Adriatic. In particular, it investigates whether and under what conditions the exploitation, commodification, and destruction of marine and coastal lifeworlds can give rise to new forms of solidarity that transcend not only national and ethnic boundaries, but also those between human and non-human "workers" in maritime economic networks.

4. Theoretical Considerations: Why We Should *Not* Attempt to Land on the Sea

The increased interest in ocean-related topics in scientific and popular discourse has developed alongside—and under the influence of—current debates about the concept of the "planetary," which has emerged as an alternative to the concept of the "global" in the context of impending climate change (Chakrabarty, 2021; Danowski & Viveiros de Castro, 2016; Latour, 2018; Likavčan, 2019). In these debates, the idea of the global and the historical practice of globalization are criticized for reducing the planet to a smooth surface across which resources, people, capital, and information can move fluidly and at increasing speed from one point to another. In contrast, the concept of the planetary takes into account the three-dimensionality and complexity of the Earth, understood as a holistic and fragile system of intertwined social, biological, and geochemical processes. Since this cross-scale interconnection of all being is the essential characteristic of the fluid medium par excellence—and is particularly pronounced in marine spaces—the concept of the planetary constitutes an important conceptual pillar for the Komuna Maro project. However, because this term is interpreted in different and sometimes contradictory ways in the humanities and earth system sciences, a precise positioning within the relevant debates has practical consequences for the orientation of the project.

In the context of contemporary art, Bruno Latour has been a particularly influential figure in promoting the concept of the planetary. In some of his theoretical writings and in the major curatorial project *Critical Zones* (2020), he called for a renewed "landing on Earth" (Latour, 2018; Latour & Weibel, 2020). This appeal refers to a departure from "modernizing" and globalizing abstractions toward earthbound ways of living, thinking, and researching. Latour is careful not to slip into a conservative revival of "ethnos:" on the contrary, the very fact that the environmental crisis and accelerating climate change are turning all of us into a kind of migrant (as we "feel the ground slip away beneath our feet") could serve, in Latour's view, as an opportunity to strengthen trans-ethnic forms of solidarity (Latour, 2018, pp. 14–16). However, there are aspects of this position that I would like to question and counter with alternatives that appear more suitable as a conceptual framework for investigating the ocean as a planetary lifeworld. Indeed, Latour's call to return "down to Earth" and the role played by other land-related metaphorical expressions (such as "earthbound," "terrans," "Gaia-centric," etc.) in his central argument suggest that his position might still represent a land-centric version of the concept of the planetary—challenged by authors such as Steinberg (2001) and other key figures in the field of critical ocean studies (Braverman & Johnson, 2020b; Braverman, 2022; Deloughrey, 2019).

One potentially problematic consequence of Latour's approach concerns the fact that rootedness in specific environments, which is linked to "earthboundedness" and acknowledged by Latour (2018, pp. 16–21) as an expression of the basic human need for safety, has commonly been used as a justification for land ownership (which Latour has never explicitly rejected). Even though he explicitly differentiates between "localists" and "terrans," and interprets the former category (with which he associates reactionary nationalism and other forms of territorial exclusionism) as the flip side rather than a viable alternative to globalization (Latour, 2018, pp. 22–27), his conceptual apparatus still seems to disadvantage those who—due to forced and often repeated displacement—never had the chance to develop "situated" and "grounded" worldviews.

Related to this conceptual framing, which implicitly privileges "grounded" over nomadic forms of life, is Latour's (2018, pp. 15–16) thesis that for most inhabitants of the First World, "landlessness" is a relatively new experience, and that, unlike indigenous peoples whose lands were taken by colonizers, most First World citizens still confront landlessness primarily on a symbolic level, as a result of general destabilization brought

about by climate change and environmental degradation. This thesis is problematic from a historiographical point of view, as it overlooks the massive land grabs that occurred during the formation of capitalist social relations in most European countries between the 16th and 19th centuries, in the context of so-called "primitive accumulation." This omission prevents Latour from recognizing landlessness as a defining feature of the global proletariat—a feature that, in the Marxist sense, could serve as the basis for worldwide solidarity among the dispossessed in their struggle against the ravages of capitalism. In contrast to Latour's framing, such a claim could not as easily slide into a conservative demand for a renewed "earthbound environmentalism" based on place-based rootedness.

Unlike Latour, philosopher Likavčan (2019, para. 6.11–6.15) connects the concept of the planetary with Gayatri Chakravorty Spivak's notion of the "defamiliarization of home" as a result of increasing forced migration. Following Spivak, Likavčan sees in this defamiliarization an emancipatory potential—one that could transform us from owners of the land into "custodians of the planet." Those who live by and with the sea know what this means: the emotional connection to the ocean knows no locality, no boundaries, and no ownership. One could say that the sea is an "unhomely home:" it is too vast, too fluid, too complex, and too unpredictable for us ever to land on it firmly or permanently. At sea, we are always just guests—always in passing, always on the move (save for the anarcho-capitalist fantasy of seasteading). This, however, does not preclude us from developing a strong and durable emotional attachment to the ocean. In other words, one can love the ocean without being grounded in any one specific maritime location. This is not merely a sentimental assertion or an abstract philosophical idea, but an argument with real political implications: if we want to develop a form of environmentalism that can genuinely attract and include the displaced and the "landless," the ocean might offer a more appropriate conceptual framing than the earth.

Latour's appreciation of "earthboundedness" is also linked to his criticism of modernization (and the consequent globalization) and those who drive it forward—"modernizers" (or "globalizers"). Unlike Marx's concept of social classes, however, Latour's concept of modernizers is not based on structural relationships: what distinguishes modernizers from their opponents seems to lie largely in a mere difference of opinion, or in a vague notion of "elites" as the primary beneficiaries of modernization. The only social group that can actually be thought of as a structurally anchored opposition to modernizers—that is, a group whose concrete life conditions and experiences are clearly distinct from those associated with modernization—are indigenous peoples. Although Latour himself does not draw this conclusion, the association between "earthboundedness" and indigenous lifeworlds has been explicitly made by other scholars—for example, in their influential book *The Ends of the World*, de Castro and Danowski (2016) build on Latour's notion of the planetary and his concept of "terrans," relating these concepts directly to indigenous ontologies and ways of life, in which the authors identify viable alternatives to the universalizing abstractions of the Western knowledge system.

It would be unreasonable to deny that the current revaluation of "indigenous" forms of knowledge—especially within critiques of globalization—has provided important intellectual support for numerous struggles to preserve threatened habitats and resist extractive practices by large multinational corporations, including in diverse maritime environments. This includes contested regions such as the Arctic and the deep ocean, as exemplified by controversial deep-sea mining projects. As noted in Section 2 of this article, this revaluation has also inspired a prolific wave of sea-related artistic research and practice centered on indigenous experiences and promoting indigenous knowledge systems as alternatives to what is increasingly understood as Western "extractivism."

However, while the foregrounding of indigenous lifeworlds in contemporary sea-related art has undeniable merits, it also presents serious limitations and problematic implications. First, the concept of the indigenous lends itself even more readily than that of the nation to essentialist interpretations: who can legitimately claim indigenous status, and who cannot? Who was the first to inhabit a land, a coast, or an island, and who came later? Although the notion of "strategic essentialism" was originally introduced and promoted by Spivak to describe the temporary and deliberate adoption of a shared group identity by marginalized peoples in order to achieve political or social goals, its application poses considerable challenges and reveals the general shortcomings of identity-based politics—shortcomings identified by several critics of postcolonial theory and subaltern studies associated with Spivak's work (Chibber, 2013; Parry, 2004). In the first place, it is difficult to determine when essentialism is truly "strategic"—and therefore justifiable—and when it is not. In addition to the dangers of essentializing and idealizing indigenous lifeways, another problem inherent to identity-based political strategies is that marginalized groups, in the course of their emancipatory struggles, can become fully integrated into the capitalist economy—a scenario that, in the case of indigenous communities, has often been referred to as "tribal capitalism." How these dynamics manifest in a specific maritime context has been insightfully analyzed by De Alessi (2012) in a study of Māori fishing in New Zealand.

A further problem that arises from relying on indigenous traditions as a foundation for ocean-related activist and artistic practices is epistemological in nature. If the economic, institutional, and technological apparatuses of maritime globalization are to be replaced with something more inclusive, just, and sustainable at a planetary scale, we will need to create a shared critical knowledge about how these apparatuses actually function, as well as a comprehensive collective vision of what should come in their place and how. It is unrealistic to expect that indigenous knowledge systems, which are commonly rooted in very specific local conditions, could on their own provide the basis for such an overarching international project.

Finally, the concept of the "indigenous" is of limited use in contexts where modern ways of life became established relatively early and across the board—for example, in global shipping, which has long been regarded as the embodiment of a modern and international workforce. Even though the exploitation of seafarers on transoceanic ships has historically been highly racialized (Campling & Colás, 2021)—often precluding the formation of broad and truly transcultural alliances in maritime labor struggles—important steps have nevertheless been made, and significant victories achieved in this area (Fink, 2011). The preconditions for these achievements included a shared vocabulary of workers' rights and the creation of modern institutions to promote them. Furthermore, a generalized critique of modernization and the related privileging of "indigenous ways of life" also seems problematic in regions where the introduction of modern industrial production and lifestyles was the result of collective efforts to break free from traditional forms of domination and exploitation. This applies, among other places, to the karstic regions along the eastern Adriatic coast, where the self-organized partisan struggle during World War II was also a struggle to build a modern and secular state.

To summarize, the current focus on indigenous knowledge systems and ways of life in critical ocean studies, as well as in sea-related artistic research and practice, is grounded in a conceptual framework that cannot adequately integrate the emancipatory, anti-capitalist, anti-colonial, and anti-racist varieties of modernity, which have been essential in many maritime contexts. Nor can it serve as a sufficient foundation for the creation of new collective and transcultural forms of knowledge capable of connecting and channeling multiple struggles for more livable, inclusive, just, and sustainable marine environments.

Returning to Latour, there is one more aspect of his notion of the planetary that requires elaboration: his endorsement of the Gaia hypothesis. Originating in the scientific work of Lynn Margulis and James Lovelock, the Gaia hypothesis posits that the planet should be viewed as a living organism—that is, as a dynamic, organic whole (Latour, 2017). This approach, which is often interpreted in ways that carry esoteric or spiritual undertones, has served as a foundation for deep ecology and as a point of departure for general critiques of "Western technology," which—within this conceptual framework—is seen as a series of abstract mechanisms of domination. However, this kind of critique generally fails to acknowledge that without a global network of "intelligent machines" for collecting and processing environmental data, it would not be possible to rigorously substantiate the conceptualization of the planet as a self-organizing system, to formulate robust theories of anthropogenic climate change, or to recognize the complex interrelationships structuring the ecological and geochemical processes of the global ocean system. In this context, media philosopher Bratton (2019) has formulated his own provocative version of the term "terraforming," countering the technology-pessimistic interpretations of the Gaia hypothesis with a vision of deliberate and critically informed planetary infrastructure policy. Both Bratton and Likavčan understand the planetary technological network not as something separate from the "natural" biosphere, but rather as an integral part of evolutionary development—a form of decentralized intelligence that links technical devices with humans, animals, plants, microorganisms, continental plates, and the world's oceans (Bratton, 2019; Likavčan, 2019, para. 6.21–6.27).

Even though Bratton and Likavčan show little interest in the relationship between power and technology, their approach does not necessarily lead to a denial or trivialization of the concrete relations of power and domination that have been established through specific technologies—and are still being maintained, reproduced, or expanded today. A careful analysis of these relationships is essential if we are to build the pacifist and planet-serving infrastructure policy that Bratton promotes. For example, it would be not only misguided from a historiographical perspective but also dangerously naive to ignore that many key technologies used in modern oceanography originated in the military-industrial complex of the Cold War (Oreskes & Krige, 2014; Squire, 2021), or that their current development and deployment are largely driven by private corporations competing for global accumulation (Blasiak et al., 2018; Childs, 2022). To bring about sustainable social change in this context, we must combine critical analysis with collective efforts aimed at alternative development and the emancipatory repurposing of modern technologies (Srnicek & Williams, 2015). This is as true for the increasingly technologized ocean spaces as it is for the land.

The idea that technological progress should be seen as embedded in historically and geographically specific and dynamic power relations—rather than as a plain expression of a generalized "domination of nature by humans"—also implies questioning the concept of the Anthropocene, which has rapidly spread from geochronological debates into broader scientific and popular discourses. The term implies that humans *as a species* are responsible for recent changes in the Earth's geochemical properties, and thus for the environmental crisis and climate change. While most proponents of the planetary concept, including Latour and postcolonial theorist Chakrabarty (2021), adopt this view, it has been challenged by several scholars, notably historian and human geographer Moore (Moore, 2017a, 2017b). As a counter-concept, Moore introduced the term Capitalocene, which locates the causes of recent environmental transformations not in "anthropos"—humanity as a whole—but in the global socio-ecological conditions specific to capitalism. One of Moore's key theses is that the "production of cheap nature"—i.e., the systematic devaluation of everything considered outside exclusionary defined human society—is not an undesirable side effect but a structural

necessity of the capitalist economic system. This perspective enables us to view the domination and exploitation of workers, slaves, women, and non-human life forms as part of the same systemic mechanisms specific to capitalism. From this, in turn, a new concept of more-than-human solidarity can be derived, one that builds a stronger bridge between the previously loosely connected environmental and labor struggles—without falling into technological pessimism, esoteric worldviews, the privileging of "earthbound" over migratory lifeways, or the idealization of indigenous knowledge and traditions. The ocean—due to its remoteness, which enables both extreme habitat destruction and intense labor exploitation—requires the development and consolidation of these new forms of solidarity more than any other place.

These considerations bring us to the final question of this brief surf through the convoluted currents of contemporary philosophical elaborations of the planetary and their implications for ocean-related critical research: What is—or could be—the genuine contribution of arts-based research methods to the production of popular, transdisciplinary, and transcultural forms of oceanic knowledge capable of sustaining a durable alignment between maritime labor struggles and environmental movements? My tentative answer to this question—and one that resonates with our research practice in the framework of the Komuna Maro project—is that artistic forms of inquiry, owing to their capacity to embrace contingency (Borgdorff, 2012), are better suited to explore types of connections and relationships that *matter* (in the sense that they participate in shaping oceanic lifeworlds) but are not of causal nature, are too complex to be assessed by established scientific methods, are not yet well understood, and/or cannot be described by verbal, numerical, or graphic means used in conventional academic output formats. To illustrate this, we might think of a transoceanic cargo ship as a microcosm in which multiple and diverse lifeforms and lifeworlds converge and intertwine—along with the metabolic circuits of the global economy in which they are all entangled in one way or another: from algae and other sessile organisms attached to the hull, to small pelagic fauna transported via ballast water, to marine mammals and birds following ships over long distances, to members of mostly international crews stratified by rank and cultural background, to various types of occasional passengers, including researchers, inspectors, trainees, refugees, or stowaways. Engaging with such complex Capitalocene entanglements is a meaningful and timely research task, but no single scientific discipline would engage with it, given the contingent and heterogeneous nature of the relationships involved and the resulting impossibility of reducing the inquiry to any one specific research question. To be sure, artistic researchers alone could not accomplish the task either; they would have to engage other disciplines, from marine biology to occupational sociology, political economy, and anthropology. However, arts-based research has the unique capacity to initiate, coordinate, and channel transdisciplinary collaboration in such convoluted maritime contexts, precisely because of its radically open nature and lack of disciplinary confines.

A further advantage of artistic inquiry in engaging with complex oceanic entanglements lies in its potential for citizen inclusion—both in research processes and outcome presentations. While the development of "citizen science" has made scientific practice more inclusive, the participation of "non-experts" typically remains limited to tasks predetermined by researchers, because of the codified nature of methodologies in most scientific disciplines. The standard output formats—academic publications and conferences—are even more restrictive, and attempts to make research accessible to broader publics often result only in science mediation, where non-scientists appear as passive audiences for simplified versions of research findings. By contrast, arts-based research, owing to its open and experimental character in both method and presentation, offers a broader scope for genuine public engagement. However, given that contemporary art is itself highly institutionalized, implicitly codified, and made inaccessible to many through various symbolic mechanisms of

exclusion, overcoming these barriers requires conscious and careful research design, a sustained effort to collectivize research practice, and a decisive move away from studios, galleries, and festivals as primary venues for presentation. Instead, beaches, estuaries, lagoons, docks, ships, and offshore installations should be claimed as new spaces of collective research in which knowledge is co-produced and co-presented.

This claim also points to a specific privilege of artistic engagement and a potential strategic choice available to artists working in contexts shaped by exploitation, discrimination, human-rights violations, irresponsible depletion of natural resources, and other unsustainable or unjust practices. In such contexts, many artists have strategically invoked the notion of "artistic freedom," which in many countries is anchored in fundamental legal frameworks and/or widely accepted cultural norms. This enables artists to engage in various forms of critical inquiry and subversive acts that, if carried out within conventional scientific or activist frameworks, might be perceived as dangerous or even declared illegal—but when disguised as art tend to be generally tolerated and considered benign. For artists working at these margins of art and activism, what constitutes an artistic act is precisely the conscious and subversive play with the cultural and legal norms that define the social role of the "fine arts," in order to pursue radical political aims. The ocean—a space where extreme levels of exploitation and neglect converge with legal difficulties in addressing these injustices due to complex and often ineffective jurisdictions—has also been a site where such entanglements between artistic research, activist intervention, and political advocacy have proven particularly abundant and productive. This tradition—represented in the northern Adriatic by art and cultural organisations such as Ocean Space (Venice), Drugo More (Rijeka), and Pina (Koper)—forms the basis of the artistic strategy adopted within the Komuna Maro project.

5. Komuna Maro: Creating, Exploring, and Exhibiting a Common Sea

Figure 2. Komuna Maro expert advisor for international economics, Katja Kalkschmied, principal investigator Ana Jeinić, and artistic director Ana Dana Beroš during field research in the Port of Venice, May 2024. Note: Photo by Ana Opalić (Komuna Maro).

The core features of the conceptual and methodological approach of the Komuna Maro project are closely tied to the considerations outlined in the previous section. The first of these is the decision to embark on an ambitious project of "experimental cartography" of the northern Adriatic—one in which different spatial scales, degrees of abstraction, and modes of perception, representation, and technological mediation are combined and juxtaposed in a radical and continuously evolving manner.

In line with Moore's framing of the Capitalocene, human and non-human actors are understood as entangled in power relations shaped by multi-scalar circuits of capital accumulation. The infrastructures and technologies explored through fieldwork (e.g., ports, shipyards, pipelines, offshore platforms, surveillance systems, etc.) or employed in the research process itself (e.g., geoinformation systems) are viewed as integrated systems requiring critical scrutiny, sustainable transformation, and radical democratization. This position is reflected in a specific stance on knowledge production: rather than opposing "vernacular" and "modern" forms of knowing, Komuna Maro seeks to connect multiple knowledge systems, democratize the research process, repurpose available analytical tools and technologies for emancipatory aims, and create accessible collective archives. This is realized, for example, through the crowdsourcing of online maps or the use of satellite data to visualize otherwise invisible power structures within the maritime economy.

Methodologically, the project integrates experimental and crowdsourced cartography, visual ethnography, art photography and videography, performative and discursive formats of knowledge production, communication design, and web-based art. In addition to the project team and invited artists, the research process involves a wide range of participants—fishers, port and ship workers, logistics professionals, activists, local politicians, journalists, marine biologists, planners, recreational sailors, and others—whose knowledge and everyday practices are tied to the sea. These collaborators participate from the outset as informants, advisors, and co-researchers. The ultimate goal is to produce a multifaceted, transnational, multilingual, accessible, and open-ended "critical atlas" of the northern Adriatic.

Following the previously outlined arguments, the political territories and economic networks investigated in the project are understood as intersecting and intertwining with the living spaces and trajectories of human and non-human inhabitants of the sea and coastal zones. These include the everyday routes of recreational sailors and fishers; visible and invisible barriers and thresholds that limit access to specific places for specific actors; shifting migration routes of birds, fish, and other marine organisms; probable pathways of the introduction of invasive alien species; shrinking biotopes of endangered macroalgae; and the spread of phytoplankton blooms. It is precisely these connections and dependencies that form the core focus of the research. To enable an understanding of the vast and multifaceted entanglement between the circulation of capital and the trajectories of life, large elements of maritime infrastructure—ports, LNG terminals, offshore gas platforms, carbon capture and storage facilities, underwater pipeline landing stations, shipyards, salt pans, and aquaculture sites—are conceived as nodes where different types of networks, scales, and spatialities overlap and interact. These facilities, in turn, function as anchor points and structuring elements within the research process.

An understanding of the intertwining of political structures and economic processes, often operating at broader spatial scales, with the human and non-human lifeworlds of the northern Adriatic is enabled not only by integrating what is commonly regarded as the domain of the social sciences with areas of inquiry traditionally associated with the natural sciences, but also by combining different registers and viewpoints,

thereby producing a complex and multilayered outcome. Specifically, the project engages three symbolic "levels of perception," corresponding to distinct dimensions of ocean-related research: the "atmospheric," the "littoral," and the "submarine." Throughout the research process, these three levels are continuously interwoven and reconfigured, allowing for unexpected associations and a multiplicity of perspectives.

The first level (atmospheric) involves cartographic research in the narrow sense, employing representational forms based on the collection and processing of geo-referenced data (Figures 3 and 7). This includes the creation of layered maps that capture rarely visualized conditions and interdependencies, for example, correlations between fish stock depletion, ownership structures, and labor conditions in the fishing industry, or between major shipping routes and the probable trajectories of invasive species introduced to new marine habitats via ballast water (Figure 7). These maps often combine the (re)processing and integration of existing geo-referenced datasets—originally produced by other institutions or researchers—with extensive, partially crowd-sourced geo-tracking activities carried out or coordinated by the research team. They are intentionally based on standardized cartographic projections and open-source digital mapping technologies to maximize legibility across a wide range of social groups. This approach aligns with the theoretical considerations outlined in the previous section: as the project's title suggests, its principal aim is to use art as a device for creating—within a politically heterogeneous and multilingual region—a *common* language and framework for action, rather than relying on vernacular epistemologies rooted in the traditions of any specific community. However, beyond serving as visual tools for constructing shared knowledge, the maps also function as devices for visually indexing and structuring the subjective experiences of both researchers and participating citizens—for example, through geo-referenced field recordings or entries in the research

Figure 3. Mediterranean Sea, mass concentration of chlorophyll-a in seawater on 20 June 2024. Notes: The map is related to the occurrence of an extreme mucilage event in the early summer of 2024, observed in Sveta Katarina Bay near the Port of Koper; map design: Federica Pessotto and Lucia Rebolino (Komuna Maro). Source: Copernicus Marine Service (2024).

diary—thus forming a collective archive of personal encounters with the sea. In fulfilling this dual function, the maps embody one of the central aspirations of the project: to connect generalizable knowledge with personal experiences, science with art, and politics with poetics—while carefully avoiding any attempt to dissolve these oppositions or reduce one side to the other.

The second level (littoral) centers on "unmediated" human perception. Investigated through ethnographic methods—such as fieldnotes (Figure 4), photography (Figures 1, 2, and 5), video and audio recordings, and interviews incorporating photo elicitation—this level reveals the intersections between global politics and local lifeworlds, showing how the lives and practices of human and non-human inhabitants of the northern Adriatic are shaped by, and respond to, broader environmental and geopolitical processes.

The final level (submarine) concerns the investigation of submerged, microscopic, or sedimented environments that are often hidden or inaccessible (Figures 6 and 8). These spaces are simultaneously material manifestations of global maritime politics and dynamic arenas where new and complex marine interactions emerge. This level of inquiry involves close collaboration with marine biologists and oceanographers and combines underwater photography and audio recording with the sampling of physical sediments and biological material. By incorporating these local material traces and submerged actors—embedded within interrelated circuits of capital and matter on a planetary scale—the project enables an integrated examination of the social (political and economic) and material (chemical and biological) processes that shape the contemporary ocean, as well as the macro and micro-scales at which these processes operate simultaneously.

The research diary, transformed into multilingual essays—each dedicated to a specific site in or along the northern Adriatic coast—serves to connect and structure the research archive, which consists of visual and physical materials produced across all three levels of inquiry (Figure 4). Written by members of the research

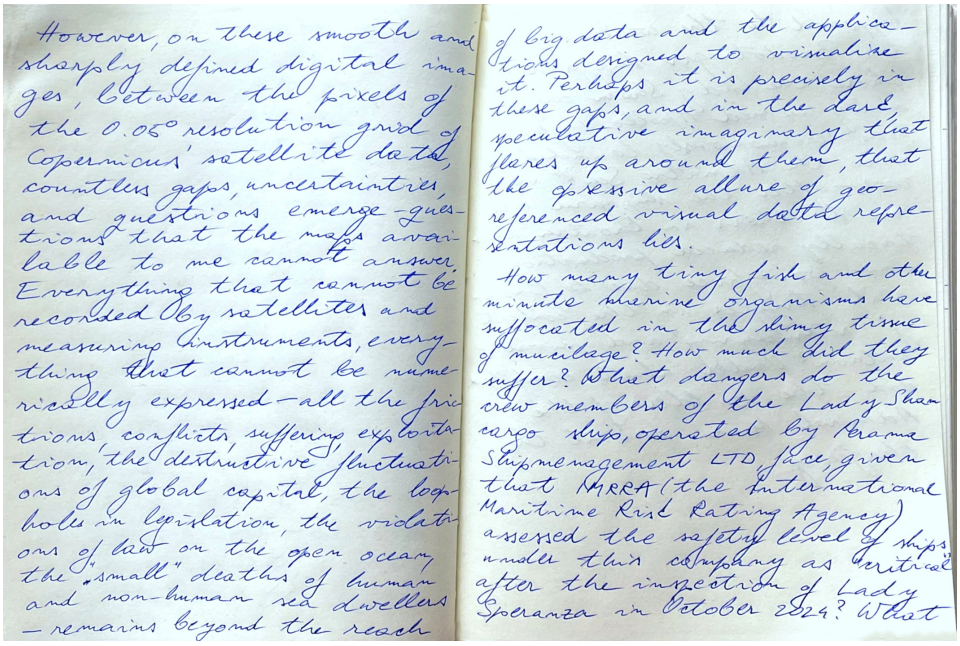

Figure 4. Excerpt from the research diary. Notes: The entry weaves together maps, photographs, and biological samples related to a specific moment and location (20 June 2024, Sveta Katarina Bay); photo by Ana Jeinić.

team, these essays incorporate knowledge and insights shared by numerous interview partners and advisors, who are acknowledged as co-creators of the content. While the formats in which the research is presented are diverse, two principal modalities stand out: open-ended analogue archives in the form of large-scale, waterproof "nautical pilot books" ("portolani"), and an interactive, partially crowdsourced web platform.

Figure 5. Bathers at Sv. Katarina Bay near the Port of Koper, Slovenia, enveloped in mucilage under a horizonless sky obscured by Saharan dust. Notes: Ships in the background, from left to right: Paresa (IMO 9008134), Aspasia Luck (IMO 9223485), Admiral Moon (IMO 9437220), and Lady Sham (IMO 9171383), 20 June 2024; photo by Ana Opalić (Komuna Maro).

Figure 6. Macro patterns of mucilage, Sv. Katarina Bay, 20 June 2024. Note: Photo by Ana Opalić (Komuna Maro).

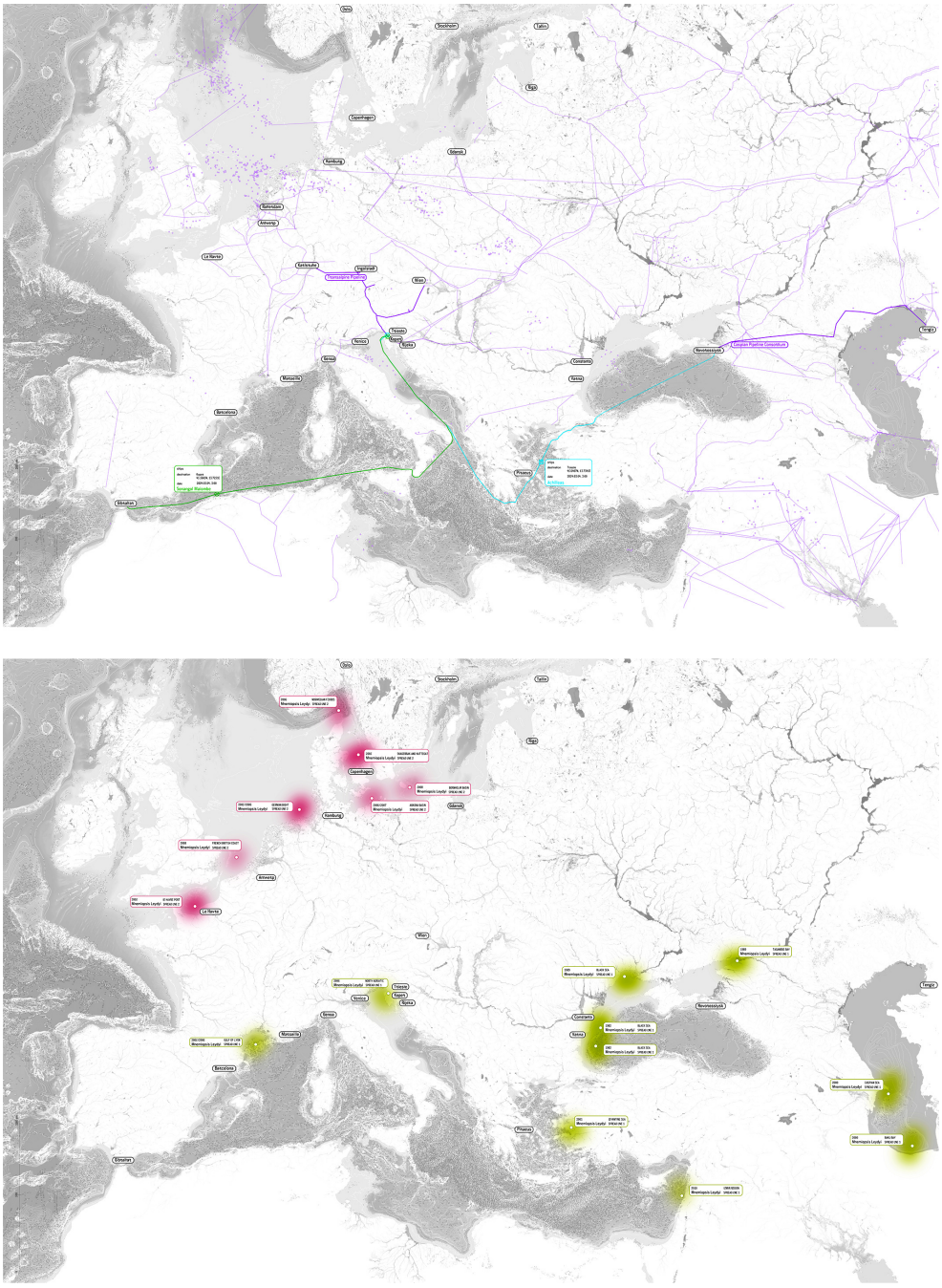

Figure 7. Two layers of a composite map related to the oil terminal at the Port of Trieste. Notes: Upper map/layer shows the trajectories of the crude oil tankers Sonangol Maiombe (IMO 9766322) and Achilleas (IMO 9458494) prior to their arrival in Trieste. Thick purple lines indicate the probable trajectories of crude oil before loading and after unloading from the two tankers. The background shows oil infrastructure, including extraction sites and pipelines; lower map/layer shows the probable trajectories of the spread of the invasive comb jelly *Mnemiopsis leidyi*, thought to have been introduced to European seas from the western Atlantic via ballast water from cargo ships. Yellow circles indicate one probable route of spread, and purple circles indicate another; maps developed and designed by Federica Pessotto & Lucia Rebolino (Komuna Maro). Sources: Ship trajectories (upper map/layer) from VesselFinder (n.d.); Oil infrastructure (upper map/layer) from Global Energy Monitor (2025); Data on Mnemiopsis records (lower map/layer) from Malej et al. (2017); Background data (both maps/layers) from EMODnet (2024), HydroRIVERS (Lehner & Grill, 2013) and HydroLAKES (Messager et al., 2016).

Figure 8. *Mnemiopsis leidyi* in the Gulf of Trieste, August 2025. Note: Photo by Matija Kralj Štefanić (Komuna Maro).

Field research is divided into two phases, each culminating in an "exhibitionary expedition"—a hybrid event combining a research journey, open laboratory, and traveling exhibition aboard a sailing vessel (Figure 9). These interim presentations take place on docks along the Adriatic coast, where parts of the emerging "atlas" are displayed in the form of the aforementioned pilot books (Figure 10). The performative nature of these journeys is a central aspect of the exhibition concept: the fact that the materials on display are transported by members of the research team on a small sailing boat from one port to the next—across the territorial waters of Croatia, Slovenia, and Italy—creates an organic connection between the subject, practice, and presentation of the research. While estimated dates and times of pop-up exhibitions in different coastal towns are announced in advance, dependence on winds and waves entails a certain degree of unpredictability and synchronizes the rhythm of these events to that of the sea, further reinforcing the connection between the content and the form in which the project is carried out and presented.

The dissolution of strict boundaries between research practice and public presentation, which reflects the open-ended character of the project, is made possible by the dual function of the sailing journeys. These voyages serve both to transport material collected during earlier phases of fieldwork and to gather new material to be added to the research archive and future iterations of the exhibition. Specific data, such as GPS logs and sea surface temperatures—collected using DIY devices installed by multimedia artist Mihael Giba—as well as photographs and audio recordings from the vessel, are transmitted in real time via a web app (www.komuna-maro.com) whose background changes according to the current color of the sea surface. These transmissions translate into the boat's route and an expedition diary on an interactive map, linking the personal experience of sailing with a visual archive of the sea.

In the final year of the project, following the completion of fieldwork, the web app will be developed into a comprehensive digital platform containing maps, texts, photographs, and other digital artifacts generated

throughout the research process. These elements will be layered, interconnected, and partially open to future contributions through crowdsourcing. A series of public workshops is planned to accompany the platform's launch, offering both critical context and technical guidance to encourage active participation in the ongoing expansion of the digital archive. Through these practices, Komuna Maro aims to contribute to the emergence of a "common sea," both as a concept and as a lived reality: a sea no longer defined by domination and exploitation, but reimagined through collective exploration and care.

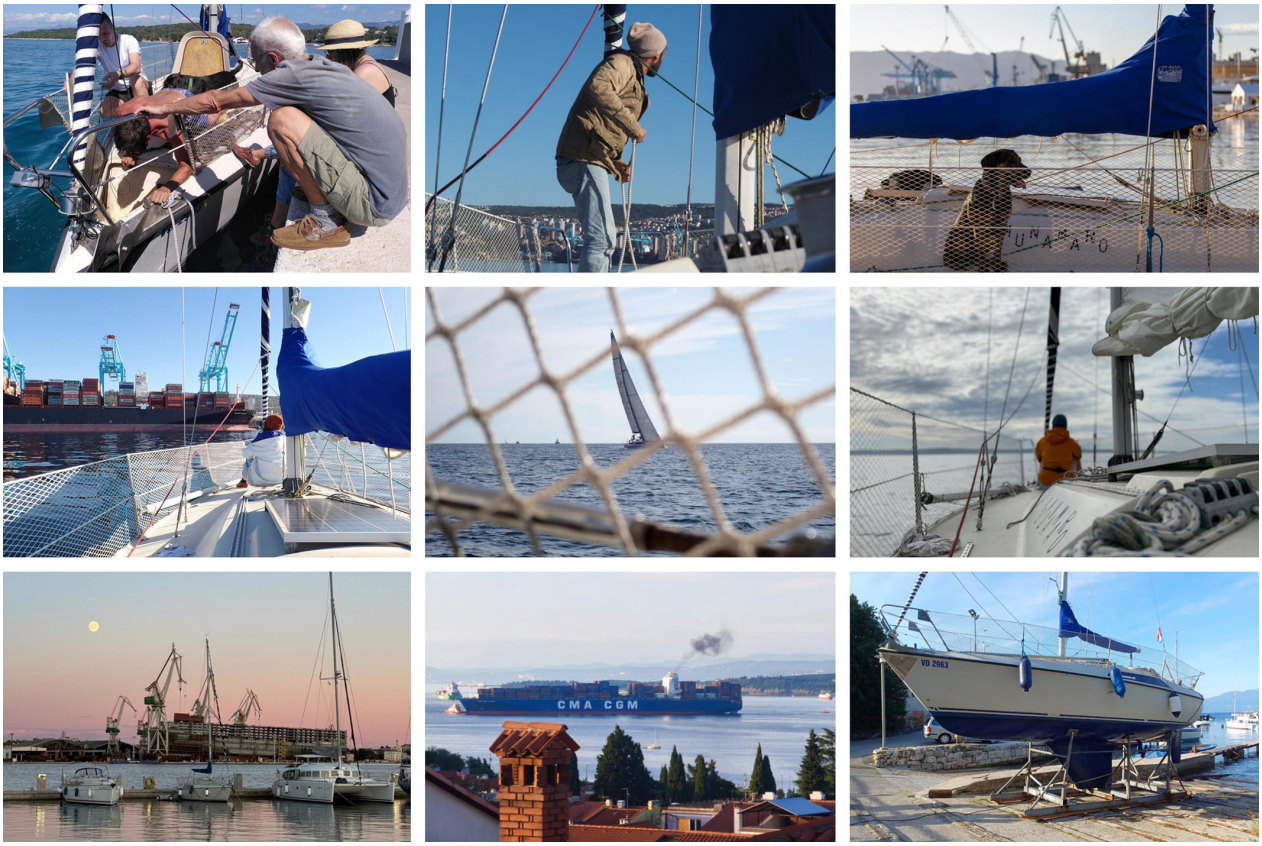

Figure 9. Photos from the visual diary of *Exhibitionary Expedition 1*, September 2025. Notes: The first photo (upper left) shows multimedia artist Mihael Giba, exhibition captain and photo/video artist Matija Kralj Štefanić, photographer Slobodan Kovač, and Komuna Maro researcher and artistic director Ana Dana Beroš installing DIY equipment for collecting and transmitting basic oceanographic data during the journey; photos by Matija Kralj Štefanić, Ana Dana Beroš, and Ana Jeinić (Komuna Maro).

6. Conclusion

This article has discussed some foundational concepts that continue to inspire critical ocean studies and ocean-related art, using the arts-based research project Komuna Maro both as a starting point for theoretical reflection and as an example of a research practice that embodies the positions and strategies outlined in the theoretical discussion. Beginning with a critical analysis of the notion of the "planetary" in the work of Latour and his call to "land back on Earth," the theoretical argument proceeded by questioning idealized approaches to indigenous practices and vernacular knowledge systems in contemporary art. It concluded by proposing alternative concepts and strategies for arts-based ocean research, such as Moore's notion of the Capitalocene; a more nuanced, analytical investigation of the infrastructural, technological, and political

realities that shape the contemporary ocean; and an an argument for what may be termed "emancipatory oceanic internationalism" as an alternative to networks and movements grounded solely in local traditions, spiritual beliefs, or essentialized identity categories.

The examination of the core concepts and the proposal of alternatives was then followed by a discussion of the specific potential of arts-based ocean research to generate the kinds of knowledge required by these alternative approaches, namely, critical, transformative, and collective forms of knowledge capable of conceptualizing the entanglements of capital and matter, global politics and local lifeworlds, and the exploitation of human labor and devastation of non-human life across the oceans of the Capitalocene. I identified three main features of arts-based research that create this potential: its capacity to investigate significant but non-causal relationships; its inclusive character; and its subversive power, grounded in the notion of artistic freedom. Finally, I presented the Komuna Maro project, bringing the theoretical considerations back into the context of concrete research practice, with which these ideas are closely interwoven.

While the critique of concepts associated with certain strands of new materialism, postcolonial studies, and indigenous studies is not new per se, I hope that by articulating this critique from a specifically maritime perspective and situating it within contemporary ocean-related art and humanities, I have contributed new insights to an expanding field of research and practice. The same applies to the concept of the Capitalocene and the other theoretical arguments discussed here: the main contribution I aim to make lies in connecting these debates to specific oceanic concerns and in envisioning a form of arts-based ocean research that can meaningfully contribute to the investigation—and, hopefully, radical transformation—of the Capitalocene ocean. Finally, I have sought to demonstrate what such a form of research practice might look like in the specific geographical context of the northern Adriatic.

Figure 10. Pop-up exhibition in Rijeka within the framework of *Exhibitionary Expedition 1*. Note: Photo by Matija Kralj Štefanić (Komuna Maro).

Acknowledgments

Komuna Maro is a collective research endeavor, and the work of many colleagues, collaborators, advisors, and informants has contributed to the content presented and discussed in this article. Given the limits of this brief acknowledgments section, I can name only a few whose contributions have been particularly crucial: Ana Dana Beroš (artistic director and chief curator of the Komuna Maro project), Ana Opalić (director of photography), Lucia Rebolino and Federica Pessotto (responsible for geo-spatial analysis and cartographic work), Matija Kralj Štefanić (captain of the first Exhibitionary Expedition and co-photographer), Mihael Giba (developer of the website and digital artwork associated with the first Exhibitionary Expedition), as well as Milica Tomić, Wilfried Kuehn, Mauro Sirotnjak, Katja Kalkschmied, Panka Babukova, Silvija Kipson, Nancy Couling, Mihael Vecchiet, Oleg Šuran, Bojan Mrđenović, Inda Balagić, and Slobodan Kovač. I would also like to thank the project's institutional partners: Drugo more (Rijeka), PiNA (Koper), Trieste Contemporanea (Trieste), the Marine Biology Station Piran of the National Institute of Biology (Piran), and Urbani separe (Rijeka). Furthermore, I am grateful to the anonymous reviewers for their constructive comments and to Jayne Popović for proofreading the manuscript.

Funding

Publication of this article in open access was made possible through the institutional membership agreement between TU Wien and Cogitatio Press. The Komuna Maro research project is funded by the Austrian Science Fund (FWF) within the framework of the PEEK Programme for Arts-based Research.

Conflict of Interests

The author declares no conflict of interests.

Data Availability

Information related to Exhibitionary Expedition 1—including the voyage route, photo diary, collected oceanographic data, and photo documentation of the pop-up exhibitions—is currently available on the project's provisional website (www.komuna-maro.com). This website will be expanded as the project develops, and small-format printable versions of the "portolani" books discussed in this article will be added over the course of 2026.

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Ocean and Society
2025 • Volume 2 • Article 10817
https://doi.org/10.17645/oas.10817

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ARTICLE

Open Access Journal

Art After Disaster: Undoing the Negative Community

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Submitted: 17 June 2025 **Accepted:** 3 September 2025 **Published:** 23 October 2025

Issue: This article is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London/TU Wien) and Peter Mörtenböck (Goldsmiths, University of London/TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

This article examines how artistic practices respond to the emergence of a "negative community" after a disaster, where people are bound together by displacement, abandonment, and infrastructural control rather than choice or solidarity. Drawing on fieldwork in coastal Japan following the 2011 earthquake, tsunami, and nuclear accident, this article reflects on how art can resist the reduction of catastrophe to either spectacle or state-managed recovery. Through practices of observation, witnessing, and collective engagement, art creates vital spaces of proximity, care, and dissent. In doing so, it unsettles imposed forms of community and opens possibilities for imagining a new social life beyond the structures of ruin and control.

Keywords

art after disaster; art and emergency; artistic response to catastrophe; community arts; disaster aesthetics; ethics of witnessing; negative commons; negative community; post-disaster art; trauma and representation

1. Introduction

A state of emergency has become the norm, not the exception. We live in a world of never-ending crisis, where the boundaries between natural disasters, wars, technical failures, and economic exploitation collapse into one another. Since the late 1990s, a series of large-scale natural disasters has deeply scarred our collective psyche. The 2004 Indian Ocean tsunami claimed over 230,000 lives across Asia. Hurricane Katrina in 2005 exposed the systemic racial and economic injustices of the US, as New Orleans was left to drown. Japan's 2011 Tōhoku earthquake and tsunami triggered the Fukushima nuclear disaster. Superstorm Sandy in 2012 submerged parts of New York City. In 2023, a massive earthquake struck Syria and Türkiye, killing hundreds of thousands and displacing millions. These disasters shattered any lingering sense of security, exposing institutional fragility, the politics of abandonment, and the deep failures of the state apparatus.

Amidst these disasters, the constant flow of traumatic imagery from emergency zones shapes our everyday reality. We are overwhelmed with intimate, first-person accounts. Catastrophes are captured candidly on cell phones and spread almost in real-time. 4K drone footage serves destruction with unsettling clarity. Leaving nothing to imagination, this relentless stream of ultra-high-definition pictures overpowers our senses and traps us in a state of perpetual shock.

Media intellectuals, self-appointed disaster experts, and journalists often amplify their authority by abstracting the victim's experience into ideological or moral frameworks—transforming singular suffering (victim in person) into generalized discourses of victimhood (victim in general), thereby turning lived experience into spectacle (Laruelle, 2015).

In response to this saturation of traumatic imagery and disaster discourses, artists have developed strategies that move beyond media spectacle. Rather than reproducing devastation or speaking for the victim, they often turn to practices of collective care, organization, or testimony, seeking ways to process, reframe, or resist the dominant visual economy of crisis. In this regard, while they cannot provide actual social services, artistic practices have the potential to offer alternative representations, counter-narratives, and new modes of sensing and listening to overlooked histories, as well as imagining alternative futures in the aftermath of catastrophe.

Being from Türkiye, natural disasters hold deep personal significance for me; the 1999 Adapazarı earthquake, near Istanbul, was a profound trauma that shaped both me as an artist and the nation's history. It revealed the structural fragility of a society shaped by decades of speculative urban growth and deep economic inequalities. At the time, the Turkish state's inability to provide reliable infrastructure or coordinated relief created a vacuum that religious groups swiftly occupied. They offered food, shelter, and emotional support, thereby gaining legitimacy through their solidarity in the crisis. When the Erdogan government came to power in 2002, rather than rebuilding public capacity, it deepened this dependency. Pseudo-nonprofits and private contractors became the main vehicles of aid and reconstruction, tying survival to loyalty rather than citizenship rights. What emerged was a new model of governance for the world to come: the social state retreating while neoliberal and neoconservative ideologies consolidated power through networks of privatized care and philanthropy.

This encounter with catastrophe has shaped a focus of my artistic practice since the late 1990s—both as an embodied experience and as a critical lens towards what is often referred to as "disaster capitalism." Through long-term, research-driven projects, I developed responses to devastation with poetic, political, and spatial strategies. Catastrophe remains for me a framework for probing contemporary politics, the entanglement of ecology, infrastructure, labor, gender, and power.

In 2000, in the aftermath of the earthquake, Güven Incirlioğlu and I co-founded xurban_collective, an art collective dedicated to critically engaging with the intersections of urbanism, political geography, and artistic production. One of our early works, as shown in Figure 1, A Catastrophe/On the Outside, Same as Inside (xurban_collective, 2000), was presented in a former bank space transformed into a gallery, examining the collapsing boundaries between physical and virtual spaces. Created at a moment when digital communication technologies were rapidly entangling with global capitalism, the project interrogated how catastrophe was not only experienced on the ground but also mediated and consumed across emerging digital networks. Photographs were installed inside a literal bank vault, and a 3D interactive projection

illuminated a space of financial darkness, transforming the traditional pictorial "window" into a confrontation with socio-political ruins. Since then, xurban_collective (2000–2012) advocated for a collaborative and critical discursive practice beyond institutional and commodified art structures. We approached art as a form of alternative militant knowledge production.

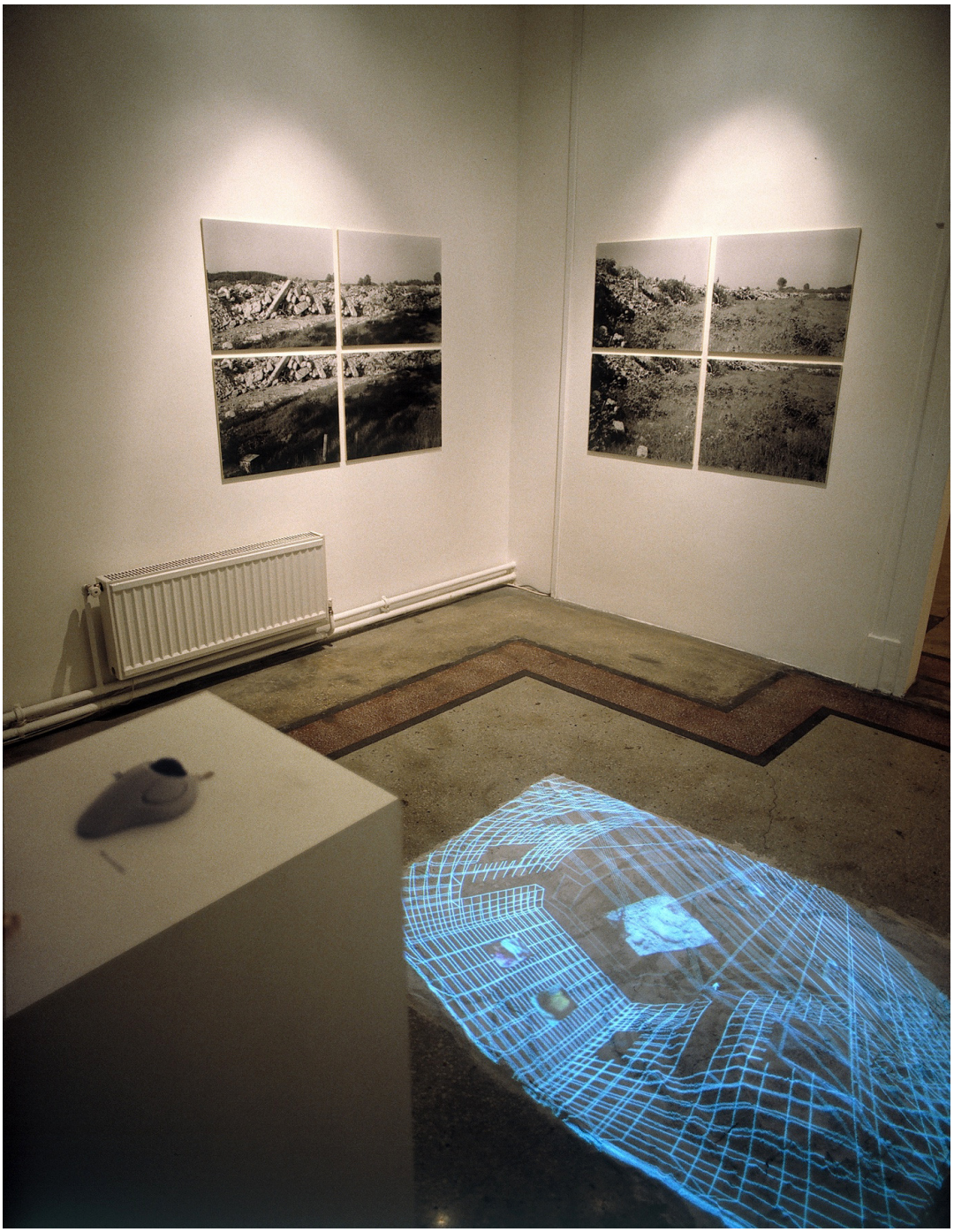

Figure 1. A Catastrophe: On the Outside Same as Inside, by xurban_collective, 2000. Note: Installation, photography, interactive VRML 3D projection on limestone powder, silver gelatin prints, wall text, Sabanci University Kasa Gallery, Istanbul.

2. Catastrophes and the Negative Community

The concept of the negative commons was first introduced by Maria Mies, a German ecofeminist theorist, in her critiques of capitalism, patriarchy, and ecological crisis. Mies shows how capitalism generates shared conditions of exploitation and harm: polluted air, toxic water, exhausted land, precarious labor, and displaced communities. These are "commons" not by collective choice but through coerced exposure. Under regimes of extraction, resources and environments are systematically degraded, and their consequences are collectively inherited (Mies & Benholdt-Thomsen, 2001). She argues that neoliberal development policies dismantle subsistence economies and traditional forms of communal care, replacing them with profit-driven systems, waste regimes, and privatized infrastructures. Within this logic, nature's reproductive capacities—similar to women's bodies—are enclosed and treated as inexhaustible resources for capital accumulation (Mies & Benholdt-Thomsen, 2001).

These shifts sever the reciprocal bonds between communities and their environments. In this broader sense, the negative commons encompass not only the physical remnants of industrial and post-industrial society but also the neoliberal systems that normalize and perpetuate such ruinification. It is a mode of governance—by-design—that produces landscapes marked by desertion and toxicity, deforested territories, depleted mines, and displaced populations (Monnin, 2021).

Negative commons carve deep wounds into the social fabric, out of which new and often coerced forms of community emerge—what we might call negative communities. Unlike traditional communities, which may have formed through shared purpose, religion, identity, association, or a sense of belonging, these communities are forcibly brought together by exposure to disaster, displacement, or genocide. These communities, comprising disaster survivors, war refugees, unhoused individuals, or residents of environmental sacrifice zones, are provided only the bare necessities of survival under imposed conditions dictated by a state apparatus.

Similar to prisons, refugee camps, or inner-city ghettos, negative communities are the by-product of forced proximity and collective precarity. Yes, it is a form of solidarity. Enduring social bonds are formed by the structural violence that determines—often silently and bureaucratically—who is saved, who is left to survive, and who is allowed to flourish. In other words, the state, in its neoliberal and necropolitical modes, no longer acts as a guarantor of the collective well-being of all citizens, but rather as the manager and police of abandonment.

A critique of the negative community is not a call to restore traditional forms of community. In *The Inoperative Community*, Jean-Luc Nancy (1991) offers a piercing critique of the notion of community, especially those that envision it as a return to a lost origin, an organic unity, or a sacred bond grounded in religious or nationalistic ideals. Such a traditional community demands wholeness and often self-sacrifice, where the highest expression of belonging becomes the willingness to be a martyr for the community. Nancy connects this logic to the political imaginaries of nationalism, fascism, and totalitarianism, which mobilize myths of origin and collective destiny to justify settler colonialism, religious fundamentalisms, extreme violence, and exclusionary politics. Nancy rejects the nostalgic fantasy that a unified community once existed and can be restored through projects of redemption, whether through the nation, religion, or even a modernist revolution. These totalizing ideals, he argues, ultimately reduce community to a sovereign entity that demands submission and erases individual voices of dissent.

In this regard, in its traditional, modernist, or neoliberal forms, we need to approach the idea of "community" as a critical category—one that often conceals operations of power and exclusion beneath the language of cohesion, even resilience, and care. Invocations of "community" as archaic social forms serve as ideological cover for the retrenchment of the welfare state and equal rights of its citizens, the outsourcing of public responsibility, and the privatization of survival. For instance, in the US, this logic is evident in the survivalist or "prepper" movement, which organizes around preparation for natural disasters, civil unrest, or economic collapse—above all, in response to the absence of any functioning social state (Ray & Ray, 2024).

In this context, the notion of a negative community brings a necessary contemporary political dimension to the forefront: it names the (libertarian, fundamentalist, and nativist) social formations that emerge in response to catastrophes. These are social networks assembled by crisis, held together by precarity, and managed through extreme policing. At the same time, the economic and bureaucratic systems naturalize negative communities as the cost of progress and revitalization.

Together, negative commons and negative communities reveal how contemporary forms of social life are being reorganized through manufactured everlasting emergencies. The state of under-construction becomes the norm, not to repair or heal, but to extend control. This is how free markets and financialization can penetrate and subsume every aspect of life.

As an alternative, Jean-Luc Nancy's notion of the inoperative community offers a way to reimagine the social after disaster: as a community not grounded in unity, identity, or shared essence, but in being-in-common through mutual exposure, irreducible singularity, individual freedoms, and shared mortality. In his recent work, Pascal Gielen extends this line of thought by rethinking the concept of the cultural commons and trust. He shows how collective trust can revive public institutions and sustain social cohesion. Gielen calls for cultural policies that place community and the commons at their center. He argues for a shift away from competitive (neoliberal) individualism toward collaboration, reciprocity, and mutual care (Gielen, 2025).

In this regard, the artist's role as a "cultural commoner" stands in stark contrast to what François Laruelle critiques as the role of "media intellectuals." These public figures often claim to "speak for" the victim while in fact reinforcing their marginalization. Rather than listening to the victim in their "radical immanence," media intellectuals frame them within narratives of redemption, blame, or geopolitics, turning singular lives into generalizable cases for public discourse or political leverage (Laruelle, 2015).

Art resists media spectacles: it affirms singular voices without reducing them to generalized statistics or moral tropes. Against the backdrop of disaster, art offers a counter-space: one that enables personal expression. Art forms its own community through its shared experience. Artistic practice is about commoning in a shared space of experience. Its gestures hinge on the irreducibility of lived encounter; it generates conditions that resist the logics of representation, media cliché, and generalized victimhood. Art affirms radical human specificity. In this way, it forms a fragile yet vital commons that allows for openness to difference and new possibilities.

3. The Sea, the Ruin, and the Silence

Building on the trajectory of artistic research that I began with xurban_collective (2000–2012), I have developed a body of work that engages directly with the aftermath of war, environmental destruction, and

natural disasters. My doctoral research focused on Hurricane Katrina (2005), investigating how artists responded to the disaster and how their practices intersected with broader political dynamics in post-Katrina New Orleans. Through this project, I explored how artistic interventions can expose systemic failures, challenge dominant narratives, and contribute to collective processes of mourning, resistance, and repair (Topal, 2016). Similarly, Uniform Cut (2015–2017) was developed during my residencies at 3331 Arts Chiyoda (2015) and Tokyo Arts and Space (2017). As part of this work, I traveled to Miyagi Prefecture to observe the slow, uneven recovery in the aftermath of the 2011 Great East Japan Earthquake and tsunami. The project examined how trauma is inscribed, erased, or monumentalized within the landscape of post-disaster Japan. Set against the backdrop of a reconstruction frenzy—intensified by funding tied to the upcoming 2020 Tokyo Olympics—I travelled along the coastlines of Miyagi Prefecture. I observed rebuilding efforts, particularly the construction of seawalls exceeding ten meters high that now overshadow the shoreline.

The project Uniform Cut contemplated ruinification—what is left behind and what kinds of communities are then formed. Within the rigid geometries of engineered cuts on the landscape, the towns felt emptied of life. They were not completely abandoned but suspended in a fragile temporality. By day, these temporary construction zones buzzed with the sounds of heavy machinery. Cranes moved in synchronized tempos; seawalls rose in concrete arcs. At night, a deep silence descended. I stayed in hotels filled with construction workers, their voices barely audible in a quietness with grief and exhaustion, a stillness that bore witness.

Walking the flattened margins of these towns, I encountered a terrain of absences. A negative space. A void. Buildings were gone—houses, schools, and clinics—erased not just by water but by the machinery of rebuilding. In their place were concrete foundations (Figure 2). These remnants were imprints of floor plans, resembling diagrams—two-dimensional ghosts of once-inhabited space—drawing a map of loss across the land.

In Minamisanriku, the skeletal steel frame of the former Disaster Prevention Countermeasures Office stood alone, stripped of its walls and function. It was an emergency command center; it had now been transformed into an impromptu shrine, adorned with flowers, photographs, and offerings (Figure 3). A site of warning had become a site of remembering. Behind it, a newly constructed seawall now obstructed any view of the ocean. The sea, both vital and violent, was cut from the town's sightline—buried behind engineered certainty. Ironically, the warning center, the only structure that saved lives during the disaster, now stood dwarfed, its symbolic power eclipsed by the massive wall. Later, part commemoration, part branding, part land-use strategy, the site was repurposed into the Minamisanriku Earthquake Disaster Memorial Park.

In the aftermath of the 2011 "triple disaster," post-catastrophic landscapes in Japan became fertile ground for neoliberal economic speculation. The state and municipalities were not only competing with one another but also vying for financial resources in the shadow of the upcoming Tokyo 2020 Olympics. Branded as the "recovery Olympics" (*Fukkō Gorin*), the Games served as a national spectacle to reframe trauma as triumph, merging "celebration capitalism" with "disaster capitalism" (Abe, 2024).

400 km long seawalls, rising across the coastline, represented the state's victory over the environment (Urbi, 2021). Fortification reclaimed territory from the sea and manufactured normalcy. A war against nature, fought with victorious narratives and media spectacles, and won. As Abe (2024) points out, this massive redevelopment and its representation were deeply ideological: the state controlled what was visible and

what remained hidden; for instance, the nuclear contamination from Fukushima was systematically downplayed or framed simply as a localized issue.

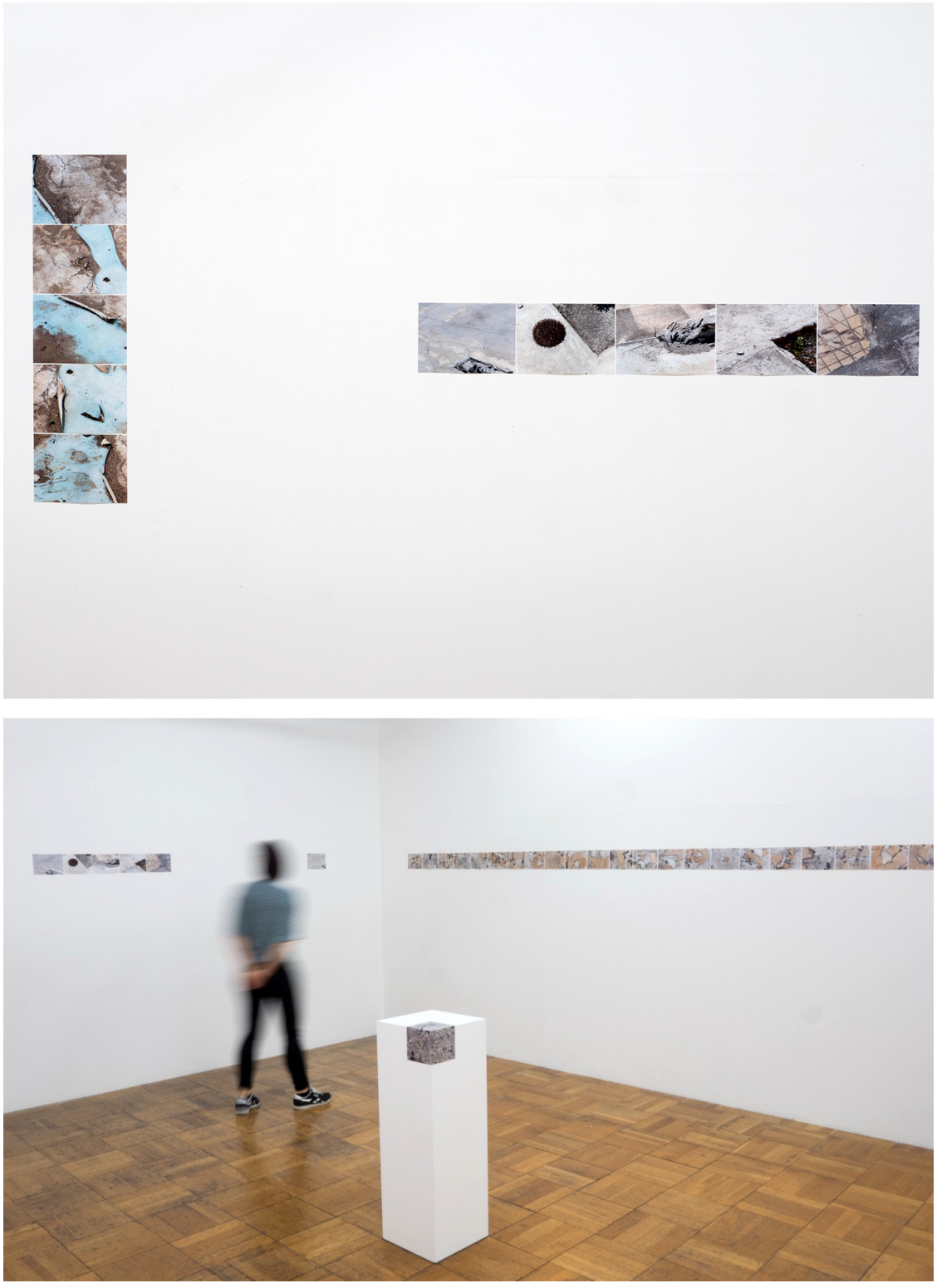

Figure 2. Uniform Cut (2015–2017). Note: Installation shots, C-prints, Multichannel Video, 3331 Arts Chiyoda, Tokyo.

Figure 3. Uniform Cut (2015–2017). Source: Details from 2-channel video.

3.1. Artists on the Disasters

Seascapes have long been a source of inspiration, especially for island communities. For centuries, the sea symbolized the unknown: a realm of myth and mystery, where monsters were said to dwell beyond the edge of navigable maps (Topal & Incirlioglu, 2012). These imagined threats gave form to collective fears and helped knit communities together through shared stories and art. Today, as we sit on the coastline and face the horizon, we are no longer confronting the unknown, but something all too familiar: reinforced concrete. Seawalls stretch for miles, cutting through the ancient coastline. Exclusion zones block access to once-inhabited lands. Radioactive storage fields scar places that have become uninhabitable. These are the new, carefully crafted monsters. Unlike myths, these structures are permanently inscribed. They are barricades to the possibility of any return, as the state has already relocated villages, rice fields, and forests. In their shadow, a different kind of community emerged—a displaced community, a negative community.

In her reflective interview, which I conducted in 2017, Fukushima-based artist Miki Momma articulates a mode of artmaking rooted in survival, resistance, and the persistent re-encounter with a permanently altered landscape (Momma, 2017, interview). The aftermath of the 2011 Tōhoku earthquake and Fukushima nuclear disaster marked a profound rupture in her practice. Having trained in traditional *suibokuga* (ink painting) and calligraphy in Japan and China, Momma initially ceased making art for two years, overwhelmed by the destruction of her art school and the daily recovery efforts led by her family's construction business. She returned to art with an urgent desire to document what was being erased. She began sketching from moving vehicles in restricted zones, rejecting the fixation of photography in favor of the gesture, the trace, and the act of seeing while in motion. Her use of embodied and imprecise painting is almost radioactive—it stands in contrast to the clarity of official narratives:

> At night, when you drive into Fukushima from the Kanto region, you can see the sunset, but as you get closer to the nuclear plant, you notice there are almost no humans. Just for a moment, you might catch a glimpse of vehicle headlights—probably from workers commuting to or from the nuclear plant. They're very faint and hard to capture on camera, especially from the expressway. In some areas without train lines, people get off buses, carry their luggage, and walk home. Since trains no longer operate there, buses are the only mode of public transport. This child [pointing to an image] is the son of a friend. He was born shortly after the disaster. I asked him to wear a GoPro and film his surroundings while walking. He chose his favorite frame from the footage, and I turned that scene into a painting. Seeing through his eyes—so low to the ground—completely changes the perspective. That viewpoint felt really important. (Momma, 2017, interview)

Momma painted bags filled with radioactive soil and landscapes where rail lines had quietly disappeared, from views recorded from a child's GoPro at waist height. These works resist monumentalization. They offer an intimate, partial, and ethical form of witnessing (Figures 4, 5, and 6).

Figure 4. Miki Momma: Temporary buildings of JR Yamashita Station and the town hall (2013).

Figure 5. Miki Momma: Stuff for decontamination on the other side of the wall (2014).

Figure 6. Miki Momma: The dose of radioactivity is being displayed (2015).

In the wake of the unprecedented triple-catastrophe (the 2011 Tōhoku Earthquake, tsunami, and Fukushima nuclear disaster), artists and curators in Japan and abroad mobilized to produce a wide array of exhibitions that confronted the catastrophe's aftermath. Exhibitions such as Don't Follow the Wind, In the Wake: Japanese Photographers Respond to 3.11, A Future for Memory, Catastrophe and the Power of Art, and Compassionate Grounds became crucial platforms for reckoning with the magnitude of loss and systemic failure (Havinga,

2015; Mori Art Museum, n.d.; Nakamura, 2021; Takahashi, n.d.; Waite, 2021; Wakeling, 2021). Artists such as Lieko Shiga, Chim↑Pom, Kyun-Chome, and Hikaru Fujii created works that merged documentary impulse with poetic resistance (Gan, 2024; San Francisco Museum of Modern Art, 2018). These exhibitions refused closure; they were about healing, holding space for mourning, and documenting and protesting.

A profound ethical tension undergirds these projects: How does one represent mass death and displacement without aestheticizing suffering or instrumentalizing grief (Bohr, 2016)? Artists wrestled with the ethics of visibility—what should be shown, and for whom? Don't Follow the Wind brought together 12 commissioned works installed inside the Fukushima exclusion zone. Launched by Chim↑Pom in 2012, the project evolved over three years with guidance from a 14-member committee and curators Kenji Kubota, Eva, Franco Mattes, and Jason H. Waite (Brophy, 2015). Don't Follow the Wind did not open until the site was safe again (McCurry, 2015). Its very inaccessibility became a metaphor for displacement. Finally, as the evacuation order has been lifted in August 2022 (based on the government's decision that the air dose rate is less than 3.8 microsievert per hour, infrastructure has been restored, and consultations with local residents have been held), "more than a decade has passed since the earthquake, and the Don't Follow the Wind venue opened to the public" (Don't Follow the Wind, 2022).

The Catastrophe and the Power of Art (2018) exhibition, organized by Mori Museum in Tokyo, similarly, explored how artists respond to large-scale disasters and personal tragedies by transforming grief into powerful acts of remembrance and hope. Highlighting works from Japan and beyond—especially after the 2011 Tōhoku earthquake—the exhibition reflected on art's unique role in healing, exposing hidden truths, and envisioning possibilities for renewal amid ongoing global crises (Mori Art Museum, n.d.).

Other exhibitions, such as Picturing the Invisible, curated by geographer Makoto Takahashi, adopted a collaborative, dialogic model, pairing photographic works by Japanese and international artists with essays by scholars, activists, and citizen scientists (Takahashi, n.d.). Takahashi's exhibition—which I contributed to at the Heong Gallery edition at Cambridge University, UK—confronted the representational and ethical challenges of narrating the "triple disaster." As Takahashi notes, the show emerged out of a sense of ethical obligation to honor the voices of those affected and to resist the political narrative of "recovery" championed by the Japanese government and symbolically reinforced through events like the Tokyo 2020 "recovery Olympics" (Takahashi, 2024).

Some of these artistic interventions critiqued the Japanese state's failures, including the initial chaos of governmental response, the lack of transparency around the Fukushima meltdown, and the top–down, industrial-scale reconstruction policies. Projects like recorder311, developed by Sendai Mediatheque in 2011, responded to the violent erasure of cultural memory through rapid redevelopment—seawalls that replaced fishing villages, empty grids where towns once stood (The Center for Remembering 3.11, n.d.). Artists highlighted the ecological violence of these measures, questioning who gets to define "recovery." In doing so, they created a space for collective memory, care, and cultural agency.

The disaster, in this sense, did not just capture the imagination of artists—it demanded their intervention. Kyun-Chome is a Tokyo-based artist collective formed in the aftermath of the 2011 Great East Japan Earthquake and Fukushima nuclear disaster (Kyun-Chome, n.d.). Comprised of Eri Honma and Nabuchi, who met at an alternative art school, their practice blends poetic gestures, participatory strategies, and subtle yet

incisive political critique. Working across video, installation, and social engagement, they often collaborate directly with disaster survivors, refugees, and marginalized communities. Kyun-Chome creates quiet interventions that reveal the contradictions of state narratives and the complexities of lived experience in post-disaster Japan, all while maintaining a horizontal, collective ethos that challenges both institutional authority and artistic individualism:

> One project involved elderly evacuees living in temporary housing. We took photos of barricades in Fukushima, then taught the residents to use Photoshop to erase them. It was many of their first time using a computer, and they really enjoyed it. Interestingly, some told us they didn't want to return home—they received government stipends and had grown comfortable with urban life. This contrasted with the media narrative of passive victims….We had to frame the project as a technology workshop, not an art activity. Authorities often don't allow artists into those spaces, fearing they'll exploit the residents. There's a general distrust of artists in those contexts. (Kyun-Chome, 2017, interview)

In Japan, according to Kyun-Chome, politically or disaster-related art faces considerable institutional resistance, with public museums and government funding generally avoiding recent or contentious topics such as Fukushima. As Kyun-Chome notes, a pervasive culture of self-censorship further discourages artists from engaging with sensitive political themes. While collectives such as Chim↑Pom and Chaos Lounge exist, Kyun-Chome (2017, interview) distinguishes itself from other collectives through a horizontal, egalitarian structure and a socially engaged approach that contrasts with the more hierarchical models common in Japan's largely individualistic art world.

In the aftermath of large-scale disasters, artists and collectives have often turned away from the dominant individualist model of authorship in the art world. Following the 1999 Adapazarı earthquake in Türkiye—echoing the Japanese experience—numerous new artist groups emerged. Among them, the all-woman collective Oda Projesi developed a neighborhood-based practice grounded in co-producing projects with residents. Collective production is put forward as a way to rebuild trust, mobilize resources, and cultivate bottom-up responsibility across communities. Two major Istanbul biennial exhibitions at the turn of the millennium unfolded under the weight of disasters. The 1999 edition, curated by Paolo Colombo, opened only weeks after the devastating Adapazarı earthquake in Türkiye, while Yuko Hasegawa's 2001 edition began just 10 days after the attacks on the World Trade Center. In both cases, curatorial projects were refracted through the atmosphere of grief and disruption: openings became civic gatherings, and artworks were received as forms of witness and consolation in a time when infrastructures of daily life felt precarious (Kastner, 2003).

In the context of disasters, working across geographies and cultures has become a crucial mode of artistic practice. Artists create networks of exchange, linking experiences of crisis and translating situated knowledge into broader publics, where it can circulate, resonate, and acquire new political meaning. The trajectory of Japanese artist Manika Nagare exemplifies how such practices travel and transform. Although trained as an oil painter known for abstractions of figures and landscapes, her artistic path was reshaped by her early involvement with earthquake survivors in Türkiye. In 2001, she joined a project initiated by Mr. Nakahama, a Kobe-born businessman and earthquake safety advocate, who organized exhibitions to support victims in the aftermath of the 1999 Adapazari earthquake. Nagare traveled to Türkiye to lead workshops. Her first "sewing" workshop invited participants to bring old fabrics, cut and stitch them

together, and decorate portraits she painted of them. The resulting patchwork collages became acts of collective healing. She later expanded the project into an exchange between Türkiye and Tokyo's Setagaya district, moving fabrics and artworks back and forth to link two communities shaped by seismic oscillations.

This formative experience laid the groundwork for Nagare's response to the 2011 Great East Japan Earthquake. Nagare co-founded Artist for a Day (*Ichigaku*), a nonprofit initiative that organized workshops with displaced children in Tokyo, Yokohama, Miyagi, and Fukushima. These projects favored simple, accessible formats: children painted on tracing paper sheets, which were later woven into translucent patchworks, or produced colorful wallpapers that wrapped the columns and ceilings of temporary and fishermen's Ba houses, designed in collaboration with Miyagi University architects. Such interventions restored color and presence to landscapes otherwise defined by mud, rubble, and displacement, while also offering participants the experience of creating something together (Nagare, 2017, interview).

Her studio work shifted in parallel, informed by the visible line of the tsunami cutting across the land, and Fukushima's "beautiful air you could not breathe." These encounters led her toward immersive landscape installations, such as those at the Sedo Gallery (2015) and the Takamatsu City Museum, where large fabric prints of her paintings were laid across floors and walls, allowing viewers to step into and inhabit the work. For Nagare (2017, interview), these installations carry an ethical force: to remind audiences that we are part of nature and thus bear responsibility for its future. Nagare notes a representational imbalance: while global audiences continue to focus on Fukushima's nuclear disaster, the slower, more embodied struggles of tsunami and earthquake recovery remain harder to translate. It is precisely in these overlooked spaces that collaborative artistic practices reveal their artistic value.

Many of these post-catastrophe processes are shaped by social proximity, trust, dialogue, and shared global conditions of vulnerability. In contrast to the dominant art historical ideals of the isolated, visionary artist, collaboration is advanced as a mode of knowledge production and a form of political engagement. As Kyun-Chome (2017, interview) puts it:

> Our work isn't traditional activism, but it's critical. We try to create space for feeling, participation, and imagination—spaces where things are not resolved, but opened up. We don't offer answers, but we invite people to stay with the questions.

4. Conclusion

In the aftermath of 3.11, Japanese artists confronted cultural clichés—particularly the romanticized notion of Japan's harmonious relationship with nature. While mainstream narratives and state discourse frequently evoke the idea of an enduring national "respect for nature," many contemporary artists challenge this essentialist framing by revealing how such ideals obscure the violence of environmental degradation, industrial contamination, and state-led reconstruction policies. Artists like Miki Momma, Kyun-Chome, and Lieko Shiga refuse to depict nature as serene or redemptive. Instead, their works expose the ways nature has been rendered inaccessible through bureaucratic and infrastructural interventions. Rather than reinforcing myths of resilience or spiritual unity with the environment, these artists emphasize rupture, contradiction, and ambivalence. In doing so, they dismantle simplistic cultural tropes and open space for more nuanced, politically attuned representations of post-disaster life.

Japan's full embrace of the neoliberal logic of disaster capitalism—characterized by rapid, large-scale reconstruction projects, technocratic planning, and an almost militarized approach to infrastructure—reveals a deep desire to assert control over nature. This fast and furious recovery process stands in sharp contrast to the romanticized, touristic image of Japan as a land of harmony, subtlety, and finely attuned gardens. The very landscapes once revered for their organic fluidity are now bounded by massive seawalls, practically destroyed coastlines. This contradiction shapes how disaster is remembered, how space is occupied, and whose futures are made possible.

In the aftermath of disaster, when communities are fractured by abandonment and crisis hardens into infrastructure, artistic practice can offer a vital space for rethinking how we relate to one another. In these conditions, art moves beyond the task of representation—it becomes a form of ethical presence, grounded in proximity, care, and a refusal to reduce suffering to spectacle. Rather than aestheticizing ruin or speaking on behalf of others, art can make space for the unfinished, the unspeakable, and the untranslatable aspects of lived experience.

Art invites us to sit with complexity, to listen without mastering. It creates material, emotional, and imaginative conditions where fragmented lives can be witnessed. When conventional language fails to depict the horrors of catastrophes, it allows alternative modes of seeing, sensing, and remembering.

To undo the negative community, artists often take on the paradoxical task of working for the community while also working against it—for the sake of the community itself. This means challenging the norms, silences, and institutional structures that sustain harm or prevent transformation, even when those are deeply embedded in collective life.

Artistic practice, in this sense, perversely engages the community not by affirming it as it is, but by unsettling it, opening space for reflection, dissent, and renewal. This tension between belonging and critique is where art finds its political force and ethical urgency. Artistic practice, especially when grounded in long-term commitment to the subject matter and situated knowledge, reveals not only what has been broken, but what might still be rebuilt differently, and with others.

Acknowledgments

This work was supported by a Faculty Engagement Grant from Purchase College. I am also grateful to 3331 Arts Chiyoda (2015) and Tokyo Arts and Space (2017) for their generous residency support, which provided time, space, and critical context for the development of this project.

Funding

Funding was provided by the Faculty Engagement Grant from Purchase College.

Conflict of Interests

The author declares no conflict of interests.

Data Availability

Interview audio files are available upon request.

LLMs Disclosure

Portions of this article were edited with the assistance of ChatGPT as a tool for drafting and refining language. The final text reflects my own editorial decisions, perspectives, and accountability. Some research and selected summaries of articles and books were generated with ChatGPT. Interview transcripts were produced using Google's Notebook LM and subsequently formatted with ChatGPT for clarity.

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Ocean and Society
2025 • Volume 2 • Article 11731
https://doi.org/10.17645/oas.11731

COMMENTARY

Open Access Journal

Between Opposite Shores

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Submitted: 4 November 2025 **Accepted:** 10 November 2025 **Published:** 17 December 2025

Issue: This commentary is part of the issue "Seeing Oceans: How Artistic Research Contributes to New Ways of Looking at Ocean Life" edited by Helge Mooshammer (Goldsmiths, University of London / TU Wien) and Peter Mörtenböck (Goldsmiths, University of London / TU Wien), fully open access at https://doi.org/10.17645/oas.i450

Abstract

This commentary is a geopoetic exploration of grief, change, and loss that merges the personal and the planetary to hold space and make room for each other. We use the pronoun "I" in an estranged manner: as simultaneously multiple and only very loosely in the singular. This expanded "I" is in reference to the deep entanglements we are as eco-social beings, beings that are fundamentally "more than one" and that escape linear regimes of logic and temporality. Our experimental spirit is initiated by a visit to Lamu Island in Kenya, a long-term port of call in the Indian Ocean trade network, and is an elegy to a friend, Elleni Centime Zeleke (1972–2024), who was in Lamu with Hameed. It is also an ode to the melancholia felt in a changing, degenerating, warming assemblage of planetary ocean space in which we are all implicated and connected. The artists consider the memorial, its tempos, and interstitials as forces generative for shared and expanded spaces of mourning, love, and trepidation in the wake of *unpayable debts* (Da Silva 2022).

Keywords

climate change; Indian Ocean; Kenya; Lamu; memory and mourning; oceanic acidity; planetary body; poetics

1. Lamu, 19 March 2024, Moderate Rain: +33.8°/+28.8° (Night), 6.3 mph SE; 29.8 inHg, 69%, 6:20 am/6:27 pm

In our contribution to *Ocean and Society*, we propose a poetic-form-as-method to attend to the urgencies of grief that diffract the personal and political (Hanisch, 1970) of our oceanic polycrises. Through non-scalar notions of "planetary bodies" and "the elemental," we approach "planetarity" (Spivak, 2003) as an urgent site of loss, allowing us as academics and artists to make evident that the challenges of our contemporary moment are so dire that they occasionally escape articulation through more traditionally academic regimens of syntax and grammar (Toth, 2020).

Here, we are attempting to perform and process a kind of witnessing and weathering (Sharpe, 2016). There are elements of what we examine that are tangible and comprehensible, but the crux of what they mean to us does not reside in those objects. The objects multiply and fracture into textures. The division between figure and ground is dissolved. We ask: how do I remember? Where the "I" makes inextricable a specifically entangled, multi-scalar planetary body that incorporates molecules, vascular being(s), and atmospheres of various states.

What elements constitute our taking stock, and is there a discreteness that divides them from one another? The metaphor of water is weaker than its materiality. The ocean is both salt and sand, hydrogen and oxygen, toxin and detritus. We stay with its materials. Writing here is a process of abiogenesis. But it is also an act of entering into the ethereal within matter and marking a time and place made more alive by figures who may not be anymore.

These potential ruptures attest to our belief that felt, somatic, and "non-conceptual" modes of address are generative in engaging communities from diverse fields of knowledge. We are all participants who—though unequally—are affected by epigenetic imperial economic driving forces of biodiversity and climate collapse. We therefore consider the potentials of perpendicularity and polyphony at the heart of poetic statements as routes for our "interscalar vehicles" (Hecht, 2018). We experiment with specific but multiple meanings, readings, and proximities that speak to the fuzzy benthic zones of being, where deep entanglements of shared distress (and their instigators), in a world devoid of justice, can meet and amplify. Through this, we hope to offer alternatives through invoking poets such as Glissant (1969) and Moten (2018), who invite us "to consent not to be a single being."

2. Lamu, 21 March 2024, Heavy Rain in Places: +33.8°/+ 28.8° (Night), 7.4 mph SE; 29.8 inHg, 71%, 06:20 am/06:26 pm

Lamu and lament. Sorrow and joy. Tezeta is loss and longing. Lamu is white. The mud holds the merchants' feet. The sedimentation goes deep. The singing. The donkey wrapped in flowers. The hovering of Babylon. Let's keep going! Let's jump into the sea that is rushing to its end in the ocean.

I spent the day looking at your pictures of Lamu. The dhow you said that was going so fast that it felt like you were flying. You are a message in a dream. A bouquet of flowers. Like the phoenix who flies with his father: "And in the immensity of the mechanism in which he is caught, the immense fragility of his own flying…these ceaselessly passing shadows carried backward by the very motion that devours them, his motion, his action" (Carson, 2009). You are your own angel of history in shadows. I want to think with you.

I look at your pictures in Zanzibar: "Low tide madness. The ocean will soon be back and that boat will float" (15 January 2020). The bleached white sand. The boat is adrift without water. Figures in the distance. The green of the sea far away and the heavy blue of rain above. The sand-like bones.

I look inwards to "abiogenesis," the theory that traces how what we call "life" itself originated from so-called "non-living" materials. Eroded silt and bubbled clay have progenitive, proto-cellular, and constellated force (see Figure 1).

Figure 1. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

3. Lamu, 23 March 2024, Thunderstorm With Rain: +33.8°/+30° (Night), 7.8 mph S; 29.7 inHg; 72%, 6:19 am/6:26 pm

a. Acidity rises sharply—unbalancing /
b. Knock-on effects are infinite and / unknowable
c. Ocean sequestering / broken culprit
(Pickard-Whitehead, 2025; see also NOAA, 2019).
d. Saturated military / industrial effluent
e. Marine scientists warn and warn and/
f. Warnings go as ever unheard
(Atlantic and Oceanographic and Meteorological Laboratory, 2023)
g. as they had last year, and years before
(Greenfield, 2024).
h. Wrapped in horizons of wind and spray
crescents weathering like the blues.
i. An encompassing composition
in infinite shoreline
j. ceding in granular drift.
Salt collecting tribute
distantly now.
Protracted rhythms

of such presence:
a gifting net
without signature.
Only a flowing may be
k. woven in reeds of tidal reverie
-sky-bodies-bones- In jazz
stone-bodies-bones blowing
cliffside polished by embouchure flows
behind an improvised burst
ecstatic with ruin—
for no pattern in return.
l. A lip a tongue a coastline
smile in perpetual drift.
m. The salt removed
buzzing in the hollow
n. without being ruled
or measured
o. ashore.

Longing is then, lack is here. The spirits all around. Your words. Tezeta as music and memory. The refrain. Music and memory. I wait for the sea to come back to the endless sand. Your sea:

[Entitative]

In the interstices

you/we/us

Oceans as plural belonging.

Your eye/tender and cool/takes these pictures. The sea returns and you/surf the afternoon

The sand is bleached like bones. The sea is in the music in the sea. They recede. Spirits come out to play. Their lack a promise in waiting. You are flying on your dhow. Bones dance past and future.

The water is a refrain. Taraab and Tezeta. Horn music. The peninsula's acoustics. Loss there, longing here. Taraab's lament. Bi kidude's scratchy voice, her ngona percussing body. The oud, the qanoun, the violin. The vibraphone and the krar. The blues.

a soft zone without borders

Between crustacean/conglomerate/nuclear. Fallout and microplastic inhibitors endo-disrupting.

Between vascular bodies and their periodic uptake. Wasting away the flows.

Between taking everything imagined and unimagined from you.

From all who are Ocean: we hold up a mirror

*

Remember?

How could they foresee such an acronym?

AMOC Slowing down. (Watts, 2024)

Atlantic meridional overturning circulation. A mouthful

A generator assemblage of global atmospheric and marine currents. Heavy glacial fresh

Water melts in the North. Salinity drops. Will the whole stream collapse? We wait.

We are under these regimes by mid-century (Ditlevsen & Ditlevsen, 2023).

We know it can't be the same. But this isn't the collapse we're after.

*

The dunes and the sand. The sand beneath the sea.

The sand as bones from the future and past. Slowly.

Desert curved blur. Spirits and magnetism.

Sea major refrain. Gone and to come.

Submerged echoes swelling.

Repeating low on opposite shores.

(See Figures 2, 3, 4, and 5)

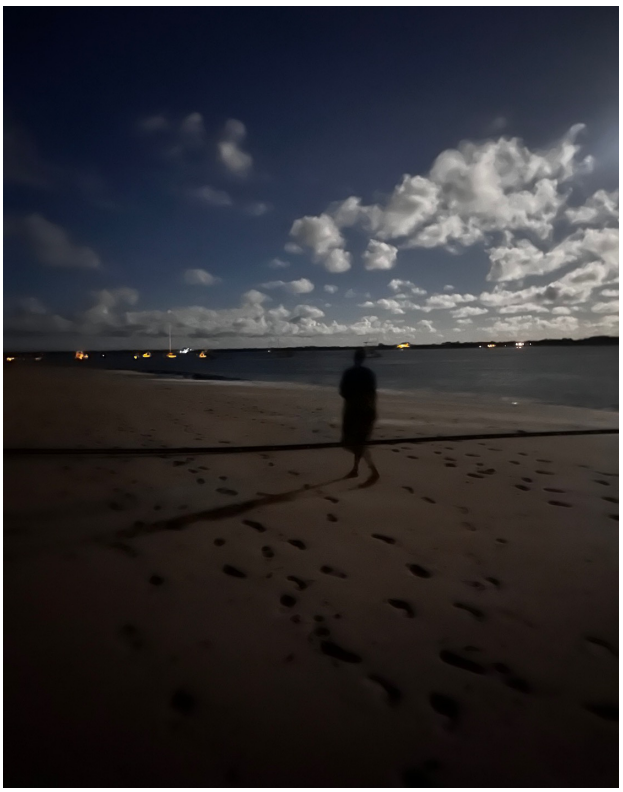

Figure 2. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

Figure 3. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

Figure 4. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

Figure 5. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

4. Lamu, 25 March 2024, Moderate Rain: +32.7°/+27.2° (Night), 7.2mph S; 29.8inHg, 72%; 6:19 am/6:25 pm

You ask: *Is water what they mean when they say "home"?*

We sit in currents emptying into the ocean.

At night, they were so fast that we drifted downhill with sand.

Your cousins in the dunes. The dunes on the aquifers.

Milk is moonlight, the sun an eye. The clouds are veils. They look at us and we are in a bathtub.

Tepid. The orb—the light—the bulb in the sky. The currents fast. They promise speed.

We want to stay forever. We are happy in the flood. Your eyes open. We are in silhouette.

Your body holds its movement.

A mode that cannot be heard in repetition.

Along a ridge and many rifts. A gesture.

Your body holds the tunes. The house—the doors—flung open. Full of you.

It is moonlight. Let it go.

*

The sea is full of you. It dances.

The tunes in your bones in your bones dancing.

White sand. Currents swift. The ocean is like being in love.

In love with itself.

The ocean is waiting at the bottom of the hill.

(See Figure 6)

Figure 6. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

What about the spaces between the clicks?
A poet sits in the back of the room at a conference on aquatic mammalian communication.
As figures and frequencies take centre stage—charts and graphs and amplitudes—
The poet, with raised hand and clear intention, asks, "but what about the space between the clicks?"
Previously unconsidered, the field is transformed indefinitely. Accounting for the encoded silences:
"Inter-click intervals" take on message and meaning.
The marine scientist sends 274 audio files, all less than half a second long. These empty remnants bubbling sonic in our ears' cilia. Cyphers of intelligence we cannot know, but collect, for the listening, for the unknowing, to perceive in the outsides of pattern, to renew (Sattar, 2022).
What about the spaces between the clicks?

5. Lamu, 27 March 2024, Heavy Rain in Places: +32.7°/+28.8° (Night), 6.9mph SE, 29.8 inHg, 69%, 6:18 am/6:24 pm

What you meant by *home*. A planetary body…

The buildings are bleached, the road muddy. We find our way by the goat tied to a stake. The kids handstand around. We wind the roads until you can smell the sea. We keep turning left like Ariadne. We trail our hands on coral white. The hands. Our feet in the sand. The way to the clinic is the way to the sea. The surf is white. The sand is ice. Our home is white and draped in scarlet. You sleep on the roof, right under the moon. It is so

hot. Shutters of mangroves. The coral and the tree. The white and the moon. The brown and the white of the labyrinth. The scarlet. The sand. Our eyes and teeth gleam the moon's orb.

Underwater worlds. The pearl divers shake the mud. The Naham is in song. You are there. Walking the seabed. Your delicate arches mark the mud. The mud is fluffy with oysters. Your lungs are full of water. The sea is full of air. Amphibious. The divers pull the rope and the boat cascades to the mud. The ma'alem singing. The diver's guttural reply. The whites of your eyes. Phew phew.

Fluxes in schools and swarms of bodies. Dance to smiling noise. Surfaces spawn worms and pleasures flagellate. Mussels, falling in bliss. A mineral is home again, a bone again, a cliffside again, elemental bodies charged in deep benthos.

(Another round).

a. Abyssal polymetallic nodules may produce
b. "dark oxygen"
(Sweetman et al., 2024; see also Oxford, 2024).
c. The engineers' desire
for obsolescent ideologies
d. premised on supremacist economies of 'growth'.
e. These nodules hold nuclei of past supernova
upending historical stance (Knie, 2004).
f. They test for Deep Sea
Mining in the Clarion-Clipperton Zone
(Alberts, 2022).
g. Pause in Norway, but
expand globally.
h. Explain away extraction/catastrophe as transition
call it "green."
i. Play the same colonial exploitation
pattern like clockwork.
tic-tic-tic-tic.
—
j. Unfathomable disrupted abysses
(Jones et al. 2025)
to make 'a billion electric vehicles'
(The Metals Company, n.d.)
k. They give up nothing, no compromise.
l. A few keep comfortable and we
continue to sink
in flood
m. A reckoning shapes the horizon.
(Müller et al. 2023)

The pearl divers' voices are guttural with prayer. Their rope is slack. At sea for a season. The Naham sing as they whoop, inhale and dive into the mud. *Phew phew*, you say. The water inside pushing, pushing at your lungs. There is no space. The curtains are white. The lattice is brown. The ascites. The paracentesis. Organs that stop. The water within. The struggle to breathe.

* You bring the cicadas' corpse shells to the table. Arrange them in a line. They sing and then die. Golden husk. No more than that. By the thousands. For a season*

(See Figure 7)

Figure 7. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

6. Lamu, 29 March 2024, Moderate Rain: +32.2°/+28.8° (Night), 7.4 mph E, 29.8 inHg, 60%, 6:18 am/6:23 pm

Edi picks us up from the airport in a dhow. We were going to come back. The sun was beating down on us from the airport to our boat. You in your bucket hat to protect your skull. We are on the plane. We hold hands. The sea was warm and getting faster. Swahili is a swirl of currents. Cocktails at the bar. The always-empty beach. The Somalis at bay.

The 300-year-old baobab. You took a picture. The light into the ruined shrine. The room on the side for the women. Together we stood underneath arches for your picture. You are waiting in the lagoon with Abdul. Went swimming in your kaftan. The sun dries it immediately. Come! You say. I jump in. We float, but the current pulls us under the walkway. We billow (see Figure 8).

Figure 8. Lamu, February 2024. Note: Photograph by Ayesha Hameed.

The mangroves are full of fireflies. It is dusk.

A small boy climbs the mast of our dhow and takes a picture. No coal, says the sail. The fish is freshly grilled. The chicken is full of sauce. We are in the full moon on the sea. Your pictures shuttle.

a. *You and a goat.*
b. *The sky pink and cotton.*
c. *Your window looking at the summer rain.*
d. *The tree in your yard is a beacon.*
e. *The dog who led you home in the storm.*
f. *The monkey and the chicken bones*
g. *crunching in the rain. The rain.*
h. *The solitude.*
i. *Your sister who braids my hair.*
j. *We are sisters.*
k. *We cried on the phone*
l. *when the doctor told you about time.*
m. *The last look over our shoulders from the plane.*

Acknowledgments

Thank you to the Kone Foundation, during whose fellowship Hameed visited Lamu. This text was made in memory of Elleni Centime Zeleke.

Conflict of Interests

The authors declare no conflict of interests.

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