Landscapes of Care
the emergence of landscapes of care in unstable territories

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Introduction

About "Landscapes of Care" and how contemporary photography can help to heal a broken planet

Pedro Leão Neto

> "Architecture in its broadest sense provides shelter indispensable to the continuation of human life and survival. This is evidently a form of care. Yet historically, architecture has not been considered a form of caring labor. Despite this fundamental function of architecture to provide protection for humans from sun, wind, snow or rain, and to give the support necessary for maintaining the vital functions of everyday living, the idea of the architect is linked to autonomy and independent genius rather than connectedness, dependency, social reproduction and care giving."
>
> Elke Krasny[1]
>
> "(...) architects have no time to lose to work on alternative models that offer paths to reach social equity within the continued intense metropolitanization of settlement structures. Given the changing nature of societies, more differentiated forms of co-habitation; greater demand for closer spatial relations of work-living-recreation; the renewal of urban farming; decentralized forms of harvesting renewable energy; leaner and smaller production facilities; all these transformations should lead to a change in the conventional zoning of uses; to a search for building and urban typologies that may be grafted on as much as possible to existing fabric and that will yet liberate future generations from the burden of the suburban era."
>
> Wilfried Wang[2]

With this 7th Volume of Sophia Journal we initiate our third thematic cycle "Landscapes of Care", addressing contemporary photography and visual practices that focus on how architecture understood in a wide sense can help to heal a broken planet[3]. The concept of landscapes of care has increasingly been adopted by diverse areas of study, from health geography to

1 Elke Krasny, "Architecture and Care," in *Critical Care: Architecture and Urbanism for a Broken Planet*, edited by Angelika Fitz, Elke Krasny and Architekturzentrum Wien, 0 (2019) The MIT Press, 33.

2 Wilfried Wang, *On the Increasing Irrelevance of Context in the Generation of Form; or, why there is no longer a difference between an urn and a chamber pot*, Specificity, OASE, (2008) (76), 91–105, Retrieved from https://www.oasejournal.nl/en/Issues/76/OnTheIncreasingIrrelevanceOfContextInTheGenerationOfForm

3 Elke Krasny, "Introduction" in *Critical Care: Architecture and Urbanism for a Broken Planet*, edited by Angelika Fitz, Elke Krasny and Architekturzentrum Wien, 0: (2019) The MIT Press.

the arts and architecture[4]. It allows us to understand architecture, city and territory as living and inclusive organisms[5], constituted by multifaceted landscapes with complex social and organisational spatialities[6], as well as exploring the concepts of space and place for care within a transdisciplinary research environment[7].

Significant changes are taking place in diverse physical spaces all around the world and the world is growing in complexity as Daniel Innerarity[8] points out. For this complex world of post-politics ideals, we need ambitious visions for the future and at the same time to trigger operational paths that are able to reform society, in a creative and collaborative manner, towards a better world.

Thus, this cycle of "Landscapes of Care" is giving continuity to other past ones of Sophia Journal, namely "Crossing Boarders, Shifting Boundaries" and "Visual Spaces of Change", since all of them try to understand through photography and visual practices in what way architecture understood in a wide sense can help to give an answer to many of the problems that affect our territories. As such, we are interested in giving continuity to the interdisciplinary open space that Sophia Journal cycles allow, namely through their international conferences, linked to each annual call, capable of integrating several countries, inside and outside Europe, for debating, exhibiting and publishing a series of research projects and works intersecting the issues of the call. In our current call the key concept was landscape of care, which entails a humanist perspective upon urban transformations and its management, in contrast to the technocratic and instrumental character that tends to overpower the economic and financial logics. This means, amongst other things, being able to balance the former by integrating other important values as the unique characteristics of each place, valuating cultural heritage and concurring for a sustainable development practice and urban spatial identity, making context more relevant for architecture and the design of cities[9], as well as allowing for a more comprehensive understanding and alternative development models for architecture, city and territory[10].

4 Xiaodong Lin, Daryl Martin, Bo-Wei Chen, "Towards cultural landscapes of care", *Health & Place*, Volume 78, 2022, 102909, ISSN 1353-8292, https://doi.org/10.1016/j.healthplace.2022.102909.

5 Francesco Indovina, "Citizenship and new urban realities", *City Territ Archit* 9, 8 (2022). https://doi.org/10.1186/s40410-022-00149-2

6 Walter Nicholls, Byron Miller, Justin Beaumont, *Introduction: Conceptualizing the spatialities of social movements*, (2015), Routledge, 1-23, https://doi.org/10.4324/9781315610191

7 Åsa Roxberg, Kristina Tryselius, Martin Gren, Berit Lindahl, Carina Werkander Harstäde, Anastasia Silverglow, Kajsa Nolbeck, Franz James, Ing-Marie Carlsson, Sepideh Olausson, Susanna Nordin & Helle Wijk "Space and place for health and care", *International Journal of Qualitative Studies on Health and Well-being*, (2020), 15:sup1, 1750263, DOI: 10.1080/17482631.2020.1750263

8 Following the idea of Daniel Innerarity of how we are living in complex democracies (see his latest book *Democracy in Europe*).

9 Wilfried Wang, *On the Increasing Irrelevance of Context in the Generation of Form; or, why there is no longer a difference between an urn and a chamber pot*, Specificity, OASE, (2008) (76), 91–105, Retrieved from https://www.oasejournal.nl/en/Issues/76/OnTheIncreasingIrrelevanceOfContextInTheGenerationOfForm

10 Wilfried Wang, "The Future of the American Dream" *CENTER 22: LATITUDES — Architecture in the Americas*, (2019) Volume 3, 124-125. ISBN: 978-0-93951-33-3

We believe that Sophia Journal and its international forums are a significant contribution to the reflection towards new thoughts and research paths around the world of images and the diverse territories and realities we live in and in this way encourage society to look and act more critically, making the observer even more sensitive and knowledgeable about these subjects. A curatorial work that aims to explore and open diverse projects and ideas both to academia and society as is reclaimed by many authors and institutions. Within this context, it is worth referring that our conferences have been following other international academic events around the topics of Photography on Architecture since 2010, while trying to create a network of researchers and initiatives around this field of common interest.

Building on the former paragraphs and bearing in mind the potential of the landscapes of care concept and its scope of interest in Sophia Journal, we aim to discuss and address contemporary photography and visual practices used as instruments of inquiry and expression to identify and render visible critical situations or interventions and in this way reorienting the perceptions and understanding of architecture, city and territory. Furthermore, to encourage photography practices capable of communicating contemporary urban transformations in an innovative and exploratory way, as well as the historical and social meaning of places and regions, contributing towards a comprehensive understanding of their potential and importance in present times, as advocated by diverse authors with an interest in these fields of study and practice, many of whom have collaborated with Sophia Journal and its International conferences, as in the case of Inaki Bergera, Pedro Gadanho, Paolo Rosselli and Wilfried Wang[11].

We want to advance with research and work that provides substantial and interesting visual records and broaden new critical understandings about architecture, city and territory, namely through the particular insights that only photography can reveal. Theoretical and field work where architectural photography is both descriptive and interpretive, communicating original perceptions and analytical visions which simultaneously understand and interpret the buildings as, for example, in the photography projects of Mark Durden and João Leal[12] or the work of authors that question the conventions of the idea of representation and visualization

11 Inaki Bergera, "About the 4th number of Sophia, Visual Spaces of Change: Unveiling the Publicness of Urban Space through Photography and Image", *Sophia Journal*, 4(1), (2019) 3–4. https://doi.org/10.24840/2183-8976_2019-0004_0001_01; Pedro Gadanho "Image-Making After Photoshop: Architecture, Public Space and their Visual Discontents" *Sophia Journal*, 4(1), (2019), 100–109. https://doi.org/10.24840/2183-8976_2019-0004_0001_13; Paolo Rosselli, "Photography on Architecture: Visual Spaces of Change - Unveiling the Transformation of Publicness", *Sophia Journal*, 4(1), (2019), 158–163. https://doi.org/10.24840/2183-8976_2019-0004_0001_17; Wilfried Wang, "Image and Conscience", *Sophia Journal*, 6(1), (2022), 7–9. https://doi.org/10.24840/2183-8976_2021-0006_0001_2

12 João Leal; Mark Durden, "Photography as Heritage: Picturing Siza´s Architecture", Work presented in International Congress on Architectural and Landscape Heritage – Malagueira, 2022. https://www.researchgate.net/publication/364239707_CONTEMPORARY_VIEWS_ON_CITY_SPACES_AND_ARCHITECTURE_IN_OPORTO_DOCUMENTARY_AND_ARTISTIC_PHOTOGRAPHY_MAPPING#fullTextFileContent

of architecture encouraging an architectural practice that, as Inaki Bergera[13] refers "feeds on images and engenders them". Theoretical research and projects where diverse visual strategies and ideas are used when speaking about landscapes of care in varied territories exploring the tensions of scale, viewpoints, uniformity and other spatial dimensions of those territories, as well as their contradictions and conflicts.

We are also interested in theoretical positions and photography projects that defend the integration of the documentary and the artistic that is clearly understood, for example, in Constructing Worlds: Photography and Architecture in the modern Age, where David Campany offers a critical analysis on the inclusion of a series of photographs coming from authors who explore architecture as their artistic object, all present in this important exhibition on the universe of Photography and Architecture and in the book that documents it. Another case in point is Pedro Gadanho's article, Architecture Photography: New Territories in the MoMA Collection, where he defends the legitimacy and the need to have the MoMA collection on the Photography of Architecture include creators whose works lie within the universe of Architecture and Art, Bas Princen and Filip Dujardin being two examples of authors in the MoMA collection who have participated in Sophia Journal International conferences in the past and have also been published by scopio Editions.

Thus, it can be said that with this cycle we aim to contribute to society as a whole and local communities with positive externalities coming from the network of research projects around the theme of landscapes of care exploring the use of different visual media, with a special interest on the use of image and photography, for observing, analysing and theorizing different dimensions of architecture, city and territories based on visual research and visual evidence.

The Sophia Journal´s "Landscapes of Care" cycle will also underwrite and reinforce past and ongoing research and initiatives of Centre for Studies in Architecture and Urbanism (CEAU), namely the ones coming from its research group Architecture, Art, and Image (AAI), as for example, the "Visual Spaces of Change"[14] project, an interdisciplinary research project combining contemporary photography and visual documentation, investigating the creation of a network of public and collective spaces capable of catalysing emerging dynamics of urban change, which was supported through national funds by the FCT or the ongoing Contemporary Photography research project "The Idea of Álvaro Siza[15]", that recognises architecture as both subject and artistic matter and explores visual strategies that move away from traditional mainstream architectural photography.

13 Iñaki Bergera and Javier de Esteban, "Architecture and Contemporary Visual Culture, the Image of Realism and the Realism of Image", (2022), *Arts 11*, no. 1: 26. https://doi.org/10.3390/arts11010026

14 See Visual Spaces of Change research platform at https://www.visualspacesofchange.arq.up.pt

15 António Choupina, "DES YEUX QUI NE VOIENT PAS", in *The Idea Of Álvaro Siza: The Museum – Serralves by Mark Durden and João Leal*, edited by Pedro Leão Neto. Porto: Scopio Editions (#2 December 2020) ISBN : 978-989-54878-4-4; Nuno Grande, "In praise of light and shadows". in *The Idea of Álvaro Siza: Carlos Ramos Pavilion and Bouça Social Housing by Mark Durden and João Leal*, edited by Pedro Leão Neto, Porto scopio Editions (#1 December 2020) ISBN: 978-989-54878-4-4

''Landscapes of Care: the emergence of landscapes of care in unstable territories'' is the title of this 7th Volume and the focus was on the emergence of landscapes of care in unstable territories, which could comprise diverse situations and territories, as explained in its open call. This volume has brought together a diverse group of researchers, architects, visual artists, and curators, gathered in this publication and its International Conference in an exercise of joint reflexivity around different perspectives and visual constructs calling our attention to territories that need critical care. Thus, while not really proposing new design solutions for those territories, the theoretical papers and visual essays do address their problems giving valuable information and perspectives that can feed differentiated design interventions and programmes aiming to repair, protect and help to re-establish the identity and configuration of those territories which for diverse reasons suffered severe changes.

Accordingly, it can be seen for example in the article ''Reframing the Far North Landscapes of Care in Borealis and Hyperborea'' by Esther Scholtes how it offers relevant information about the northern parts of our planet giving us a more comprehensive and updated perspective about those territories. On the one hand, this means going against the general idea of them being places free of human disruption, and calling our attention to the fact that (Sub)Arctic areas are, in fact, among the first to be profoundly affected by climate change. On the other hand, undermines the idea that the far north landscapes are just frozen, dark and threatening spaces with no life, showing us the contrary. Scholtes does all this by advancing with a theoretical work that explores the notions of relationality unearthing new perspectives about the relations that can be established between photography – the photographic series *Borealis* (2015–2020) by Dutch photographer Jeroen Toirkens and *Hyperborea* (2013–2019) by Russian photographer Evgenia Arbugaeva – and geographical concepts of 'isolation' and 'connection' in order to put forward, as the author refers, ''... a type of caring that is more geographically dispersed.'' Creating, in this way, a ´landscape of care´ that is not restricted to physical boundaries.

In fact, Scholtes article puts forwards a more comprehensive concern about our broken planet, calling our attention to the need to go beyond the places where we live and with which we are familiar, and to consider also the disparate or physically far away territories within the bounds or confines of our worries. In doing so, it it enables us to change our perceptions on these issues and creates space for ethical responsibility and to understand culture as a relational form of meaningful experiences. These are all concepts that feed on thoughts and philosophies coming from significant authors concerned with these problems as can be found, for example, in Donna Haraway´s[16] ontological understanding of beings and how subjects and objects are all interconnected when she writes '' (...) beings constitute each other and themselves. Beings do not preexist their relatings. ''Prehensions'' have consequences. The world is a knot in

16 Donna Jeanne Haraway, *The Companion Species Manifesto : Dogs, People, and Significant Otherness*, Chicago, Ill. : Bristol :Prickly Paradigm ; University Presses Marketing, 2003.

motion''. Other authors and ideas could be mentioned too, as the ones that understand culture as a relational form or the concept of ''relational values'' that allows connecting sustainability sciences, with the fields of social sciences and humanities, which as Marie Stenseke[17] points out, landscape research has the potential ''... to enrich the understanding of how the sustainability challenges can be more effectively and equitably addressed.''

Esther Scholtes work, as well as others that are being published in this volume, is a significant example of the way photography can be used to unveil the identity, and environmental and cultural values that are endangered in unstable territories, underlining their urgent need for landscapes of care. Photography utilised as a critical research instrument for understanding and perceiving these territories in a comprehensive way, interconnected with several spatial and environmental dimensions and diverse fields of study, integrating visual strategies and fiction in their series in order to endow their critical and poetic stance in relation to those landscapes. This happens, for example, when the photographic series of Jeroen Toirkens adopts, as Sholtes explains, ''(...) the anthropomorphic gesture of comparing the tree to the human being'', unfolding also the temporal dissonance between the two ''(...) a hiatus between the 'time' of the tree and our human temporal experience.''. Then, also in the photographic series of Evgenia Arbugaeva, when she integrates inb them ''(...) elements of fiction and staged settings, that are slightly reminiscent of theatre decors, which are her way of connecting to the place.''.

In fact, the photographic series in Scholtes´s article has the power to transform the narrative of isolation into one of connection and create a ''landscape of care'' that integrates several dimensions. By overlapping and crisscrossing the disciplinary boundaries of environmental and humanist sciences, as well as the world of Art, the borders of these disciplinary fields are challenged to think critically about contemporary changes occurring in unstable territories and to forward a message of ethical duty to care for and about those places.

As for our current 8th Volume of Sophia Journal, ''Landscapes of care: photography, film, modern architecture and landscape heritage'' it is concerned with contemporary photographic and visual practices used to understand and document modern architecture, building, city and territory as living and inclusive organisms, as well as heritage resources for global sustainability.

Modern architecture is a 'heritage at risk' as it belongs to a recent past that has not yet been sufficiently recognised by the authorities, scholars and general public. Our aim is to explore the ways in which photography and film can be used as meaningful instruments of research into the socioeconomic, political, historical, technical and ecological dimensions of modern architecture, city and territory.

17 Marie Stenseke ''Connecting 'relational values' and relational landscape approaches'', *Current Opinion in Environmental Sustainability*, Volume 35, (2018), Pages 82–88, ISSN 1877–3435, https://doi.org/10.1016/j.cosust.2018.10.025. (https://www.sciencedirect.com/science/article/pii/S187734351730249X)

For this 8th Volume we were interested in theoretical and field work where architectural photography and filmmaking are descriptive, analytical and interpretive, communicating original perceptions and new understandings of modern architecture and landscapes. Photography and film projects that will allow us to show how modern buildings and landscapes have responded to and reflect the local conditions of their production and importance. Projects which critique and expand our understanding of what constitutes modern architecture and landscape, in terms of its language, locations, functions, creators, patrons and publics. Thus, we believe that this edition of Volume 8 will assemble diverse photography and film work which will allow to see the social dimension of architecture and landscape to be seen, so as to understand architecture as Alvar Aalto[18] did, ''as a great synthetic process of combining thousands of definite human functions'' together with research of architectural culture and photographic imagery to better understand modern architecture and its historical, socio-cultural and configurational relationships, namely with the regional modernism in Europe, as is claimed by many authors and which reflects a growing academic interest[19]. We believe that all this will significantly contribute to a greater understanding of the potential modern architecture and landscape hold in providing a more ecological and sustainable balance and interplay between architecture and nature.

Finally, and looking back on the past year, we would like to thank all those who have contributed to this 7th Volume of Sophia Journal ''''.

Thank you authors, reviewers, and readers of Sophia.

18 Alvar Aalto, (1991a) ''The humanizing of architecture''[1940], in *Alvar Aalto in His Own Words* , ed. Goran Schildt (1997), New York: Rizzoli, 102 – 103, ''But architecture is not a science. It is still the same great synthetic process of combining thousands of definite human functions, and remains archite cture. Its purpose is still to bring the material world into harmony with human life. To make architecture more human means better architecture, and it means a functionalism much larger than the merely technical one. This goal can be accomplished only by a rchitectural methods – by the creation and combination of different technical things in such a way that they will provide for the human being the most harmonious life''

19 Most notably Kenneth Frampton, *The Other Modern Movement: Architecture, 1920-1970*, Yale University Press (2021); Besides others like Antigoni Katsakou, *Rethinking Modernity: Between the Local and the International*, RIBA Publishing (2020); Also ''Reescrever o Pós-Moderno/Sete Entrevistas'', Dafne Editora (2011), and Jorge Figueira, *A Periferia Perfeita: Pós-Modernidade na Arquitectura Portuguesa, Anos 60-Anos 80*. (2015), Caleidoscópio; On how both architects believe in the synthesis between intuition and reason enhanced by the artistic practice see Alvar Aalto ''The dichotomy of culture and technology'', in *Alvar Aalto in his own words*, ed. Goran Schildt (1997), New York: Rizzoli.

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Reframing the Far North
Landscapes of Care in Borealis and Hyperborea

Esther Scholtes

Abstract

Exploring the Far North historically meant an immense effort, meticulous planning and the endurance of many hardships. These are characteristics that partly still hold true today. The northern parts of our planet are therefore surrounded by a narrative of distance. In this simplified notion the Far North is pictured as an isolated and unspoiled wilderness, one of the last places on Earth free of human disruption. Meanwhile, the (sub-)Arctic areas are among the first to be profoundly affected by climate change. Melting snow and ice incites a chain reaction that is known as the albedo effect, causing an accelerated rise in temperature. The Far North comprises territories whose physical state is profoundly altered at the moment; the melting of ice and permafrost has lasting effects on the physical make-up of the area, and thus these places can be marked as vulnerable and unstable landscapes.

This article explores how a theoretical focus on relationality can unearth relations between photography and the geographical concepts 'isolation' and 'connection' in order to put forward a type of caring that is more geographically dispersed. In the photographic series *Borealis* (2015–2020) by Dutch photographer Jeroen Toirkens and *Hyperborea* (2013–2019) by Russian photographer Evgenia Arbugaeva, the oppositions between 'isolation' and 'connection' are inverted. This article analyses their photographs not as flat representations of a secluded place, but as nodes in a spatial constellation in a wider sense. Eventually, the images construct a 'landscape of care' that moves beyond physical boundaries and underlines an ethical duty for anyone living on this planet to care for and about places that we otherwise deem disparate.

Keywords: photography, spatiality, remote care, the (sub)Arctic, boreal zone

Esther Scholtes (NL, 1992) is an art historian and photography theorist. She graduated in 2018 from a Research Master in Art History at Leiden University with a thesis on intermedial photographic and cartographic practices. She currently holds a position as researcher and cataloguer of the photography collection at the Rijksmuseum in Amsterdam, and she is an editor of the Amsterdam-based art journal Kunstlicht.

Introduction

The exploration and mapping of unknown territories has been vital to humankind since the very beginning. Driven by national quests for commercial expansion, the polar regions became interesting for the search for exploitable resources, shipping routes and overall national prestige.[1] In the nineteenth century, polar exploration rose to a scale of professionalised enterprise, funded by national governments and private companies alike.[2] Historically, travelling to the Far North meant an immense effort, meticulous planning and the endurance of many hardships.[3] These are conditions that partly still hold true today. As a result the northern parts of our planet are presented in popular discourse as an isolated place of primal, pristine wilderness.[4]

This article explores alternative means to frame the 'Far North' by probing the dynamics between the photographs of Dutch photographer Jeroen Toirkens that emerged from a long-term research expedition to the northern taiga forests, and the photographs of Russian photographer Evgenia Arbugaeva, who revisits her birthplace at the Arctic ocean to deepen her emotional relationship to a place that she misses dearly. Both photographic projects transform the established narrative of secludedness, isolation and remoteness into one of sincere connection, albeit in different ways. Eventually, they construct a 'landscape of care' that moves beyond physical boundaries and underlines an ethical duty for anyone living on this planet to care for and about places that we otherwise deem disparate.

Myths of the North

The north is a deictic concept – it refers to any place north relative to the position of the viewer – and thus it is necessarily a flexible concept. Deictic terms are empty terms that have no fixed meaning of their own. They only make sense through the presence of the concerning subject and its spatiotemporal context, of being there at that specific moment.[5] Compared to the 'north,' the Arctic seems to be a more coherent geographical domain. However, it is not an entirely fixed territory: the region can be defined in a number of ways, depending on context and interest. According to most definitions it refers to the area north of the Arctic circle, a latitude circle that currently runs approximately 66°33'49.0'' north of the Equator, yet its precise position depends on the Earth's tilt. Others take the more sinuous northern treeline as the line marking

1 Spring and Schimanski, 2015.

2 Karpoff, 2001.

3 The Far North is defined as the Arctic and sub-Arctic regions of the world. The initials are written in upper case because it denotes a territorial region. In this article I will employ the term Far North primarily to denote an imagined territory that coincides with the Arctic and sub-Arctic regions. See, Collins Dictionary, ''The Far North.''

4 Fjellestad, 2016.

5 Doane, 2007.

the southern boundary of the Arctic zone.[6] Yet, the conditions that we commonly perceive as 'Arctic' – a cold yet pristine wilderness – extend well beyond this cartographic line into an imagined territory signified through the term the 'Far North.'[7]

The term 'Arcticness,' as a consequence, is an ambiguous concept. Even more, it is a relatively underexposed and particularly undertheorised concept.[8] However, many would intuitively feel what such a concept conveys. It often denotes the characteristics of an empty frozen wasteland, the last remaining frontiers of the planet. Television series and films such as *The Terror* (2018), *Hold the Dark* (2018) or *Fortitude* (2013–2015), focus on the sinister conditions that are murking over virgin white vistas as powerful cinematographic tropes. The vast expanse of frozen plains is put forward as an empty, malicious space, that is literally frozen in time and space.

The outer northern (Arctic) and southern (Antarctic) parts of the world have attracted Western minds for a long time. In ancient times the Greek astronomer and geographer Pytheas travelled northwards and reached a land he called Thule. In this land, he argued, the sun would always shine. Soon stories of an Arctic paradise inhabited by the Hyperborean (which in Greek means something like 'beyond the North wind') people emerged, referenced in many examples of Greek literature. Yet it took until the nineteenth century before the age of exploration truly commenced. These explorations were fueled by scientific objectives, but since the sixteenth century a major commercial imperative was to find a Northwest Passage through the Canadian Arctic connecting the Atlantic and Pacific oceans. Both undertaken by private enterprises and national administrations, polar exploration emerged as endeavor for commercial and colonial exploitation – in the sense of making a claim to the region – but also as a form of nationalistic pride.

Particularly since the mystery of the lost Franklin expedition in 1845, the Arctic started to enter into the (Anglo-American) public imagination as well.[9] The mysterious fate of the twin-ship's crew became a symbol of the dual attitude towards the Far North. Influenced by the ill-fated expedition, the history of Arctic exploration is nowadays still written as a dramatic history of triumph, courage, endurance and perseverance, yet also a history of peril and tragedy. The appetite for Arctic adventure found its way into literature as well. Victorian writers such as Arthur Conan Doyle, Mary Shelly, Charles Dickens, Edgar Allen Poe and Jules Verne contributed to this sub-genre of polar fiction. In these stories Arctic nature would often be portrayed as a horrid

6 Arctic Centre, "Arctic Region."

7 Chartier, 2018.

8 Kelman, 2017.

9 In 1845 Sir John Franklin was captain of a British expedition of two ships (HMS Erebus and HMS Terror) that set out to traverse the final uncharted parts of the Northwest passage in the Canadian Arctic. The two ships became icebound and its crew eventually disappeared and presumably perished. In the subsequent decades more than thirty search missions were launched. Franklin's wife Lady Jane Franklin was one of the driving factors and sponsors behind these missions.

force without mercy. The malice of the northern landscapes would cause all traces of humanity and decency to disappear, leaving the characters to turn to violence and eventually madness.

As the above already indicates, the narratives about the poles were equally polar by nature. The Arctic was conceived to be either pristine and precious, a blank canvas that was there for the explorer to take; or the most desolate, hazardous and violent fringe of the Earth's surface. The poles were two of the remaining least-known parts of the world and thereby they represented the terrifying and dreadful nature of the sublime.[10] In an era of increasing industrialisation, Romantic tendencies of escapism were common. Besides the many state-led and commercial expeditions, the American painter William Bradford set out on a journey towards the west coast of Greenland for the sole purpose of capturing its aesthetic qualities. Aboard the steamship Panther were also two photographers, George Critcherson and John Dunmore, who took photographs during the trip that were meant to form a basis for paintings. These photographs were considered to have value in their own right, and were subsequently published in 1873 in *The Arctic Regions*.[11]

In artistic outings such as these, the Arctic is portrayed as a harsh and barren wasteland at the isolated periphery of civilization. Even more, it is perceived as an empty canvas upon which (predominantly) European men could project their masculinity in service of nationalist aspirations or personal glory. Indeed, enduring the hardships of polar travel and the frozen frontier has presumably been reserved for the strongest, bravest and toughest men, prioritising ultra-masculine values.[12] In other words, explorers were perceived as Gods among men.[13] There were different objectives for polar travel, including the economic aspirations of finding a shorter maritime route and the race for the North Pole, which was primarily a matter of honour and glory. As science historian Michael Robinson asserts, explorations that aimed to reach the North Pole provided rather unfitting circumstances to conduct scientific research. The polar sea's pack ice did not accommodate shelter or food, therefore "the consumption of provisions became the clock by which explorers measured their progress."[14] With no time at hand to do measurements or observations and no room for carrying instruments or specimens, scientific research was less relevant. Instead, by the turn of the twentieth century, the prestige of polar explorations was not at all reliant on science any more as most expeditions were funded by private and commercial funders "that could capitali[s]e on stories of manly explorations."[15]

10 Loomis, 1977.

11 LeBourdais, 2019.

12 Ridanpää, 2010.

13 For an elaborate analysis of the changing nature of masculinity in relation to the Arctic over the course of the nineteenth century, see: Robinson, 2006.

14 Robinson 2015, p. 97.

15 Ibid., p. 98.

Visualising the North in Photographic Surveys

Before the rise of photography, visual depictions of the Arctic and sub-Arctic landscapes were limited to artistic representations based on sketches or written descriptions. These were subject to the interpretations and signature of the artist and general societal views, therefore these visualisations were at risk of providing a distorted impression of Arctic landscapes and depictions of indigenous peoples as immoral savages.[16] The Arctic fever that accompanied the myths of Franklin's expedition and the search thereof, coincided with the early years of photographic experimentation and the rivalry between the persona and processes of the British Talbot and the French Daguerre. Although their processes were not yet very portable and the exposure times were long, attempts to use the new technology in the Arctic emerged soon. It was the expedition led by Sir John Franklin that was the first to presumably include daguerreotype equipment into its inventory.[17] It is not known whether the camera was actually taken aboard into the Canadian ice and if any successful plates were produced. In the subsequent search missions attempts at photography were increasing. The necessary chemicals behaved differently in colder temperatures and the use of wet negative plates that could not dry before development restricted the photographer's action range significantly. The naturalist, doctor or surgeon on board expedition ships was often assigned the task of photography, sometimes trained before departure by a local photographer.[18] Throughout the nineteenth century explorers made use of both photography and sketches as on-the-spot witnesses. These were used as visual sources for engravings, lithographs or the construction of entire panoramas. After the commercial introduction of dry negative plates (1881) that made photography outside a studio a much easier task, production of photographs in the Arctic increased. However, innovations in photographic technologies did not directly improve the situation in the high Arctic. The low temperatures combined with intense light reflected in snow and ice complicated the production of negatives. As a challenging terrain, the Arctic became an ideal arena for experimentation in photography, primarily for testing more portable and user-friendly devices.[19]

Technical difficulties that photographers encountered could lead to flawed negatives – for instance under- or overexposed plates – and these could be 'corrected' in the process of reproduction in print. Translations from photographs to woodcuts or engravings to publish in popular press gave maritime authorities the opportunity to steer the conveyed motifs to create a rather specific vision of the Arctic.[20] For instance, by erasing human presence to

16 Condon 1989, p. 47.

17 Wamsley and Barr, 1996.

18 Douglas Wamsley and William Barr describe the use of photography in several expeditions in the 1850s and 60s. See: Wamsley and Barr, 1996.

19 Kaalund, p. 3.

20 Kaalund, p. 20.

create an image of a solitary ship in a deserted bay. Arctic historian Nanna Kaalund furthermore points at the practice of photographing (or staging) common rituals that "constructed a sense of familiarity, of the translocation of British religious and cultural practices to the Arctic landscape, which, in the rhetoric of imperial expansionism, was visuali[s]ed as an unknown and uncivili[s]ed landscape."[21] The use of photography in the Arctic therefore complied with image control and curation of Arctic visualisation in service of the sublime.[22] Polar archeologist Eavan O'Dochartaigh argues that "while the onboard history has been largely obscured, the metropolitan mode of Arctic representation remains dominant into the twenty-first century."[23] Thus, disparities between photographic and image-making practices in the Arctic and the subsequent narratives that were produced abound, a field that has not yet received substantial scholarly attention.

The importance of research into visual depictions of the north is manifold. The Arctic is gaining visibility into a broader planetary consciousness, which coincides with a more widespread academic turn towards interdisciplinary research. Traditionally, the Arctic was the domain of the natural sciences, yet with an increasing interest among a diversity of publics, the role of the humanities has recently become more urgent. To challenge the image of a static Arctic, the so-called environmental humanities critique the conservative binary between nature and culture. Thus, it ties in with a broader paradigmatic shift that occurred during the last decades from semiotics – that privileged the role of language in the construction of reality and deemed matter as passive and inert – to posthumanism, new materialism, and related approaches that turn attention to the active role of matter in cultural processes.[24] Therefore, research into the complex entanglements of matter and culture in the Arctic necessitates an interdisciplinary approach.

When by 1911 the prestigious goals of reaching the geographical North and South Poles were accomplished, public attention for polar exploration started to wane. New frontiers were found in outer space and the age of space exploration commenced. Only recently the poles have attracted attention again, particularly framed as an unstable region in discourse about climate change. In contrast to, or perhaps parallel to debates on global warming, the Arctic as a region is also increasingly commodified. It sells as an exotic faraway and virgin landscape. 'Arctic' as such has become a brand that is labelled on a wide range of products, such as bottled Arctic water or Arctic tours to experience the midnight sun. The branding of the Arctic has been a gesture for the outside spectator, the investor or the adventure-seeking tourist who desires to escape

21 Ibid., p. 12.

22 The active framing of Arctic visual culture to adhere to standards of the sublime has been pointed out by Hill, 2009; Morgan (2016); O'Dochartaigh (2022).

23 O'Dochartaigh 2022, p. 3.

24 Hacking, 1975.

the hustle of city-life to experience all that has been lost in so-called 'advanced' regions. The process of commodification traces back to the nineteenth-century period of Arctic craze when the region was monetised in published travel accounts, engravings, lithographs and panoramas. Arcticness, both current and past, as a brand and commodity has to be based on a unified idea of the Arctic for marketing purposes, i.e. a simple, coherent and recognisable identity. Even more, putting forward such a brand identity necessarily requires "existing stereotypes."[25] As such, the complexities of the northern regions and their histories are simplified in an idealised narrative of exploration. Far from an unspoilt no-man's land, the Far North is home to communities of peoples, animals and vegetation. A complex ecosystem that is changing profoundly due to climate change, globalisation and many other influences, the impact of each of these can vary locally. Therefore prevailing narratives of the Far North do no justice to a territory in flux. New imaginations are necessary that support the North as a region that matters locally and globally, and is highly related to other parts of the world on multiple levels.

Borealis: Tracing the Trees

The region that is situated directly south of the Arctic circle, the sub-Arctic zone, comprises a belt of conifer trees that extends along the circumference of the Earth. This region is known as the boreal zone – from the Latin *borealis* that means from the north – or taiga forest. In the United States and Canada these forests are referred to as the Great Northern Forest. As the world's largest land biome – a biome being a larger area of similar vegetation – the boreal forests house thirty per cent of all the trees in the world. These forests are, amongst other things, significant carbon reservoirs. Therefore any change to its configuration will alter the world's ecological balance.

Despite their importance in combating carbon emissions, in the Northern discourse this specific area is particularly underrepresented. Whereas the Arctic is at the forefront of global warming concerns, the boreal zone does not receive equal coverage. This lack of emphasis inspired Dutch journalist Jelle Brandt Corstius (b. 1978) and photographer Jeroen Toirkens (b. 1971), who work together regularly, to take the boreal forest as the protagonist of a photographic and journalistic project. Between 2015 and 2020 they visited the region extensively, travelling to eight different locations within this vast and diverse landscape. They spent longer periods of time with wood loggers in Norway, ecological researchers in Japan and Cree people in Canada. They witnessed the aftermath of wildfires in Russia and rewilding initiatives in Scotland. Eventually they were thrown back to themselves when they withdrew to a cabin in Alaska in the final part of their journey.

25 Loftsdóttir, 2015.

The material that was produced on these travels is aptly titled *Borealis. Trees and People of the Northern Forest*. Often described as a form of slow journalism, Toirkens and Brandt Corstius aim to focus on the stories that escape rapid news reporting. Toirkens photographic approach mirrors the slowness of the project. He used the bulky and heavy, medium format analogue camera Mamiya RB67 that shoots 6 x 7 negatives. Loading the cassettes slows down the work process forcing him to observe his environment closely. Once he almost lost an entire roll of exposed film, when the cold temperatures had made his hands numb and the sticky tape used to seal off the film froze. Whereas photography was a cumbersome and sometimes disastrous practice in the nineteenth century, weather conditions can still be a limiting factor to the northern photographer. Apart from the difficulties of moving one's fingers and operating a camera in colder temperatures, sudden changes in temperature and humidity causes condensation on lenses. Exposing white landscapes poses challenges to the camera's sensor, that tends to misread the landscape as too bright and therefore it will underexpose. Equipment may give unreliable measurements and terrains may prevent access. In the Arctic and sub-Arctic the impact of the weather is both more unforgiving and dictating compared to milder regions. The wider material, spatial and climate conditions delimit the options a photographer has and thereby define the photographic work, this is something that comes back in the subsequent sections that discuss the work of Evgenia Arbugaeva.

Spending considerable time off the grid has a profound impact on one's mental state, especially to human beings used to the patterns of city life. In order to make sense of his personal experience in the boreal forests, Toirkens structured his stay in the forests by photographing a tree every day. Through this repeated gesture he structured his days while simultaneously structuring the landscape around him. The resulting sequence presents a typology of a tree in all its manifestations. The images function as a visual classification in ways not unlike the photographs of August Sander or Bernd and Hilla Becher. Yet Toirkens tree portraits are not formal characterisations that sever the subject from its socio-historical and environmental context. He rather portrays them as characters in so-called "tree portraits."[26] The portraits depict a variety of trees. Some of them are solitary trees standing proudly at the centre of the composition. Other trees have branches that reach off the frame. One of the portraits shows a fallen tree, left to merge into its surroundings. Sometimes the tree is seen from afar, yet its presence is felt immediately.

26 Brandt Corstius and Toirkens, 2020.

Each day, Toirkens selects the particular tree that appeals most to him. He observes that it is the tree that stands out among its peers because it has a certain auratic presence. Additionally, his method was further confined by the fixed focal length of his objective that made it often difficult to compress the entire tree into the frame. The camera itself prescribes the possibilities, as the Mayima was designed for studio use and therefore suitable to shoot human portraits. By capturing the tree as a character and an identity, Toirkens highlights the individuality of trees. Staying in the woods for extended periods of time, Toirkens and Brandt Corstius have come to regard the trees as friends, as a calming and stable presence. Indeed, Toirkens maintains a different relationship with each tree he photographed. A relationship that further thickened back in the Netherlands when he developed his film, and during the editing process where they both decided to employ the portraits as binder to connect the different chapters and stories of the book.

[Fig. 1]
Jeroen Toirkens, Boreal tree #42
View from the command post
Harstadt, Norway, 2019
Courtesy of Jeroen Toirkens

Toirkens' initial approach is formulaic, however by nominating a tree that connects to the local issues he and Brandt Corstius encounter he emphasises the singularity of each tree. Photographically framing the tree therefore implies rooting the tree in its local context. Whereas the very act of photographing is an act of isolation, trees do not exist in a vacuum. The inclusive collection of tree portraits creates a visual dialogue between diverse trees that live miles apart from each other. Eventually the photographs became a red thread throughout the project, the foundation that supports the narrative of life in the northern forests. By reconnecting the photographs into the sequence of the narrative, Toirkens reinserts the trees in the flows of mediation and the subsequent flow of life.

[Fig. 2]
Jeroens Toirkens, Boreal tree #25
Scotland, 2017
Courtesy of Jeroen Toirkens

[Fig. 3]
Jeroen Toirkens, Boreal tree #51
Beside Lake Baikal
Russia, 2019
Courtesy of Jeroen Toirkens

In *Borealis* the popular vision of the Far North as frozen space that contains either no life at all, or a form of life that is dark and ominous, is subverted. The significance of Jeroen Toirkens' tree portraits is two-fold. First there is the anthropomorphic gesture of comparing the tree to the human being. Yet, the second layer that unfolds is one of temporal dissonance. By photographing his encounter with each particular tree, Toirkens addresses a hiatus between the 'time' of the tree and our human temporal experience.[27] It is precisely this temporal chasm that underscores the difficulty of representing climate change, a scientifically complex process that unfolds over long periods of time. Climate change covers enormous spatiotemporal scales that connect the past and present to consequences that reach far into the future.[28] These consequences are both intangible and uncertain and thereby notably difficult to convey. The visualisation of climate change and the pictorial communication of global warming thus relies on the effectiveness of tangible tropes that a diverse audience can easily identify with. Such a trope is the polar bear, who has since long been assigned a role as poster child of climate change. The polar bear as a "physical and visual embodiment of the Arctic" makes for a comprehensible and relatable idea that furthermore instils an emotional response within the viewer.[29] Polar bears are charismatic characters that are assigned certain human traits. However, as Dorothea Born argues, the icon of the polar bear in visual climate change discourse is problematic for a number of reasons.[30] First, by presenting polar bears as iconic markers – and victims – of climate change the circumstances of other (non-)human species are diminished, or even made invisible. Furthermore, the explicit framing of the Arctic landscapes with the effects of global warming draws away attention from other places that are equally impacted by climate change.

While an image of a polar bear might evoke associations with victims of melting sea ice, an image of a tree does not elicit a similar response. The tree as a visual emblem has not yet gained stature in climate change discourse – Toirkens and Brandt Corstius aim to solve the lack of attention towards trees after all – therefore its signification is open to potential. The iconisation of polar bears tends to detach the animal from the wider spatiotemporal and material processes it is part of. The process of singularising the tree in *Borealis* has yet the opposite effect. The anthropomorphised trees reveal rather than conceal the network of dependencies that human beings and nature are entangled in. So, instead of depicting nature as separate from social life, the tree portrait rather reinstates the wider conditions by visually connecting the tree with other tropes. Thereby the tree connects to narratives of industrialisation, forest fires and climate change.

27 Van Kalsbeek and Keijzer, 2021.

28 Doyle 2009.

29 Huggan 2016, p. 14.

30 Born 2019.

Whereas parts of the narrative that Brandt Corstius and Toirkens have built follow the 'gendered' narratives of heroism, courage and hardship that have shaped the collective perception of the Arctic, they also foreground another notion of Northerness. Extending beyond the idea of the untouched wilderness and privileged travel on touristic Arctic cruises – a narrative that focuses on the persona of the explorer – Toirkens portrays the trees as beings that inhabit the boreal zone. The ego of the traveller is secondary to the beings, human and non-human, that call this region home. Instead of a story of 'man versus nature,' Toirkens conducts a narrative that of man aligning with nature.

Hyperborea: Arctic Homesickness

Departing from a different position, photographer Evgenia Arbugaeva (b. 1985) works from a yearning to the place she grew up in. She was born in Tiksi, a former Soviet port city at the coast of the Arctic sea. After the demise of the Soviet Union, the town lost its economic value and her family was forced to move to Yakutsk, a city in the far east of Russia built on permafrost. Eventually she moved to London to study and the geographic disconnection from her hometown left her memories starting to fade. Her early childhood recollections from the place she loves dearly even started to seem unreal. To come to terms with her own past and the preservation of her memories, Arbugaeva started to photographically document her renewed encounter with Russia's coastline of the Arctic sea. In 2013 Arbugaeva travelled aboard an icebreaker to the Russian Arctic to portray its inhabitants, both human and non-human, in a quickly changing landscape.

Arbugaeva's photographic journeys to the Russian Arctic sea were bundled in an exhibition titled *Hyperborea* at London's The Photographer's Gallery in 2021.[31] Presented in an intimate setting and hung on dark walls the photographs seem to glow. The stories unfold in four chapters. The first series is titled *Weather Man* (2013) and follows Slava, a Russian meteorologist who lives in solitude at a weather station on the Barents Sea. The other three chapters were created over 2018 and 2019. *Kanin Nos* portrays the couple Ivan and Evgenia, lighthouse keepers at a station on the Kanin Peninsula. The series *Dikson* is taken at the abandoned town Dikson, which strongly reminded Arbugaeva of Tiksi. Dikson was once the capital of the Soviet Arctic, but is now a seemingly derelict ghost town. This chapter in the exhibition provides the most powerful expression of the tense conditions of photography in the Arctic and it signifies the thin line between luck and failure. She visited Dikson in the middle of a polar winter, when lack of natural daylight was at its most extreme. Conveying the meaning of the everlasting polar nights proved to be an almost impossible operation. She was close to giving up to plan another research trip, when suddenly the sky was lit with green flickers. From her lived experience, Arbugaeva knew the unpredictability of these phenomena, that could last for hours but also for much shorter periods. The entire series was shot in a very intense three-hour time span, when the aurora borealis lit the sky.

31 The Photographer's Gallery, "Evgenia Arbugaeva: Hyperborea – Stories from the Russian Arctic."

Finally the fourth chapter follows the indigenous Chukchi community from the easternmost peninsula of Siberia, who rely on the lands they live on for a living and they do so in an ethically responsible way. It was here that she encountered a haul-out of a hundred thousand walruses on a small patch of land. Walruses tend to use floating sea ice as places to rest in between hunts and during migration. With sea ice thawing, the animals had no place to go other than this beach, but their number was too high for the surface of the land. The overcrowded beach was soon filled with walruses in several layers on top of each other, causing suffocation among weaker and younger animals. Again this resulted in an intense, almost threatening, shooting session for Arbugaeva. It left her and a scientific assistant stuck inside a hut with no chance to get out. Surrounded by piles of walruses the noise was unbearable and prevented them from any sleep at night. To Arbugaeva this very moment was one of "visceral panic," a situation that was hopeless and left all the occupants of the beach completely helpless.[32] Furthermore, the event presented evidently a direct consequence of global warming. The photograph, taken from within the hut and frames a couple of walruses through the doorway, captures this liminal space between danger and rest and intersects the fragile balance between human beings, animals and the available land.

32 The Photographers' Gallery. "Artist Talk: Evgenia Arbugaeva."

[Fig. 4]
Evgenia Arbugaeva, Untitled 38 (From the series I. Weather Man), 2014
Courtesy of Evgenia Arbugaeva

The delicate balance within the photograph of the resting walrus with their long tusk yet framed in a soft lighting is characteristic of Arbugaeva's approach. The photographs seem carefully composed, each element deliberately placed. The lack of natural daylight greatly limits a photographer whose very medium exists by virtue of light. The compromised light conditions materialise on the sensitive plate or sensor and produce dramatic and slightly eerie effects. The resulting strong chiaroscuro creates a surreal brilliance reminiscent of theatre settings. In many images the atmosphere is dreamlike, whereas the depicted attributes seem obsolete, almost anachronistic. Referring to the fabulous lands of the Hyperboreoi – the inhabitants of the North in Greek myths – Arbugaeva employs the interplay between magic, myth and realism to express her personal connections to the Arctic region. The icy landscapes she encounters trigger recollections and opens up an emotional inner space. As such it blurs the lines between fantasy and reality, an aesthetic style often denoted as magical realism. Her photographs contain

[Fig. 5]
Evgenia Arbugaeva, Untitled 90 (From the series IV. Chukotka), 2019–2020
Courtesy of Evgenia Arbugaeva

elements of fiction and staged settings, that are slightly reminiscent of theatre decors, which are her way of connecting to the place, yet also remind us that conventional polar narratives are constructions that rely heavily upon an imagined Arctic land, as the first paragraphs have laid out. Hyperborea, a mythical place behind the north wind, where the sun never sets, was by the Greek perceived to be a paradise on Earth. This is precisely how Arbugaeva would like to remember her Arctic childhood.

Her meticulously crafted compositions often include an open door or a window. This centuries-old art-historical trope is a visual element that creates connections. For instance, it binds the foreground and background into one compositional unity. The window also acts as an intermediary between different worlds, notably the outside world and the domestic world inside or the interior world of one's mind. Windows also filter and direct incoming light. Light penetrating through windows and doorways creates the dramatic effects that prompts her nostalgia. Magic realism often refers to death, threat and decay, yet in Arbugaeva's photographs these aspects might be read as an attempt to relive her memories. The window provides some vistas of the landscape beyond, yet the limits of its frame prevent the viewer from entering this space. One can almost touch it, yet one cannot fully grasp it.

Northern Imagination as a Landscape of Care

Being at the frontier of climate change, the Arctic has recently reappeared as a space of geopolitical concern. However, global warming is not the only factor that affects Arctic ecosystems. Apart from attention from scientists and activists the prospect of melting sea ice has also attracted attention of a different kind. Combined with rising global demand for resources, the Arctic is perceived in terms of its economic potential as a resource frontier. In such an 'underused' area extraction companies hope to find new opportunities to mine resources; drilling for oil and gas, mining metals and minerals, fishing, hunting and forestry. The international transport sector awaits the occasion to cut shipping routes across the Arctic sea. Referred to as the 'Arctic resource race,' rivalry between nation states for the newly accessible natural resources is focalising old territorial conflicts, putting indigenous communities at risk. Perhaps now more than ever, the northern territories are intricately connected to other places. Climate and weather patterns do not respect national borders nor are they confined to geographical regions. Ocean currents take plastic waste from industrialised and populated areas towards the Arctic sea, whereas the wildfires in the boreal zone emit gases and particulates that will be inhaled by people thousands of miles south. Microplastics are found in the most 'isolated' parts of the world, where mankind leaves its traces without being physically present. These traces eschew the very notion of isolation. Environmental care and responsibility are claiming space on political agendas. In the era of globalisation the spatial distribution of care has also become more urgent, giving rise to elaborate 'landscapes of care.'

In social theory the notion of a 'landscape or landscapes of care' is increasingly part of theoretical lexicons. In the last decade, thorough theoretical grounding of this concept has primarily been done related to the spatial organisation of care for elderly, ill and disabled and their related power relationships. As such, care is understood as "the provision of practical or emotional support," and has a complicated relationship with power dynamics and dependency.[33] Care can be perceived either as work or as something that one just does, as an integral part of any relationship. Furthermore, care can be unidirectional – i.e. concerning an active care-giver and a passive receiver – or mutual. As a concept and practice, care is thus multifaceted. It is a relevant concept to probe in relation to northern territories. Care has traditionally been associated primarily with female qualities, whereas the Arctic is imbued with male values. Yet relating the construction of care as a gendered concept to the production of the Arctic as a male space provides an opportunity to critically re-asses both notions through which both can become more inclusive conceptually.

In the previous paragraphs both Arbugaeva's and Toirkens' photographs have been analysed in terms of the connections and interrelations they afford and convey. With his tree portraits Jeroen Toirkens not only underscored the particularity of trees, he also visualises trees as networked existence. In his notes he emphasises how a forest is larger than the sum of its parts. It is not merely a collection of trees, but it comprises a network of fungi and lichens through which trees exchange nutrients. This network of care has been formed over long periods of time, so it will take hundreds of years before such a web is recovered. He follows the reasoning of ecologists Peter Wohlleben and Stefano Mancuso who have put forward the root systems of plants as a form of perception and intelligence.[34] Trees care for one another and in the process care for the entire ecosystem. By planting young trees one does not create a new forest, therefore taking care of existing biotopes is crucial.

As mentioned before, care also pertains to relations of dependency. Exploration, even when done solo, is not a solitary activity that can be confined to the time spent en route. The eight individual trips Toirkens and Brandt Corstius made were made possible by prior crowdfunding and sustained by subscription-based cassettes. The explorer duo instructed Sweden-based Dutch carpenter Thomas Peters to build cassettes from birch-wood from the Taiga-region. These cassettes were slowly filled over the course of the project with items that Toirkens and Brandt Corstius found or products they created like a photographic print.[35]

Moreover, photographing the Far North is not an act of isolation, but rather characterised by dependency. This includes both the dependency one has on local peoples when travelling beyond the set infrastructure, and dependency on the home front. Toirkens benefitted from the connections that were built in the early crowdfunding stages of the project, by turning them into long-term relationships that could fuel his practice financially.

33 Milligan and Wiles, 2010.

34 Wohlleben 2015; Mancuso and Viola, 2013.

35 Borealis, "Borealis Cassette."

Despite geographical distance, caring about someone or something is an embodied rather than disembodied activity. Creating "care-ful" and compassionate subjects is a dynamic process that operates through the reciprocity between personal relationships and spatially distanced relationships.[36] This particular interaction materialises in the photographic practice of Toirkens and Arbugueva. Their images do not emerge from a vacuum. They rely on relationships that have been built carefully and as such they are not a flat representation of something they found there.

Conclusion

Impacts of climate change are felt earlier in the Far North. Also the consequences are more immediate and severe compared to other regions. The region's environment is fragile and has always been prone to extreme weather events, avalanches, earthquakes, and so forth. Yet as the ice of the Arctic sea melts, commercial shipping, resource development and tourism are increasing. With tourism and resource exploration on the rise, the vulnerability of the region increases. Art and photography might challenge the ongoing portrayal of Arctic and Subarctic terrains as isolated, wild, natural places outside society and civilization. As this article attempted to argue, the humanities are essential in forwarding ideas about the Arctic and the Subarctic. Natural science is crucial in research to climate change, risks and adaptations. But if the knowledge that is produced about the polar regions is limited to the natural and physical disciplines, the policies and strategies that follow will be equally limited. Ethical responsibility is related to public perceptions of a place. Visualisation, through art or photography, can foster new connections and advance an imagination of change. Both photographic projects transform the narrative of secludedness, isolation and remoteness into one of sincere connection. Eventually, they construct a 'landscape of care' that moves beyond physical boundaries and underlines an ethical duty for anyone living on this planet to care for and about places that we otherwise deem disparate. This is a vision of the Far North that is vital and very welcome.

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36 Milligan and Wiles, 2010.

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Unexpected Landscapes. Wastelands as 'buffer zones' for the future

Francesca Zanotto

Abstract

Land worldwide is deeply marked by human activity, which became heavier, harder, more wasteful, and permanent after the industrial revolution. The landscapes of the Anthropocene are the landscapes of growth, production, and destruction: unexpected sceneries, consequential to the aim to profit from the exploitation of natural resources, are the object of increasing interest in different forms of visual art. The representation of the Bingham Canyon Mine near Salt Lake City, the former Fresh Kills landfill in New York, and the decommissioned Tempelhof Airport in Berlin suggest how wounded lands may hold unforeseen values in the current age, not limited to being environmental scars but involving their being potential players of unpredictable cultural and strategic functions in the next future.

Keywords: landscape, wasteland, mine, landfill, infrastructure

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Land worldwide is deeply marked by human activity, which became heavier, harder, more wasteful, and permanent after the industrial revolution. The landscapes of the Anthropocene encompass riddled proving grounds and test sites, nuclear wastelands, immense open-pit mines, contaminated lands, disappearing bodies of water, boundless landfills, and discarded territories. These grounds bear the signs of production, extraction, and exploitation processes: human activities since the dawn of time, decisive drivers of the constant evolution of humankind's habitats worldwide. As Kevin Lynch summarizes in *Wasting Away*: "The Maori made garden soils over extensive areas of New Zealand by laborious digging, the addition of sand, weeding, and burning. Lands partially in the grass were by fire converted to continuous prairies, unleashing severe erosion and silting the river mouths. Once these economic resources were established, they turned to war, built massive fortified settlements, and abandoned much of their garden land. Whole regions were depopulated and went back to waste. Many settlements were sacked. The flight-less moa was slaughtered and driven to extinction, leaving bone deposits as dense as 800 skeletons to the acre. The Maori mined these sites for tools, and then the Europeans carted the bones to mills to make fertilizer. These ruins, boneyards, soils, grasslands, siltings, erosions, new and vanished species—along with the usual massive changes brought on by the European settlers—are all part of the productive landscape of New Zealand today"[1].

These 'unexpected landscapes', consequential to the aim to profit from the exploitation of natural resources, are the object of increasing interest in different forms of visual art. Among many examples, Canadian photographer Edward Burtynsky has been depicting the effects of production-related human activities on landscapes since the late Seventies, with a series of images bearing the echo of an unavoidable consumption of soil, irretrievable destruction of the natural environment, and unrecoverable alteration of global equilibriums leading to a final, close annihilation. In 2010, German-Italian artist Rosa Barba filmed *The Long Road*, a 35mm video artwork depicting an abandoned race track, discovered by the artist in the Mojave desert. In the artwork, Barba travels along the track, a trace left behind by human activity: "[...] When the track is in use, it becomes a grand act of landscape-size writing, a potential that sits in wait of Barba's film. [...]"[2]. Barba's artwork depicts the act of reading again a document of the past through art, unveiling lost information and activating new cultural meanings; it suggests how wounded lands may hold unforeseen values in the current age, not limited to being environmental scars, and the role that representation may play in their perception as potential players of unpredictable cultural and strategic functions in the next future.

1 Kevin Lynch, *Wasting Away* (San Francisco: Sierra Club Books, 1991), 104.

2 Ben Borthwick and Melissa Gronlund, "Rosa Barba: Changing Cinema", Afterall.org (2010). Available at: https://www.afterall.org/article/changing-cinema (accessed on April 27th, 2022).

Among the destructive activities carried out by humankind, extraction and mining are those that most severely modify the surface of the Earth. The Bingham Canyon Mine, also known as Kennecott Copper Mine, was opened in 1906 in the southeast of Salt Lake City, Utah; since then, the mining activity has created a crater more than 1 km-deep and 4km-wide, on 770 hectares, inserted in 1966 in the National Register of Historic Places with the name of *Bingham Canyon Open Pit Copper Mine*. In recent years, the mine has been expanded and new plans exist to prolong its activity until 2030. The current management focuses on the progressive decommissioning of the mine, following its expansion: as new veins are followed, the exhausted ones are left as open-air voids. These craters are among the main issues left behind by the extractive activity: companies usually deal with the afterlife of the mine with attempts of renaturalization of these exhausted lands, trying to reabsorb them in the landscape. However, these shafts are powerful sceneries able to register—in the present and the future—the evolution of our relationship with the environment, natural resources, production, and consumption patterns; they can be read as documents and lend themselves to be given new meanings by future generations only if they are preserved and experienced in the form human activities has given them.

[Fig. 1]
Mining operations at Bingham Canyon Mine, Utah, 2009.
Credit: Arbyreed. License: CC BY-NC-SA 2.0

The many existing pictures of the mine—both those taken by great photographers such as Edward Burtynsky, David Maisel, and Peter Goin and those taken by the visitors—portray the astonishing size of the chasm, the several visual planes, the outline of the crater, looking as shaped by an unfathomable superior design. These pictures—all depicting the same relationship between the observers and the spectacle—prove the spontaneous fruition of the mine as a scenery. They unlock its possibility to be perceived as a potential bearer of new values and roles in aesthetic, socioeconomic, and ecological terms. The panoramic observatory installed on the edge of the Bingham chasm seals this agency; it activates the immediate relationship between landscape and gaze, recalling the primary function of the latter in the fruition of places: without a gaze, there is no landscape.The reciprocal condition between the observer and the Bingham scenery recalls the one subsisting in a Greek theater, that "marks the spectator's place on the unstaged scene of a landscape, open to the divine power of sight. [...] The theater is the place of landscape knowledge"[3]. The architecture of the Greek theater is closely related to nature: its *cavea* is only minimally excavated since it rests on the side of a hill to take advantage of the natural slope as much as possible; the integration into nature is sublimated by the panorama overlooking the hill, which became the very scene of the shows. While the Greek theater relies on nature in a whole full of meaning, the Bingham mining *cavea* has been excavated for more than a century in a completely artificial way, perpetrating the most extraneous purpose to the agreement with nature: its exploitation. This process, however, has unintentionally shaped a landscape in which artificial codes blend with natural ones, and where a man-made scenery is enjoyed and used as a natural panorama. Tourists and visitors go to Bingham to observe a breathtaking view, but what they contemplate is a void, an absence. They perform a new relationship with the environment: the memorialization of a lost landscape that vanished forever along with the unfolding of earth-related processes of the Anthropocene.

An example of the unexpected roles the mine can play—as well as its representation in the framework of artworks—is the interest it raised in Robert Smithson, who in 1973 proposed to Kennecott Copper Corporation a spontaneous reclamation project for Bingham's mine pit, part of a series of interventions "that would transform devastated industrial sites into a new form of public art"[4]. Smithson claimed that "the world needs coal and highways, but we do not need the results of strip-mining or highway trusts. [...] Art can become a resource, that mediates between the ecologist and the industrialist"[5]. *Bingham Copper Mining Pit – Utah Reclamation Project* was part of a portfolio of projects that Smithson proposed to mining companies since, at the beginning of the 70s, they started to be pressured to adopt cautionary measures concerning possible toxic waste as a result of extractive activities, following the environmental awareness

3 Massimo Venturi Ferriolo, *Percepire paesaggi. La potenza dello sguardo* (Torino: Bollati Boringhieri, 2009), 52. Quotation translated by F. Zanotto.

4 Robert Smithson, Nancy Holt (eds), *The Writings of Robert Smithson* (New York: New York University Press, 1979), 220.

5 Ibid.

widespread in the US after the birth of civil right movements and federal policies as the Clean Air Act. The Kennecott company itself, when receiving Smithson's proposal, was evaluating some reclaiming projects before they would have been imposed by federal regulations. Smithson was hoping to start a collaboration with mining companies, given their growing interest in innovative systems for recovery and reclamation. For his proposal to Kennecott, the artist combined photography and drawing: he presented a photocopy of a picture of the crater, to which he overlaid his project, drawn with white wax and a black pencil on a transparent plastic sheet. Bingham's stepped walls were abstracted so much to "resemble natural forms such as tree rings or the sedimentary layers of earth's crust, and the sense of scale suggests epic and overwhelming forces at work"[6]. The crater already met Smithson's aesthetic and he had no intention to modify it: he just intervened by designing a revolving disk to be placed at the bottom of the pit, featuring four hooklike signs on a white ground. "The object is engaging; employing both pre existing and imagined forms, it invites the viewer to envision the site transformed by the installation"[7]. During heavier rains, the hooklike lines would become jetties on the water collected in the cavity, placed at the center of the visual field to be the focus of the composition: the disk would have soon turned yellow because of toxic spills and acid rock drainage. The rotation suggested by the artist would have allowed the visitors to observe a 360-degree spiral show of the canyon, standing still in one spot: a way to acknowledge the progressive and unavoidable action of humankind on the natural order.

Wastelands constitute potential 'buffer zones' to meet unforeseen conditions and necessities that may occur in the framework of contemporary instability. Right after the events of 9/11, during the first rescue operations that followed the dramatic fall of the Twin Towers, it was immediately clear that on the site of the attack, in lower Manhattan, there was a pressing issue about space. *The pile*[8]—as the terrifying mass of smoldering matter left behind by the fall of the towers was simply called—would have been gradually dismembered to recover survivors and victims' remains and the huge amount of steel and debris had to find a place as soon as possible, not to stay on the site and impede rescue operations. In the density of Manhattan, a quick and practical relocation of such a huge amount of material had to look outwards: Giuliani administration, in the urge to find an immediate solution, decided to use the Fresh Kills landfill in Staten Island, which was opened in 1948 and closed just some months before 9/11, on the way to start a process of reclamation. Covering a surface doubling Central Park, the landfill demonstrated to be especially suitable to work as a collecting area for World Trade Center's debris thanks to its water docking; furthermore, the possibility to use barges to move debris instead of trucks would allow bigger and quicker loads and would have kept debris far away from

6 Jennifer Padgett, "Robert Smithson", *Notations: Contemporary Drawing as Idea and Process*. Available at: http://notations.aboutdrawing.org/robert-smithson/ (accessed on April 27th, 2022).

7 Ibid.

8 William Langewiesche, *American Ground. Unbuilding the World Trade Center* (New York: North Point Press, 2002), 11.

roads, avoiding the diffusion of harmful dust. Fresh Kills was the biggest landfill in the US, with five hundred hectares of buried waste, more than fifty years of New York trash that, in certain areas, stood above the Staten Island estuary for sixty meters. Seventy hectares were devoted to the operations on World Trade Center's rubble, identified in an area on top of the higher hills, then renamed Mound Four.The pile in lower Manhattan was dismantled piece by piece and taken to Fresh Kills. At first, the towers' steel was sorted, cut into pieces, and sold, taken away on huge cargo ships; it was high-quality steel, too expensive to be reused in American steel mills, cheaper in other countries, where recycling costs were lower and industrial regulations less strict. The remaining mass of debris was taken to the top of Mound Four, where it was rebuilt in other, inconstant forms, giving rise to a new arrangement, "into little mounds, where the sorting began. The hilltop was a wild-looking place, with American flags whipping in cold winds, like the outpost of a government expedition to a toxic planet. It was scattered about with heavy equipment, truck trailers, and prefabricated structures of various kinds [...]"[9]. A temporary city was soon settled on the top of the hill, named The City on The Hill[10]; the Hilltop Café, run by the Salvation Army and the American Red Cross, served food and drinks to more than 1500 people per day, busy in the sorting operation of Twin Towers' remains. Once the recovery operations were over and the landfill definitively closed in the summer of 2002, the relocation process of the remaining rubble started. The debris was finally used to give a fixed arrangement to the cycle of sceneries: integrated into the hills of Fresh Kills, they have become the soil for a new park, establishing a link with the past of the city of New York itself, built on its own 'historical garbage'. A reclamation project in phasis is transforming the former landfill into an urban park three times as large as Central Park, that by 2035 will offer to residents and tourists 890 hectares of wilderness, sports centers, facilities for water activities, educational and artistic centers, sports fields, and free green areas. William Langewiesche describes the process of integration of the rubble into the morphology of Freshkills park: "the interments began right away, in a patchwork pattern across the hilltop, and consisted not of digging graves but of spreading the Trade Center remains and covering them over with a thick blanket of earth. In that most unexpected way, the hilltop slowly grew, with the World Trade Center adding rolls and variations to the ground where someday people would come to relax. In fact, nothing was just 'thrown out at the dump'—not a single piece of those buildings. [...] by midsummer, less than a year after the attack, the World Trade Center and its burned and pulverized contents lay under bare earth, absorbed, like so much else of New York's past, into the man-made hills of Fresh Kills"[11].

9 William Langewiesche, *American Ground*, 194.

10 New York State Museum, "Fresh Kills", NYS Museum. Available at https://exhibitions.nysm.nysed.gov/wtc/recovery/freshkills.html (accessed on April 27th, 2022).

11 William Langewiesche, *American Ground*, 196-198.

The shocking pictures of lower Manhattan devastated by the towers collapse depicted with striking clarity the challenge that the city would have faced in the following months: recover from the trauma through the reconstruction of its urban environment, which first act would have been finding a place to relocate and sort out the shapeless pile of matter fallen onto the city after the attack. The mass of debris, changing constantly shape and scale along the process, from Manhattan to the Fresh Kills site, gave shape to a series of temporary landscapes and unstable sceneries, with different values evolving over time as the perception of what happened. The pictures of the new Freshkills park, of its gentle hills and welcoming grasslands, constitute an impressive counterpart to the chaotic spectacle of 9/11: they mark the end of the reconstruction process and create the space for a collective recovery. This visual sequence stresses the unexpected opportunities lying in wastelands as potential 'buffer zones' ready to accommodate unforeseen necessities.

[Fig. 2]
Fresh Kills Landfill on fire, New York, 2012.
Credit: Paul McGeiver. License: CC BY-NC-ND 2.0

Infrastructure is another means through which humankind severely affects its own environment, one of the main causes of soil consumption as well as another form of unpredicted landscape-making. When infrastructure gets decommissioned, its environmental toll rises due to the inefficient use of resources employed in its construction, as well as the consumption of those that would be necessary for reclamation works. The case of Tempelhof Airport in Berlin shows how the abandonment of a complex infrastructure has resulted in the preservation of an empty area which proved to be extremely valuable as the city has grown dense around it for ninety years. After the closure of the airport in 2008, the area was left as a great void in the urban fabric; its shape and simple design, consisting of two long runways and an outer ring, are easily readable on a topographical scale. The decommissioning generated a site that was spatially well-defined, but extremely imprecise from a functional point of view. A place that embodied the concept of 'negative': at the moment in which something is drawn and an outline is traced, it gives rise, at the same time, to an inside and an outside. ''The two spaces that derive from the separation between what is superfluous and what is necessary therefore present antithetical characteristics: while the first is indeterminate, the second presents the characteristics of designed order or form''[12]. Normally, the term 'indeterminate' refers to what is left out of the design; in this case, however, the balance is reversed. The airport has been designed at the time, the outline has been traced to identify an area separated from the rest, to carry out a specific activity; at the moment of the closure of the airport and the opening of the area as a public park in 2010, however, Tempelhof was surrounded by the city, by the order and planning of roads and buildings, while within its perimeter the programmatic indeterminacy reigned. It is precisely this uncertainty that makes Tempelhof a cherished place in the city of Berlin. The park is enormous and yet, from the surrounding fabric, almost invisible, perfectly harmonized with the urban environment. Inside the perimeter fence, the horizon is visible but distant, the paved roads are much wider than any tree-lined avenue in the city, and the extension of the lawns is emphasized by the total absence of trees and bushes.

This wide proportion is depicted by the photographic representation of the park: pictures insist on the horizontal dimension of the space, marked by the vast, empty surface of the landing strips and the open sky above them. In the middle of these two broad canvases, there is space for any unpredicted communal or individual experience. The activities performed on its runways are many and different: the boundless definition of the place reflects its users' inner tension for freedom of action. Lynch himself, in *Wasting Away*, touches on this point: ''in abandoned places, the release from a sense of immediate human purpose allows freer action, as well as free mental reconstruction. [...] Many waste places have these ruinous attractions: release from control, free play for action and fantasy, rich and varied sensations''[13]. These places shield the first weak forms

12 Sara Marini, *Nuove Terre. Architetture e paesaggi dello scarto* (Macerata: Quodlibet, 2010), 49. Quotation translated by F. Zanotto.

13 Kevin Lynch, *Wasting Away*, 25.

of some new things[14] and for this reason, they not only arouse a concrete attraction but also have a certain importance for the growth and development of society. In the dense and programmed city of Berlin, Tempelhof represents a place for openness, freedom, and self-expression: this invaluable role has been stressed by the result of a popular referendum that in 2014 halted the development of real estate plans in the area, safeguarding the site as it was—and still is.

The unexpected landscapes produced by the Anthropocene are today read as the staging of the dominance of humankind over the environment, derelict spans of exploited land to be reclaimed or 'brought back to nature'. The illustrated examples, however, demonstrate how these lands—compromised to the point to be useless, locked down, and inaccessible in some cases—may represent a resource for the future, and photographic representation plays a crucial role in the process of cultural acceptance of this opportunity. Images hold the power to unveil potential new roles and interpretations of these landscapes, unlocking the process of envisioning and outlining strategies for their preservation. This could mean being able to conserve strategic areas for unforeseen necessities—even paradoxically uncontaminated in comparison to future conditions we still cannot predict—and enable crucial roles they may fulfill after the Anthropocene, according to Haraway "more a boundary event than an epoch, [a time that] marks severe discontinuities"[15].

14 Kevin Lynch, *Wasting Away*, 153.

15 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016), 100.

[Fig. 3]
Berlin Tempelhof Airport Runway 09L, Berlin, 2014. Credit: Tony Webster.
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Beyond the Whiteness: Environmental Concerns in the Visual Narratives of Carrara Marble Quarries

Noemi Quagliati

Abstract:

Marble extraction in the Italian Apuan Alps has been known since Roman times, and its historical importance is symbolized by masterpieces of Western art history. However, the Carrara marble industry has recently received harsh criticism for operating in the protected area of the Apuan Alps Regional Park, recognized by UNESCO since 2015. Environmental and social concerns about mining have arisen from the extreme acceleration of all the productive phases of the extractive industry. From the mid-twentieth century, the exploitation of geological deposits of marble grew exponentially thanks to the development of powerful extraction technologies and a global export economy that creates only relatively few occupations in Carrara.

Within this context, photographic and cinematographic projects have increasingly focused on the environmental risks created by the marble mining industry. This article shows how visual representations of Carrara have changed in recent years via an analysis of three case studies: the internationally acclaimed documentary *Anthropocene: The Human Epoch* (2018), the climbing project and Italian short film *Carie* (Cavity 2019), and Lorenzo Shoubridge's naturalistic photographs in *Apuane: terre selvagge* (Apuan Wildlands 2018).

These case studies offer an innovative perspective on the landscapes of marble extraction. Previously, these landscapes were represented following other visual trends emphasizing the technological sublime found in the geometric shapes of the white quarries, the working conditions of marble laborers, and the myth of the purity of marble used in artistic sculptures. The three examples analyzed in this paper attempt to go 'beyond the whiteness' by focusing on the scale of environmental destruction (*Anthropocene: The Human Epoch*), the more-than-human perspective (*Apuane terre selvagge*), and the social struggle for preserving a mountain region through creative solutions (*Carie*). In other words, new aesthetic and ethical sensibilities are challenging established twentieth-century narratives of the Carrara marble quarries by focusing on a new element: the environment.

Keywords: Carrara, Marble Quarries, Anthropocene, Environment, Visual Culture

Noemi Quagliati is an art and photo historian specialized in landscape and aerial iconography, nature and territorial photography, photo-optical technology for military and environmental applications, multisensory aesthetics, and collective memory. After having studied at Brera Fine Arts Academy in Milan and Istanbul Bilgi University, she earned a PhD from Ludwig Maximilian University Munich in cooperation with the Rachel Carson Center for Environment and Society. Based on her doctoral research, she is completing her first book entitled "Militarized Visualities: Photographed Landscape in WWI Germany." Noemi has been a visiting researcher at UC Berkeley and the Research Institute for the History of Science and Technology of the Deutsches Museum, where she has collaborated on modernizing the museum's historical aviation section by investigating the topic of aerial photography. She is currently a lecturer in the history of photography at the LMU Amerika-Institut, where she also coordinates the Ph.D. program of the Class of Culture and History. Before joining the Amerika-Institut, Noemi lectured on German eco-aesthetics at the Junior Year in Munich Program (Wayne State University, Detroit – LMU Munich). She is an associate member of the Network Topographic Visual Media and the European Society for the History of Photography.

"The magic of the quarries opens up like an apparition."[1]

The Massa-Carrara Tourist Office website promotes the marble quarries as a distinctive attraction of the most northern province of Tuscany. This Italian region comprises both kilometers of sandy beaches as well as the many mountain peaks of the Apuan Alps. However, according to the tourist office, the natural beauty of the sea and mountains is not the only landscape feature to appeal to visitors.[2] Massa-Carrara province offers an even more unique scenery: the white manufactured landscape of the marble quarries.[3] This landscape is immediately recognizable when driving past the city of Carrara on the motorway A12, which in Italy is also known as Autostrada Azzurra (Blue Motorway).[4]

Located between the Ligurian Sea and the Apuan mountain range, the coastal road runs through the industrial area of the municipalities of Massa and Carrara. The elevated motorway allows a comprehensive view of an industrial landscape characterized by factories and overhead cranes that lift marble blocks and slabs. The uniformly cut rocks are tidily stacked all around the manufacturing buildings, waiting to be shipped and marketed. The industrial district lies between the Apuan quarries and the commercial harbor of Marina di Carrara, which is used for shipping the 'white gold.'

The excavated mountains accompany this landscape of production. In the summer, when the high season brings millions of tourists to the area, the green-yellowish flora of the mountain range appears interrupted by a white, shining surface similar to a layer of snow. However, the high temperatures suggest to visitors that what they are observing must be the famous Carrara quarries known worldwide for some of the most precious bright, white marble used since ancient times.[5]

1 My translation of the original: "La magia delle cave si apre come una visione." See: https://www.aptmassacarrara.it/home/scopri/marmo/ (Accessed: 24 March 2022).

2 Cf. original: "Un panorama unico: chilometri di spiagge incastonate tra l'azzurro del mare e il bianco delle cave marmoree e delle cime innevate all'orizzonte." See: https://www.aptmassacarrara.it/home/scopri/mare-e-natura/ (Accessed: 24 March 2022). Cf. also Cesaretti (2020, 94).

3 For the term "Manufactured Landscape" see Burtynsky et al. (2003). For the older concept of "Man-altered Landscape" see Adams (1975). For the notion of "Anti-Landscape" see Nye and Elkind (2014) and for "Poisoned Landscape" see Kaspar-Eisert (2019).

4 The Italian motorway A12, part of the European route E 80, partly connects Genoa to Rome following the Ligurian and Tyrrhenian coasts.

5 For a comprehensive analysis of the aesthetics of marble in history, see Gamboni, Wolf, and Richardson (2021).

The Roman exploitation of marble in the Apuan Alps (at that time called Luna marble) flourished under Emperor Augustus, who claimed to have found Rome a city of brick and left it a city of marble (Klainer 2009). Public monuments in Rome—including Trajan's Column and part of the Pantheon—testify to the use of this material (quarried by slaves) in Roman architecture.[6] Nowadays, the ancient quarry of Fossa Cava is an open-air museum in the Colonnata basin that maintains traces of this historical period. A famous Roman archeological find is the Niche of Fantiscritti (III century A.D.) portraying Jupiter with Hercules and Bacchus, which was originally carved in the homonymous quarry.[7] This niche also reports the later signatures of Canova, Michelangelo, and Gianbologna (in addition to famous personalities of the Grand Tour travelers) who personally selected marble blocks for their artworks.

After the Roman period, starting from the 12th century, the white marble was used in religious architecture. The Cybo and Malaspina families, who ruled over Massa and Carrara, monitored marble quarries in the 17th and 18th centuries. These noble families granted locals the right to exploit the quarries and hand over the concession to their descendants. By claiming that the marble belonged to the town and not to a handful of families, Carrara workers organized the Lunigiana revolt in 1894 (Gemignani 2020). Since then, Carrara has become a stronghold of international anarchism; and anarchist partisan formations were active in the Carrara area in the anti-fascist Resistance in Italy during World War II.[8] Against the labor movement, the fascist autarchic system consolidated rents to only a few Carrarians and made extensive use of marble in buildings and urban spaces to legitimize the regime by associating it with its imperial predecessor.[9]

By 1876 an industrial railroad (Ferrovia Marmifera Privata di Carrara) had replaced ox-drawn wagons for transporting marble from the quarries and remained active until the 1960s when it closed due to competition from road traffic.[10] In 1995, a Constitutional Court ruling stipulated that almost all quarries are unavailable assets of the municipality and can be given in concession to private parties only for a temporary fee. However, quarry concessions are often awarded without competition, for very long periods of time, and based on fees below market value.

6 The study of Roman slaves' inscriptions in the Carrara quarries allows archaeologists to date mining activities. See Paribeni and Segenni (2014).

7 Saverio Salvioni's drawing no. 12 "Fantiscritti e Val di Chiaro" show the original position of the niche in the quarry http://www.archiviodistatomassa.beniculturali.it/index.php?it/172/salvioni; After being removed from the quarry wall on which it was carved, the niche (Edicola dei Fantiscritti) has been placed in the Cybo Malaspina palace, today headquarter of the Carrara Academy of Fine Arts.

8 For anarchism in the Apuan region see Rovelli (2012) and Vatteroni (2019).

9 Representations of Carrara marble quarries in fascist time can be found in the propagandistic films of the Istituto Luce. See https://patrimonio.archivioluce.com/luce-web/search/result.html?query=alpi+apuane&archiveType_string= (Accessed: 15 April 2022). For the use of marble in architecture during Fascism, see Rifkind (2018).

10 For the condition of Carrara quarry workers at the beginning of the 1970s, see the documentary of Bonfanti and Pasolini (1972, 20:32 to 23:21). For a reportage of the Carrara mining industry in the 1980's, see Newman and Boulat (1982).

Throughout the last couple of decades, big businesses run by multinationals have used marble flakes to produce calcium carbonate for paper and as a filler in toothpaste, foodstuffs, and in the cosmetics and painting industries (Mistiaen and Briganti 2015).

The history of mining in Carrara helps to explain the architecture of the quarry as it appears today. Open-cast mining on the vertical mountain walls makes the core of the mountain visible. Geologists explain that the brilliant white of marble is caused by the shells and bones of prehistoric marine life: sediments that the mountain, with its elevation of nearly two thousand meters, has incorporated. The mining industry has therefore transfigured the natural landscape of this region. Distinguishing where the quarries finish and where the mountains begin is impossible in Carrara.[11] Human intervention is revealed through the geometry of the mountainside constituted of towers, terraces, steps, and zigzag curves, with wheeled loaders, excavators, and articulated dump trucks, distinguished by the brand CAT, appearing like tireless caterpillars as they enter and exit the quarry's tunnels.

In the seaside resorts of Marina di Massa and Carrara, tour operators advertise guided visits to active open-cast and underground quarries.[12] Many of these trips even comprise an *aperitivo in cava* (cocktail in the quarry) in front of a "sublime scenery."[13] The type of narration one would expect from these guided tours would be based on the historical importance of marble extraction, the mining methods and working conditions of the quarrymen,[14] and the celebration of Carrara marble as the rock of the artists. Therefore, it is not surprising to find the colorful face of Michelangelo's David painted by the Brazilian muralist Eduardo Kobra on the highest peak of the Gioia Quarry (Marsala 2017; Baldini 2021).

Despite the constant reference to mining traditions and past artistic uses of the white rock, extraction techniques have changed greatly since the painter Saverio Salvioni portrayed manufacturing methods used in quarries between 1810 and 1813 (fig. 1). From the mid-twentieth century, powerful technologies have led to the extreme acceleration of all of the productive

11 To show this contiguity, the term "mountain-quarry" is often utilized in this article.

12 Among different private guided tours, popular are the visits at the *Cava Museum* in Fantiscritti, http://cavamuseo.com/en/, the *Ravaccione Gallery n. 84* organized by MarmoTour http://www.marmotour.com/il-tour-3/, and *Cava 117* http://www.cava177.com/en/cava177_marble_quarries_tour.html (Accessed 30 March 2022).

13 The words "spectacular" and "sublime" can often be found on Carrara tourism websites. Cf. also Edward Burtynsky's use of the term "industrial sublime" (Dean 2003: 43, cited in Scott 2022, 121). For "technological sublime" see Nye (1994).

14 For ethnographic research on work and labor in the marble quarries of Carrara, see Leitch (1996; 2010). A recent TV series about the present work of quarrymen (and women) in Massa-Carrara province is *Uomini di Pietra* (GiUMa Produzioni 2020), which environmental associations have criticized for supporting the destruction of part of the Apuan Alps.

[Fig. 1] next page
Saverio Salvioni, Cava di Ravaccione, 1810–1813 (Source: Archivio di Stato Massa e Pontremoli)

phases of the extractive industry. The diamond wire, which substituted the helical wire in the 1970s, allows for much faster cutting of blocks from the mountain. On the one hand, this system allows a greater quantity of marble to be mined (with a higher environmental impact), but on the other hand, it also requires much fewer human resources. The marble industry has therefore been harshly criticized in recent years. Even though environmental and social concerns about industrialized mining are not reported in the quarries' guided tours, the exploitation of mineral deposits is at the center of local public debate.

Strolling around the city of Carrara or following the streets that lead to the mountain-quarry, acute observers can notice sprayed handwriting such as "No Cave," "Basta! Cave Chiuse" (No Quarries, Stop! Close the Quarries, fig. 2). These messages of protest are often written on the marble blocks and contrast with Eduardo Kobra's intervention. Rather than employing the block as a canvas for celebrating the genius of sculptors of the past, anonymous citizens express their opposition to the current industrial system that is exporting the Apuan mountains and destroying and polluting the communal environment. The protest movement for safeguarding the Apuan Alps and limiting the industrial activity of the quarries is known as *No Cav* (No Quarries), which comprises many groups active in the area, e.g., the environmental association *Apuane Libere*, the committee *Salviamo le Apuane*, and others.[15]

Critique against marble extraction also appeared in a 2021 manifesto issued by an anarchist group close to the *No Cav* cause. Titled "Le cave ai contadini!" (Quarries to Farmers), the manifesto claimed that Carrara is no longer the home of marble and has become an open-air dump where multinational corporations make a big profit to the detriment of the local community. Unemployment, pollution, and traffic congestion caused by road haulage (which replaced marble rail transport) caused the depopulation of the mountain region. In the first few decades of the twentieth century, quarry workers protested against the awarding of state concessions of the marble basins to private and excessively powerful 'barons.' At that time, the motto that appeared in the periodical *Il cavatore* was "Le cave ai cavatori!" (Quarries to the Quarrymen).[16] According to current environmental sensibilities, which also influence contemporary anarchist groups, the only possibility for envisioning a sustainable future for the Carrara community is to return the quarries to nature. Reflecting on the Italian word for mining

15 Having arisen at the beginning of the 21st century, *No Cav* is a heterogeneous movement composed of various groups that organize activities at a local level that favor limiting marble extraction in the Apuan Alps. Even though the movement does not have a website, a list of the associations involved can be found at https://en.wikipedia.org/wiki/No_Cav. See also the website of Salviamo le Apuane http://www.salviamoleapuane.org and Apuane Libere https://apuanelibere.org. Besides these local associations, an interesting petition against the privatization of some parts of Carrara's marble basins was signed by Italian intellectuals in 2016 and can be found at https://firenze.repubblica.it/cronaca/2016/09/06/news/in_difesa_delle_alpi_apuane_l_appello_di_scrittori_e_intellettuali-147288351/ (Accessed: 15 April 2022).

16 In January 1920, the socialist lawyer Vico Fiaschi published a series of articles on the periodical *Il cavatore* using the expression "Cavatori, le cave sono vostre" (Quarrymen, the quarries are yours). Cf. Bernieri (1964).

coltivazione, literally cultivation, even though the marble mountains may be erased forever as a consequence of mining activities, the anarchist manifesto seems to be searching for ways to restore the link between the natural world and the marble quarries by aiming at supporting the sustainable growth of the mountain region and its communities.[17]

17 See https://upload.wikimedia.org/wikipedia/commons/6/6e/An_anarchist_%22No_Cav%22_declaration_in_Carrara%2C_2021.jpg (Accessed: 15 April 2022).

[Fig. 2]
Marble blocks on the road to Piazzale dell'Uccelliera, Carrara, 2021 (Source: Author)

The first part of this article has introduced the historical context and the present debate regarding the Carrara marble quarries: a controversy involving the local community, regional and national institutions, international actors, and visitors. This introductory account should help to dive into the second part of the paper, which analyzes how environmental concerns have impacted the visual narratives[18] of Carrara marble quarries. Three examples will guide us in exploring how visual representations of the Carrara region have changed in recent years: the internationally acclaimed documentary *Anthropocene: The Human Epoch* (2018), the climbing project and Italian short film *Carie* (2019), and Lorenzo Shoubridge's naturalistic photographs in *Apuane terre selvagge* (2018). These three examples demonstrate different visual genres that aim at diverse audiences when it comes to representing the marble mountains.[19]

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The documentary *Anthropocene: The Human Epoch* (2018), directed by the Canadians Jennifer Baichwal, Edward Burtynsky, and Nicholas de Pencier, is an 87-minute cinematic catalog of environmental destruction organized around seven themes: extraction, terraforming, techno-fossils, anthroturbation, boundary limits, climate change, and extinction. Shot across twenty-two countries, the film visualizes the impact of human activities on the Earth's ecosystems by reflecting on the concept of the Anthropocene, a newly proposed geological epoch in which humans have acquired the role of a geological force able to cause changes at a planetary scale. The film directors have included the Carrara marble quarries as one of the many examples of "humanity's massive reengineering of the planet." Even though this Italian case is not the main subject of the documentary (Carrara appears only for less than five minutes), the Apuan marble assumes a symbolic value as a consequence of being featured in the film's trailer and on posters advertising the film, as well as in interactive experiences on the Anthropocene project website that accompanies the film.[20]

Edward Burtynsky, photographer and the most famous among the directors of *Anthropocene: The Human Epoch*, had already photographed Carrara quarries in 1993, incorporating these snapshots in his books *Manufactured Landscapes* (2003) and *Quarries* (2007). The film poster's image portrays Carbonera quarry in the extraction basin of Fantiscritti photographed by Burtynsky in 2016 using a drone (fig.3). In the poster, the natural shape of the top of Cima

18 In this article, different photographic and cinematographic projects (specifically a photobook, a documentary, and a short film) are analyzed in their formal and stylistic aspects. Within the field of environmental humanities, and especially ecomedia, this is considered a traditional approach to examining visual products. A recent trend in film scholarship aims at analyzing the environmental cost of film productions, namely what occurs 'behind the scenes.' This article overlooks this aspect and is therefore primarily concerned with aesthetics.

19 Among the numerous photo-cinematographic projects realized in the first two decades of the 21st century on the subject of Carrara quarries (e.g., Konrad 2010; cf. also Papapetros 2021), the three examples analyzed in this article were released in the last five years and they are particularly permeated with environmental concerns.

20 For a description of the movie and the cultural initiatives organized around it, see https://theanthropocene.org/film/ (Accessed: 15 April 2022).

Canal Grande, apparently untouched by marble extraction activities, contrasts with the artificially deformed landscape of the quarry just below the mountain's summit. The dark low clouds, a common feature in this area, add a sinister atmosphere to the image. Like many other photographers and filmmakers before him, Burtynsky is intrigued by the history of the Carrara iconic marble and the quality of the light that falls across the Apuan Alps (Papapetros 2021). His cold and sharp style reminds the approach of the German photographer of the New Objectivity Albert Renger-Patzsch, who published the photographic volume *Gestein* (Rock) in 1966, an album of rock formations that also includes photographs of Carrara marble quarries. Composing thematic visual catalogs of variations of similar subjects is a practice used by Renger-Patzsch and Burtynsky, even though the latter adds bright colors and comprehensive panoramics, an essential character also present in the documentary *Anthropocene*.

[Fig. 3]
Poster of the documentary *Anthropocene: The Human Epoch* (2018). The image is a portion of Edward Burtynsky's photo *Carbonera Quarry #1*, Carrara, 2016 (Source: The Anthropocene Project website; used with permission.)

The Carrara marble quarries represented on the film's poster appear circa twelve minutes after the beginning of the documentary following scenes regarding the mining town of Norilsk (Russia). The shooting in Carrara starts with a quarry wall marked by vertical cuts, creating terraces from which blocks are extracted. The camera films this geometric composition progressively until bulldozers appear at the center of the scene, clearly distinguishable from the background by their frenzied pace. Their movements offer a stark contrast to the inert atmosphere of the white-gray walls of the quarry. The drone recording stands still, with the machines poisoned on an imaginary horizon slightly above the center of the film's frame. Then, the camera gradually recedes, moving away from the quarry's core. The view opens on the entire mountain-quarry. From this new perspective, the bulldozers shrink in size, emphasizing the massive scale of the extraction site that seems almost never-ending. The sequence ends before the viewer can see the summit of the mountain, which, however, is easily recognizable as being the peak portrayed on the film's poster.

A piece of melancholic music played by a string orchestra accompanies the aerial scene, which is overlapped by the raspy voice of a quarryman, whom we know from the end credits to be Franco Barattini, the entrepreneur managing the Cave Michelangelo group. In the next close-up, Barattini recalls a memory from when he was a boy when extracting a single block of marble lasted twenty days. Nowadays, it takes only one day, showing how quickly technology advances. While his description continues, the noise of the machines operating in the quarry becomes louder until Mozart's piece *Don Giovanni – A cenar teco m'invitasti* starts. The opera indicates the beginning of an important moment in the film's narration, namely the difficult exercise of managing the inertia of a stone weighing tons when a marble block (*bancata*) is extracted. The entire operation is guided by the experienced 'chief' of the quarry, who coordinates the workers in moving the machines using a language consisting solely of gestures and signs to overcome the noisy tumult of the extraction industry (cf. Ancarani 2010). After cutting the marble with diamond wire, an excavator overturns the block on a bed of rubble previously prepared on the quarry floor. The falling of the block is shot from three different perspectives and coincides with the end of the music, which is also the end of the work in the quarry (fig. 4).

The last sequence of the documentary is filmed in the sculpture workshop *Studi d'Arte* of the *Cave Michelangelo* group, showing a relaxed, almost spiritual atmosphere that contrasts with the previous scenes in the quarry. Artisans reproduce classical statues with electric stone carving tools in a spacious room flooded with bright light. Perfect copies of Michelangelo's David show once again that, in the popular imagination, the Carrara marble quarries are still linked with iconic sculptures of the past (fig. 5).

[Fig. 4]
The falling of the marble block after the detachment from the mountain. A frame from *Anthropocene: The Human Epoch* (Source: Baichwal, Burtynsky, and de Pencier 2018, 0:15:57; used with permission.)

[Fig. 5]
Sculpture workshop Studi d'Arte of the Cave Michelangelo group recorded in the film *Anthropocene: The Human Epoch* (Source: Baichwal, Burtynsky, and de Pencier 2018, 0:16:51; used with permission.)

Visually stunning and often described in favorable reviews as 'alarming' and at the same time 'beautiful,' Baichwal's, de Pencier's, and Burtynsky's film has also been criticized for aestheticizing destruction through the use of captivating image compositions and the skillful use of contrasting colors.[21] Like many eco-projects that aspire to represent the large-scale human transformation of the Earth, this Canadian documentary uses (and sometimes abuses) panoramic and aerial recordings in order to show the large scale impact of human technology on ecosystems.[22] On the one hand, the ultra-high-definition of the distant view highlights the patterns made by 'anthropogenic' changes, but, on the other hand, it obscures local actors and historical and political causes by simplistically generalizing 'humans' as destroyers of the planet (cf. Sandoz and Weber 2022).

Moreover, the directors of *Anthropocene: The Human Epoch* favor quantity of visual examples over a deep contextual analysis of complex case studies. Even though the Canadian directors integrate more information into the interactive website and exhibitions related to *The Anthropocene Project*, the film excludes the voice of scientists, environmentalists, local groups of citizens, and regional park administrators who make Carrara a hot spot of conflicting interests. The film focuses on the landscape transformation caused by efficient (but disembodied) technologies and logistics that seems to overshadow 'the humans.' At this extraction rate, the Carrara marble will no longer exist in the form of a mountain, and, in fact, the whitest variety of marble called Bianco Statuario has nearly been wholly extracted.[23] Unable to change the course of these events, 'these humans' can only admire the unique character of the white stone as an artistic and architectural material of great historical and cultural importance (even though this is only mainly the case for those in Western societies).

21 A summary of positive reviews of *Anthropocene: The Human Epoch*, can be found on the film's webpage https://theanthropocene.org/topics/anthropocene-the-human-epoch/. A selection of negative responses to the film can be found in Clarkson Fisher (2018), Pritchard (2020), Stevens and Wainwright (2020), and Le (2021).

22 The French documentary *Home* (Arthus-Bertrand 2009) also employed aerial recordings for showing the human threat to the ecological balance of the planet, while Emmet Gowin's *Changing the Earth* was a collection of black-and-white aerial photographs (2002). A more recent example is the German photographic project *Habitat* (Hegen 2018). In *Ecomedia*, H. Lewis Ulman analyzes Terry Evans's aerial photographs of North America's Great Plains (Rust, Monani, and Cubitt 2015, 33–46). However, differently from Gowin's and Burtynsky's 'terrible beauties,' Ulman describes Evans' approach as an ecological exploration able to frame the human relationship to the nonhuman world in a way particularly useful for the fields of ecocriticism and ecomedia.

23 For more information on the main commercial varieties of the Apuan Alps marble, see Primavori (2015, 138).

An interesting aspect neglected by the film is the presence of many Carrara quarries within the protected perimeter of the Apuan Alps Regional Park. Established in 1985 by the region of Tuscany, the park was designated a UNESCO Global Geopark in 2015, and the European Commission included it in the NATURA 2000 Network for the conservation of habitats.[24] In 1997, a regional law (no. 65) reduced the initial surface of the park (54,000 hectares) to the present 20,598 hectares to safeguard the marble extraction industry. Despite this scaling down, the park still comprises around sixty quarries that, according to environmentalists, cause hydrogeological instability by obstructing and polluting springs and streams with marble processing waste. However, as the Apuan Alps Botanical Garden manager, Andrea Ribolini, suggests "the Apuan Alps are indeed mountains made of marble, but they are not just marble."[25] The surprising geological and biological diversity of this region, which combines Mediterranean and Alpine climates, comprises 1,784 plant species, more than 200 types of birds, and rare amphibious animals, such as the Ambrosi's cave salamander (*Speleomantes ambrosii*) (Mezzatesta 2021). Symbols of the Apuan Alps Regional Park are the red-billed chough (*Pyrrhocorax pyrrhocorax*) and the Killarney fern (*Vandenboschia speciosa*), which also appear on the park logo (Pizziolo and Summer 1984; Club Alpino Italiano and Parco Naturale delle Alpi Apuane 1998).

This natural heritage represents the core of Lorenzo Shoubridge's photography, which focuses on the fauna's struggle against the anthropization of the region. Attracted by 'pockets of wilderness,' the photographer completed a six-year project on the wildlife of the Apuan Alps, collecting his photographs in the book *Apuane terre selvagge* (Apuan Wildlands 2018). Shoubridge believes that the role of the twenty-first century's nature photographers consists in sensitizing the public to "support the cause of nature" (Groom 2020). Thus, by photographing the rich biodiversity and wildlife of the Apuan Alps, he draws attention to the harmful effects of the extraction industry. From this point of view, the photographer becomes an activist.[26] If Burtynsky tends to record landscape transformations without taking a definitive position (we do not know if Burtynsky is protesting against any of the systems he is representing), Shoubridge photographs animals in the landscape without immediately showing social and environmental problems (fig. 6). However, he clearly states his strong opposition to the marble extraction industry in public interviews.

24 See https://en.unesco.org/global-geoparks/alpi-apuane
http://www.apuanegeopark.it/english_version/apuanegeopark_home_eng.html
https://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=IT5120015 (Accessed: 15 April 2022).

25 Cf. original: "(...) le Apuane sono si montagne fatte di marmo, ma non sono solo marmo."

26 For photography as environmental activism, see Scott (2022). For art as activism, see Groys (2014).

An example of Shoubridge's practice can be found in the snapshot *Wolf Mountain*, which earned him the title *Highly Commended* at the Wildlife Photographer of the Year of the Natural History Museum of London, and it was the winner of the Montphoto 2020 (fig. 7). The night photograph raises awareness of the Apuan Alps as a habitat for the wolf population, which is protected under EU law after decades of persecution.[27] The photo shows a close-up of two wolves trekking at night along the contour of Mount Corchia, a mountain subject to marble extraction. However, the part of the landscape that has been mined is shrouded in darkness in the photograph, with the two wolves its main subject. The camera's point of view, positioned at the level of the wolves, seems to follow the animals' passage and the photographer explains: "The initial work was very important, during which I identified this path used by one of the wolf packs present in

27 See http://www.parcapuane.toscana.it/bioparco/lupo.html (Accessed: 29 January 2023).

[Fig. 6-7]
Two of Lorenzo Shoubridge's photographs ("Migrant megamoths" above, "Wolf Mountain" next page) included in the volume *Apuane terre selvagge* and exhibited at the Natural History Museum of London (Source: Shoubridge 2018; used with permission.)

the park and spent a lot of time on the settings and maintenance of the camera itself'' (Groom 2020). The use of camera trap systems for recording animals is increasingly popular among professional photographers and artists (Ducharme 2014; Zylinska 2017). The aspiration to reach a more-than-human perspective and reduce interference in animal life has led photographers to employ 'the automated image.' However, Shoubridge explains the complex preparation of these instruments and the long period of trial and error necessary to reach an interesting shot. The Italian photographer took six months to capture the award-winning photograph of the wolves. He carried and positioned a thirty-kilogram device on the mountain trail and frequently returned to modify the exposition because of the light changes caused by the lunar phases. The progressive automatization of everyday photographic devices does not prevent photographers from spending many days outdoors, first observing and then photographing. Shoubridge's tip for amateur photographers is indeed ''(...) studying not only the art of photography, but also the nature we work with, in order to work in the best way and with a sustainable ethics.'' This close contact between photographers and the more than human other, an encounter also mediated by the principles of the life sciences, makes them the eyewitnesses to climate change and environmental degradation.

Confrontations between the natural and cultural landscapes of the Apuan Alps and its environmental loss can also occur through rock climbing, as shown in the 2019 project and documentary *Carie* (Cavity) created by Marzio Nardi, Achille Mauri, and Federico Ravassard. Through the metaphor of cavity (degradation and crumbling of a tooth or bone), the short film reflects on the landscape of decay created by marble extraction in the Apuan Alps by following a group of Italian climbers ascending the artificial walls of a disused quarry. As Nardi explains in the documentary, *Carie* "is a project born many years ago from my obsession of bringing to life spaces where emptiness and dereliction often reign. They are slices of landscape that humans have exploited and then abandoned but that, in my opinion, retain a strong attractive power. For such places, which are nothing more than wounds in the mountains, climbing can be the cure."[28]

Climbing has not always been a vehicle through which to face environmental concerns. Throughout the last century, mountaineering has been linked with the idea of exploration, adventure, and the setting of new world records, while free climbing, different from aid climbing, related to the physical ability to move over the rock in what is known as aesthetic research of the 'flow' or in Italian '*il gesto dell'arrampicata*' (the gesture of climbing). In free climbing, the equipment (rope and anchors) is reduced as much as possible, serving only as protection. The final aim is not to reach the top of the mountain but to experience the verticality of the crag, finding a kind of corporeal harmony with the material qualities of the rocks. Even though many climbers consider their beloved practice more a performing art, such as dance, than a sport, free climbing became an Olympic discipline in 2020.[29] After emerging as an outdoor practice in Europe and North America in the 1970s, over the last decade it has become a well-recognized sport, with an increasing number of indoor climbing gyms in cities that are not even close to mountain ranges.

As a fast-growing sport, which includes a significant number of female participants, free climbing (with its competitive route grading system) has been driven more by individual performances than environmental concerns. In recent years, top climbers have transformed climbing into their job, becoming sponsors of mountaineering brands. For this reason, famous climbing personalities have been the subjects of documentaries, which have been presented in venues such as Banff Mountain Film Festival and Trento Film Festival. One of the most famous recent films concerning rock climbing, awarded the Best Documentary Feature at the 91st Academy Awards, is *Free Solo* (Chai Vasarhelyi and Chin 2018), which documented Alex Honnold's

28 My translation of the original: "È un progetto che nasce tanti anni fa da una mia ossessione, ovvero quella di dare vita a questi spazi in cui regna il vuoto e spesso l'abbandono. Sono fette di paesaggio che l'uomo ha sfruttato e poi abbandonato che per me conservano un forte potere attrattivo. Per questi luoghi, che altro non sono che delle ferite nella montagna, l'arrampicata può essere la cura." (Piccolo 2020, 98). Originally born from a photo shoot for Ferrino & Rockslave (an Italian company producing outdoor accessories), *Carie* switched its focus from being an initial sport project to being a documentary on the environmental impact of mining in the Apuan Alps.

29 The first international competition of free climbing *Sportroccia* was organized in the alpine valley Valle Stretta (near Bardonecchia), on the border between Italy and France in 1985. For rock climbing and environmental preservation in the United States, see the history of the Sierra Club.

ascending of El Capitan in Yosemite National Park without a rope. From this perspective, the documentary *Carie* fits into the trend of these mountain films; however, it represents an innovation in the documentary trend of free climbing due to its strong focus on the Apuan Alps's environmental problems and local contradictions. Even though mountain climbing groups, like the Italian Alpine Club (CAI) and Mountain Wilderness, have often expressed disagreements about the expansion of quarry activities in Massa-Carrara province, the popularization of a climbing project reflecting on these themes in the form of a short film represents an outstanding example of environmental activism in the context of outdoor sports.

The peculiarity of *Carie* also emerges from some critiques made by the public. Contrary to the expectations of a part of the climbing community, this film does not only focus on sequences of movements necessary to complete the ascent of quarry walls. Although the project of climbing the disused quarry Cava Valsora[30] remains the core of the documentary, interviews with the many local figures intersperse the physical challenge of the climbers, showing the complexity of views about the mine. Departing from the natural sublime of pristine mountains and confronting their bodies with geometric manufactured crags of Carrara marble quarries, these climbers also come into contact with miners, sellers, shepherds, geologists, and ecologists. The documentary therefore offers a vivid picture of the environmental and social problems that involve the Carrara quarries and their relationship with the protected environment of the Apuan Alps Regional Park.

The multiperspectivism of the documentary does not hide its hope for future rehabilitation of the natural environment of the mountain-quarry. The documentary starts by declaring the problem: "The Apuan Alps host the largest marble basin in the world, famous for the high quality of Carrara's white marble. In recent decades, the area has been intensively quarried. Marble extraction has led to environmental devastation, damaging everything from rocky walls to groundwater. Rock climbing served us as a means to come closer to this situation." The first scene is a visual list of abandoned and rusty artifacts used to quarry marble; square close-ups appear as soon as a regular beat resounds. The documentary continues with a panoramic drone recording of Cima Canal Grande, the same mountain included in *Anthropocene: The Human Epoch*. However, unlike the Canadian film the drone moves slowly toward the mountain: a recurring technique in the documentary *Carie* that aims to come close to things. More than giving an overview of the extraction areas, the directors use the drone to research the proximity to the material qualities of the mountain and show how climbers rely on artificially cut surfaces of the quarry by touching it. Far from considering the mountain exclusively as a marble source or as a playground for climbing, the documentary suggests that the Apuan Alps are an ecosystem based on the relationship between living organisms and non-living components. The panoramic

30 Cava Valsora was disused from 2016 to 2019 when the documentary was filmed. Then the company concessionaire for extracting marble in this quarry agreed with the Apuan Alps Regional Park to protect selected species, like the Alpine newt (Ichthyosaura alpestris), in return for starting underground extraction activities. However, this decision has been criticized by environmental organizations such as Legambiente, GrIG, Italia Nostra, and Cai (See D'Angelo 2019).

of the drone does not last enough time to become an ordinary sublime scene because it is interrupted by flashes of underwater recordings showing a newt darting off in the bright green of the meteoritic lake of Cava Valsora (fig. 8). At the third flash, the camera gradually resurfaces, showing the cut walls of the former quarries on which a climber is ascending using the cracks between the rectangular blocks (fig. 9). The short film continues with the voice of Marzio Nardi who explains the genesis of the climbing project and the need to understand the natural and social contexts that constitute the mountain territory of the Massa-Carrara province.

[Fig. 8-9]
Frames showing the Apuan newt and the meteoritic lake of Cava Valsora where the climbing project *Carie* has been realized and filmed (Source: Nardi, Mauri, and Ravassard 2019, 10:23 and 21:13; used with permission.)

The following interviews with a representative of workers, an activist, a scientist, a producer of Colonnata lard, and a shepherd introduce topics that show how environmental concerns have started to question the capitalistic model of the extraction industry (fig. 10). The film ends with the voice of Nardi, who is standing on the top terrace of the quarry illuminated by the warm sunset light. After completing what seemed to be a utopic project, namely climbing the monotonous, sharp surfaces of a marble quarry, the group of climbers envisions the rehabilitation of the natural environment, overcoming the devastating past through cooperation and compromise with different stakeholders, including non-for-profit community-based organizations, local tourism associations, and the municipal government.

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The visual narratives analyzed in this paper have attempted to go 'beyond the whiteness' by focusing on the scale of the environmental destruction (*Anthropocene: The Human Epoch*), the more-than-human perspective (*Apuane terre selvagge*), and the social struggle for preserving a mountain region through creative solutions (*Carie*). Produced between 2018 and 2019, these visual narratives employ different styles and are framed by different points of view (regional, national, and international), which speak to different audiences. *Anthropocene: The Human Epoch* is a Canadian production that analyzes the Carrara marble quarries from an external

[Fig. 10]
Shepherd in a scene from *Carie* (Source: Nardi, Mauri, and Ravassard 2019, 18:28; used with permission.)

point of view (as a case among many human-destroyed natural environments) and aims at reaching an international public mainly characterized by a high level of education: museum visitors, art appreciators, students, and academics. The photos in *Apuane terre selvagge*, taken by a wildlife photographer from Versilia, bring instead a local perspective and a personal attachment to the place. Shoubridge advocates for a type of photography that 'activates' a public of nature enthusiasts, photography amateurs, and the local community to adopt a more sustainable relationship with his homeland. The project *Carie* produced by climbers from three different Italian regions offers an in-between perspective compared to the previous examples. By visiting, exploring, and climbing marble quarries, Mauri, Nardi, and Ravassard undertake to understand the complexity of the Apuan territory while avoiding adopting a tourist-like stance to their subject matter. Their effort to connect with the region's social (and natural) fabric primarily appeals to practitioners of outdoor sports and digital media users.

Despite differing in many respects, all these visual works maintain environmental concerns at their core. By speaking to various audiences, they point to a fundamental transformation in the way of visually portraying marble extraction. In the twentieth century, the Carrara landscape was represented according to three main visual trends: the technological sublime found in the geometric shapes of the white quarries, the working conditions of the marble laborers, and the myth of purity of marble for artistic sculptures. The twenty-first century has introduced a new sense of awareness and urgency: the case studies analyzed in this article invite us to interpret the marble quarry as *a non-human landscape* that needs *human care*. Even though not all of the three visual cases can be interpreted as pure acts of environmental activism and resistance, they surely expand ecological awareness and by doing so can be viewed as the counterpart of similar literary tendencies.[31] In other words, these visual media testify to how aesthetic and ethical sensibilities are challenging established twentieth-century narratives of the Carrara marble quarries by focusing on a new element: the environment.

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31 In the chapter *The Politics of the Sublime(s)*, Conohar Scott rightly argues against considering Burtynsky's work under an "activist's perspective" (Scott 2022). However, the case studies analyzed in this article could also be studied using the tools of ecomedia studies (Rust, Monani, and Cubitt 2015). Enrico Cesaretti analyzes literary texts narrating Carrara marble through the lens of ecocriticism in *Apua Ma(t)ter. Narratives of Marble* (Cesaretti 2020).

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Reshaping the Island: architectures of extraction

Inês Vieira Rodrigues

Abstract

Urban environmental agency is visible through its materialization, nonetheless, the technological systems behind its production often remain concealed. Buildings and infrastructures, as technological products, are just a small visible part of a complex system – the excavation, exploitation, consumption, erosion, and transformation of basalt stones are among some of the technological procedures behind the physicality of landscapes. The extraction of raw materials from which the island is built leads to operations of material addition or subtraction – and the island *reinvents itself*, within a network of sites of exploitation and provision.

Through a photographic testimony of a basalt quarry in S. Miguel Island, this paper intends to explore the intertwinement between the extraction sites and its architectural manifestations. In this light, the acknowledgment of these invisible production sites is understood as a form of care for the possible futures of the island's materialities.

Today, as the concern for the environmental impacts of construction is ever more present on the global agenda, along with a shortage of many resources for civil construction activities, a critical awareness of the territories' building materials urges. In this sense, to interrogate the island's dependencies through an urban lens seems to be essential for a control of architectural materials. These landscapes disclose part of the extractions that *produce* the island, and considering that material and environmental impacts are *also located* in the future, this analysis seeks to engage urban production with a practice of care.

Keywords: island; basalt quarry; non-fungible territories; extraction site; externalities.

Note: all the translations belong to the author.

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Out of sight, out of mind

Almost in the middle of the Atlantic Ocean, the Azorean islands emerged from a zone of divergence of the American, Eurasian, and African tectonic plates, forming several volcanic complexes.[1] The geological constitution of these islands, substantially distinct from the Portuguese mainland, is mostly formed of basalt. The volcanic rock is among the materials commonly used in the construction industry in the archipelago. Through a photographic testimony of a basalt quarry in S. Miguel Island, this paper intends to explore the intertwinement between the extraction sites and its architectural manifestations.

Urban environmental agency is visible through its materialization, nonetheless, the technological systems behind its production often remain concealed – *we* are so familiar with such infrastructures that, paradoxically, *we* forget about them. In other words, *what constructs* those infrastructures (for instance, which materials are used, and which labor is employed) is frequently ignored. The basalt quarry depicts a sacrificed landscape which is usually outside the imaginaries. To claim the recognition of "unseen" production sites such as this quarry, inscribes itself within the need for an "urban theory without an outside".[2]

The use of common expressions such as "consolidated city", "city center" – or even simply "city" – plays a normalization role on the concepts of "dense" and "close", which are understood as being the "core" of urbanization.[3] The antithesis to this agglomeration, or rather what is left *outside* the dense urban nucleus, is seen as an opposite kind of environment. This contrast, I suggest, is conspicuous in the islands because of the perception of the dominance of "nature", or the "rural". To put it differently, the "elementary city" as opposed to "nature" or "rural" seems to be a dichotomy that leaves the externalities that produce the "city" doomed to oblivion. These external constituents are nonetheless essential for the archipelagic urban condition. In this light, the quarry could correspond to an *extended* form of urbanization, as opposed to a *concentrated* one.[4]

If the landscape is the visible part of the territory,[5] the extractive landscape depicted throughout this paper is just the tip of an extractive and productive system. It unveils an arrangement that is beyond the strictly measurable, thus, it is also part of the insular territory. Consequently, the territorial concealment as a result of *out of sight, out of mind* politics conducts to an inquiry absence around issues of extraction.

1 S.D. Caetano, E. A. Lima, S. Medeiros, J. C. Nunes, T. Braga, "Projecto GEOAVALIA – Um Primeiro Passo para Definição de Politicas Territoriais de Aproveitamento de Recursos Minerais nos Açores", n. d., n. p.

2 Brenner, Neil, ed, *Implosions / Explosions: Towards a Study of Planetary Urbanization* (Berlin: Jovis, 2014), 14–15.

3 Ibidem.

4 Martín Arboleda, "Spaces of Extraction, Metropolitan Explosions: Planetary Urbanization and the Commodity Boom in Latin America", *International Journal of Urban and Regional Research* 40, no. 1 (January 2016): 99, https://doi.org/10.1111/1468-2427.12290.

5 Álvaro Domingues, *Paisagens Transgénicas* (Lisbon: Museu da Paisagem, 2021).

Productive landscapes

A study developed to define the "territorial policies for the use of mineral resources in the Azores"[6] referred to their geographical distribution as the following: "the most frequent location of mineral mass extraction zones is in rural areas, although close to urban centers".[7] This means that these extraction zones are perceived as being outside the "urban", coupled with "a host of less-visible extractive processes to procure minerals and materials".[8] Nevertheless, as Martín Arboleda aptly puts it, "resource extraction (especially minerals) could be among the most spatially immobile economic activities: besides being eminently place-specific, it requires vast amounts of investment in fixed capital in the form of machinery and infrastructures".[9] These almost secretive sites unfold massive landscapes which, despite being "central to development above the surface", "are out of sight and often external to urban representation".[10] The rocky horizon, cranes and trucks, power lines and heavy machinery expose part of the infrastructural system that supports the extraction activity (fig. 1).

As previously highlighted, the geographical abstraction of this quarry seems to be directly linked to an idea of confinement of the urban, even if this landscape is at the basis of the construction *of that same urban*. As such, it constitutes a "productive landscape",[11] an expression specific to the contemporary urban condition.[12] Besides being "absent from the urban landscape and the urban consciousness, these sites of production represent a kind of invisible counter-architecture that is carefully ignored by the design profession".[13] In this sense, to request for the recognition of the geographies of contemporary resource extraction might start by questioning the "urban" concept:

> "The confinement of the urban process to the 'city' does three things: 1] it abstracts the materialities of urban systems – its dimensions' attributes; 2] it leaves out the associated geographic transformations of deployment of such environmental technologies; 3] it does not attend to the politics of consensus or dissensus on how to organize and distribute resources. So when geography is reduced to a thin line, the territory is detached from the technological, geographic, and political attributes of infrastructure".[14]

6 Caetano et al., "Projecto GEOVALIA", n. p.

7 Ibidem.

8 Charlotte Malterre-Barthes, "The Devil is in the Details", in *Non-Extractive Architecture, Volume 1: On Designing Without Depletion*, ed. Space Caviar (Berlin: Sternberg Press; and Moscow: V-A-C Press, 2021), 88.

9 Arboleda, "Spaces of Extraction, Metropolitan Explosions", 105.

10 Rania Ghosn and El Hadi Jazairy / Design Earth eds., *Geostories, Another Architecture for the Environment* (New York – Barcelona: Actar Publishers, 2019), 30.

11 Daniel Daou and Pablo Pérez-Ramos, eds. *New Geographies 08: Island* (Cambridge: Harvard University School of Design, 2016).

12 Arboleda, "Spaces of Extraction, Metropolitan Explosions".

13 Malterre-Barthes, "The Devil is in the Details", in *Non-Extractive Architecture*, 83.

14 Rania Ghosn, "The Image of the Oil Territory", in *Elements for a World: Stone*, ed. Ashkan Sepahvand (Beirut: Sursock Museum, 2016), 22.

The basalt quarry is, therefore, part of the bundle of socio-technical systems essential to urbanity. This often-ignored landscape is indeed a site of production, a source of territorial materialization, fundamental to interrogate how extraction shapes geographies.

Non-fungible territories

> ''As a black basalt I rest within myself, brooding in my milieu as if it were a night made of stone''.[15]

The discomfort of emptiness underlined in some conceptions around the urban is profoundly challenged in the presence of this landscape. The massive voids sculpted in the terrain, enormous machinery, dusty air, constant noises, and the aridity of the terrain, displayed a huge dimension of a productive site. The use of the mandatory mask helped filtering the particles that nonetheless I felt in my eyes. When walking above the last layer of removed strata, it felt like sort of a terrestrial immersion. I could not see beyond the walls of stone, some of them fell whilst I looked at it, at a slow cadence. Simultaneously, I started to imagine the morphology of the land before all the technological operations took place – although the limits of former ground were already somehow unimaginable.

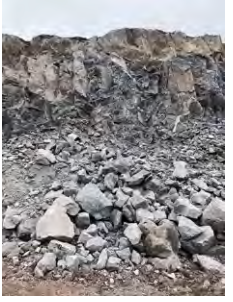
In contrast to the discernment of an urban cluster, here, the urban manifests in the subtraction of the landscape: these materials are going to be added somewhere else, most likely in the same island. In essence, it is through an unbuilding apparatus – a kind of an *ungrounding* activity – that the building operation continues elsewhere.

15 Peter Sloterdijk, *Bubbles: Spheres Volume I: Microspherology* (South Pasadena, CA: Semiotext(e), 2011), 347.

[Fig. 1]
Quarry, S. Miguel Island, 2021. Author's photo

The deconstruction and subsequent construction of the island establish a terraforming process, through which occurs an exhaustion of soils, land, ground. The geological layers of stone as living material cannot be substituted: the island is extracted *from itself*, until the extraction possibilities in that site are complete. In other words, the dynamics of over-extraction is the over-exploitation of the *is-land* itself.

The nine islands that constitute the archipelago imply nine distinct scenarios for the use of mineral resources,[16] and each seems to be managed as an "insular technological object".[17] After depletion, these geographies of stone are extinct: the combination of sediment, time, material, and space is not replaceable *in the same site*. As these reserves are exhausted, and projects become larger, the need for other sites grows, encompassing a constant quest after land appropriation. The quarry is incorporated into economic circuits until achieving the scarcity of stone, more precisely, the actual scarcity of the *terrain*, evidencing "the radical circularity of processes linking urban ruination and the manufacturing of ground".[18]



In a mineral-rich island, "a stunning array of commodities is wrested from the earth" (fig. 2).[19] In fact, "less obvious than the increased capital flows across territories is the flow of territory itself".[20] In the Azorean archipelago there is, on average, one extraction site (either active or abandoned) per four-square kilometer, a relevant figure considering that the same area corresponds to a population density close to four-hundred inhabitants.[21] The search for other extraction geographies cannot proceed endlessly, and it becomes clear within a *land-contained* territory such as an island. Even if they are substitutable within an economic and political frame, the geological one is not fungible. These are, I propose, non-fungible territories.

16 Caetano et al., "Projecto GEOVALIA", n. p.

17 Ghosn, "The Image of the Oil Territory", in *Elements for a World: Stone*, 21.

18 Stephen Graham, *Vertical: The City from Satellites to Bunkers* (London – New York: Verso, 2018), 310.

19 Gavin Bridge, "Contested Terrain: Mining and the Environment", *Annual Review of Environment and Resources* 29 (November 2004): 206, https://doi.org/10.1146/annurev.energy.28.011503.163434.

20 Graham, *Vertical*, 298, citing Joshua Comaroff, "Built on Sand", 2014, 138.

21 Caetano et al., "Projecto GEOVALIA", n. p.

Reshaping the island

As Rania Ghosn accurately puts it, we are "geographical leviathans" (fig. 3).[22] In recognition of the fact that the construction production is at the basis of the urbanity, it begins with the extraction of raw materials from which the island is built. From the sites of extraction to the construction sites, there are processes of subtraction and addition of sediments and materials. "Building" something necessarily means "unbuilding" somewhere else, an asymmetrical transaction operation. These processes portray a permanent "engineering of new ground"[23] as an action of alteration of the land, through the modification of the lithosphere.

22 Ghosn, "The Image of the Oil Territory", in *Elements for a World: Stone*, 28.
23 Graham, *Vertical*, 297.

[Fig. 2 and 3]
Quarry, S. Miguel Island, 2021. Author's photo

This "territory of territory extraction"[24] encompasses, on the one hand, *ground* alliances: deeply exploited, modified. On the other, it embraces territorial – *terra* – discontinuity. Those exploitations will necessarily reach an end. The terrain is not endless. Certainly, "as territory itself becomes a tradeable and moveable commodity",[25] finding new land is central to the insular strategy. The land-making goes in tandem with island-making, within a process of reinvention of the island.

One of the essential resources for the construction of basalt territorialities is sand. Its extraction, exploitation, fabrication, transformation, culminates by transferring it into new sites and into building forms. Therefore, reconceptualizing extraction "as not only those operations that intervene into the Earth, but as the full-scale territorialization of space by technology"[26] fosters the awareness of the island as a technological object. In this, "the stratum of some future geology"[27] is disturbed, moved, suppressed. The *terror* operated on the *terrain*, on *terra*, is a segment of a much larger and extended activity, dependent on extraneous components. The extraction of raw materials leads to operations of material addition or subtraction – and the island *reinvents itself*, within a network of sites of exploitation and provision.

Island's externalities

Buildings and infrastructures, as technological products, are just a small visible part of a complex system – the excavation, exploitation, consumption, erosion, and transformation of basalt stones are among some of the technological procedures behind the physicality of landscapes (fig. 4). This arrangement comprises the island's material supply chains, some of which are island-contained, others imply external dependencies. Within this frame, extractivism is thought of in terms of an interconnected phenomenon.[28]

If to think about the basalt quarry *as being outside the city* disconnects it from its environmental, urban, economic, sociological implications – so does thinking about the materials that disembark regularly in this productive site. Simply put, the invisibility of the sites of production further conceals the invisibility of its externalities. Even if, on the one hand, the products of these industrial and technical processes are discernible: buildings, infrastructures, pavements; on the other, there are contingencies more difficult to grasp: labor, pollution, waste disposals, consequences to fauna and flora, as examples. In other words, an invisible site conceals an invisible system.

24 MAS Context, "Fall Talks 2021, Territories of Territory Extraction", accessed March 25, 2022, https://www.mascontext.com/events/mas-context-fall-talks-2021/territories-of-territory-extraction/.

25 Graham, *Vertical*, 298.

26 Ashkan Sepahvand, ed., *Elements for a World: Stone* (Beirut: Sursock Museum, 2016), 7.

27 Namik Mackic, "Becoming-Amber", in *Elements for a World: Stone*, ed. Ashkan Sepahvand (Beirut: Sursock Museum, 2016), 34.

28 Martín Arboleda, "De la fábrica global a la mina planetaria: entrevista con Martín Arboleda", *Jacobin América Latina*, no. 3 (Autumn – Winter 2021): 64–74.

S. Miguel Island retains almost all the extractive materials for construction – meaning *in itself* – such as sand and stone.[29] However, it requires external elements to complete the productive chain as it is formulated at present. Even if the sand and stone are obtained through local extraction, the production and manufacturing complexes that sustain the island's urbanities is offshored – namely regarding some cement components and steel.[30]

29 Information gathered in conversations with engineers.

30 SREA, *Statistics Azores*, "Produção e Venda de Cimento", accessed March 24, 2022. https://srea.azores.gov.pt/Conteudos/Relatorios/detalhe_relatorio.aspx?idc=27&ida=1712&lang_id=1.

[Fig. 4]
Quarry, S. Miguel Island, 2021. Author's photo

The ecological-insular bubble, when thought of in a Sloterdijkian fashion,[31] unleashes the observation of *what is outside*. Built environment as a form of multiscale investigations relates with the fact that "local resources are no longer the condition of development, since they are mobile, transportable, storable".[32] In this connection, *we* often only recognize the infrastructural system that sustain *us* when it fails. In practice, construction is possible through this outsourcing, permitted by the "erasure of geography" of these productive sites, which "is a 'designed' misrepresentation that externalizes the costs of the urban process and conceals disagreements on how to organize the world and its resources".[33] The false externalization of the interconnected processes, profoundly inherent to the infrastructures of mediation that compose the industrial activities, could be handled instead as a recognition for the need to change the arrangement *as it is*. To interrogate the island's dependencies through an architectural lens means that, as architects, we have a significative agency on controlling economic and ecological issues.

Off-site footprints

The extractivism is a project that sustains itself at the expense of others, which means that a great deal of the externalities being produced is affecting somewhere and someone else. In recognition of "material as matter and resource",[34] the ways in which these materials are entangled with distant geographies seem to be of a significant concern.

Let us consider concrete, its production requires cement, sand, water, and aggregates. Today, its environmental effects are known, being one of the primary sources of the carbon dioxide in the atmosphere.[35] The most pollutant component of it is cement, an island-external burden: even if it is significantly produced locally, it requires imported raw materials, such as clinker, supplied from the Portuguese mainland.[36]

31 Sloterdijk, *Bubbles*.

32 Fanny Lopez, *L'ordre électrique. Infrastructures énergétiques et territoires* (Genève: MétisPresses, 2019), 30.

33 Ghosn, "The Image of the Oil Territory", in *Elements for a World: Stone*, 28.

34 Neyran Turan, "Nine Islands", in *New Geographies 08: Island*, eds. Daniel Daou and Pablo Pérez-Ramos (Cambridge: Harvard University School of Design, 2016), 133.

35 Keegan Ramsden, "Cement and Concrete: The Environmental Impact", PSCI Princeton, November 3, 2020, https://psci.princeton.edu/tips/2020/11/3/cement-and-concrete-the-environmental impact.

36 SREA, *Statistics Azores*.

In 2020, in the Azores, there was an increase in certified construction companies,[37] complemented with a rise in both the production and cement sales, continuing the same pattern up to February 2022.[38] The substantial investment in the public construction sector explains this tendency, in particular, the intervention conducted in several ports across the archipelago. Furthermore, it is worth to emphasize that within the scope of the archipelagic territorial cohesion, cement is referred to as an "essential good", along with "fuel, sugar and flour".[39]

The three significant companies behind the concrete trade in S. Miguel Island are Marques, Tecnovia and Sacyr Somague. Essential to their productions, is the sand supply, provided almost exclusively by Albano Vieira company. The "fabricated sand", as their product is called, is extracted from volcanic tuff, and covers around 90% of the island's construction industry.[40] This type of sand differs from the one obtained out of the seabed, and since there are no sand quarries with the dimension of the ones found in S. Miguel, the other islands developed vast dredging processes to obtain sand deemed appropriate to the construction sector. Even if the granulometry of the "sea sand" is more heterogeneous, and thus more suitable for concrete production than the "fabricated sand", its high salt content is improper for construction purposes, requiring more effort and costs to remove it.

The interdependency of extractive systems and productive ones discloses the interrelatedness between the *terrain* and the product. By underlining cement as one of the preeminent off-the-island impositions because of its composition – along with steel[41] – the challenge, as defended by the architect Joseph Grima, is to produce an architecture that is not dependent on some form of exploitation. This proposition transcends the well-known need to reduce the carbon dioxide footprint of buildings and infrastructures.[42] His reasoning goes further by stating that the necessary change goes up to shaping the architects' figure, and the same vision is reflected throughout the recent book by the architect Pedro Gadanho, titled *Climax Change!*.[43]

37 RTP-Açores, "Venda de cimento cresceu em 2020", Facebook, February 2, 2021, https://www.facebook.com/rtpacores/videos/not%C3%ADcia-venda-de-cimento-cresceu-em-2020-rtp-açores/404303783965662/.

38 SREA, *Statistics Azores*.

39 Presidency of the Regional Government of the Azores, "Melhorar a Sustentabilidade, a Utilização dos Recursos e as Redes do Território", *Official Journal of the Autonomous Region of the Azores*, 1st series, no. 55, April 9, 2020, 1385.

40 Information gathered in conversations with engineers who work in the extractive industry.

41 SREA, *Statistics Azores*.

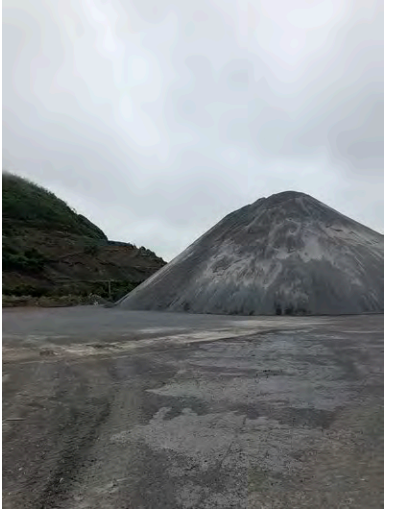
42 Joseph Grima, "Introduction", in *Non-Extractive Architecture, Volume 1: On Designing Without Depletion*, ed. Space Caviar (Berlin: Sternberg Press; and Moscow: V-A-C Press, 2021), 8–22.

43 Ibidem; Pedro Gadanho, *Climax Change!: How Architecture Must Transform in the Age of Ecological Emergency* (New York - Barcelona: Actar Publishers, 2022).

Becoming architecture, becoming waste

> ''Then there is the maintenance, retrofitting, and demolitions of buildings, all involving further ongoing extractions. (...) It is about extractions to sustain extractions to sustain extractions''.[44]

In the light of Paulo Tavares' theory, ''land is archive''.[45] It might be added that land is also repository. After the extraction operation, the extracted material *returns* to the island (fig. 5). However, the strata do not exist anymore in its original state, and the material *comes back* as buildings, infrastructures, pavements. The materials stretch ''from mine to market'',[46] encompassing economic, political, and environmental actions, which are ''constructed through our technological relations with the materials of the Earth, or what we refer to as 'resources' and 'wastes'''.[47]



44 Mark Wigley, ''Returning the Gift'', in *Non-Extractive Architecture, Volume 1: On Designing Without Depletion*, ed. Space Caviar (Berlin: Sternberg Press; and Moscow: V-A-C Press, 2021), 48.

45 Online lecture ''Homes on Fields'', on March 3, 2022.

46 Bridge, ''Contested Terrain'', 206.

47 Ghosn, ''The Image of the Oil Territory'', in *Elements for a World: Stone*, 28.

[Fig. 5]
Quarry, S. Miguel Island, 2021. Author's photo

The extraction, transformation, and transportation of most of these materials are very energy-intensive, enforcing the use of large quantities of water resources; in addition, it produces large amounts of greenhouse gas emissions.[48] Consequently, "the cycles of investment associated with the built environment"[49] generate waste from extractive exploitation.

To return the extraction, as put by Mark Wigley, should be first and foremost accompanied by the acknowledgment that "architects are experts in veiling, especially veiling the fact that each building is but the tip of a massive extraction system".[50] Even if the construction industry opacity is frequently noted,[51] its effects are clear – "after all, no building is simply added to a site".[52] The futurity of digging, extracting, reshaping and removing operations remains a haunting spectrum within territories, given that "every building actually constitutes a commitment to, or dependency on, a certain kind of future".[53] Moreover, and "trivially, every material's environmental impact is conditional on future conditions".[54]

If *becoming* architecture often involves a proceeding of making "the culture of extraction comfortable", "the buildings veil this fact, and it is the veiling that gives form".[55] As Luke Jones argues:

> "Architecture has felt itself losing control of its materials at just the moment that they have become most consequential. Since the transformation of building structure during industrialization – from reassuring masonry to insubstantial steel and glass – architectural authority has been stalked by the specter of dematerialization".[56]

Ordering the extraction

As already mentioned, when resources are exhausted, or their use is no longer viable, research and exploration will still be required in another site with a favorable geological environment. In 2011, an inventory project titled GEOVALIA identified five hundred and eighty-one extractive activity sites in the archipelago; it also stated that "all islands have extractive activity in protected or classified natural areas".[57]

48 Ramsden, "Cement and Concrete".

49 Stephen Cairns and Jane M. Jacobs, "Fallow: A Comparative Reflection", in *New Geographies 10: Fallow*, eds. Michael Chieffalo and Julia Smachylo (Cambridge: Harvard University School of Design; and New York: Actar Publishers, 2019), 24.

50 Wigley, "Returning the Gift", in *Non-Extractive Architecture*, 46.

51 Space Caviar, *Non-Extractive Architecture*; Lopez, *L'ordre électrique*, 30.

52 Wigley, "Returning the Gift", in *Non-Extractive Architecture*, 49.

53 Luke Jones, "Carbon Tectonic", in *Non-Extractive Architecture, Volume 1: On Designing Without Depletion*, ed. Space Caviar (Berlin: Sternberg Press; and Moscow: V-A-C Press, 2021), 119.

54 Ibidem.

55 Wigley, "Returning the Gift", in *Non-Extractive Architecture*, 47.

56 Jones, "Carbon Tectonic", in *Non-Extractive Architecture*, 113.

57 Caetano et al., "Projecto GEOVALIA", n. p.

The search for an appropriate land is defined through a legal redefinition of the excavation zones, as regulated in the sectorial policy instrument for extractive activities, henceforward called PAE.[58] The regional decree-law states that "[the extraction areas] correspond to units/spaces where extractive activity took place (licensed or not), and no recovery procedure at an environmental level has been implemented after the extraction activities have ceased".[59] In this connection, the designated "Management Areas" "correspond to the unit of planning and aim to maximize the exploitation of non-metallic mineral resources compatible with the adequate functional structuring of the territory".[60]

PAE therefore seeks the optimized commodification of both resources and the site of extraction, or putting it differently, there is a spatial efficiency goal. This tool, together with the Municipal Plan, PDM, currently recast geographies of extraction. Its operative effects somewhat imply a militarization of territorial management through property strategies. Within this logic, the concession zone is the territorial unit of extraction: when one unit is in its *active* form – or simply producing – another parcel of land awaits a new investment cycle.

In fact, planning the extraction perimeters means to force the steadiness of those configurations. In this light, PAE proclaimed the acknowledgment of a somewhat flexible unit to be added to the "Management Areas", the so-called "Management Areas and the Limited Reinforcement Mechanism", which entails a legal instrument that appears to consider the compensation of the too-confined areas.[61]

The land use planning stated in these legal instruments seems reduced to an arrangement exercise. If determining the simultaneity between extractive and industrial activities with protected "natural areas" appears relevant, what seems to be missing is the unseen relations behind this industry: labor, environmental impacts, supply chains, in brief, the interdependencies that sustain it. Fundamentally, if the need for the regulation of the extractive operations seems to be undeniable, within it the analytic approach appears to be overshadowed by the ordering one.

The basalt quarry as a "working landscape"[62] is indeed part of the system, whose technical and legal tools organize the extraction, circulation and transformation of raw materials mostly on an insular scale, but also on an archipelagic and national dimension.[63] In essence, these extractive environments are produced through political-legal arrangements, among which the

58 Regional Secretariat for the Environment and Climate Change, *Plano Setorial de Ordenamento do Território para as Atividades Extrativas da Região Autónoma dos Açores* (PAE), Phase D, volume 1, final report, 2013, 28.

59 Regional Legislative Decree no. 19/2015/A, "Plano Setorial de Ordenamento do Território para as Atividades Extrativas da Região Autónoma dos Açores (PAE)", *Diário da República*, Series 1, no. 158, August 14, 2015, annex 1, 1.1.

60 Regional Legislative Decree no. 19/2015/A, annex 1, article 1.2.1.

61 Regional Secretariat for the Environment and Climate Change, PAE, 45.

62 Erle C. Ellis, "Distancing the Anthropocene", in *New Geographies 10: Fallow*, eds. Michael Chieffalo and Julia Smachylo (Cambridge: Harvard University School of Design; and New York: Actar Publishers, 2019), 93.

63 Information gathered in conversations with engineers who work in the extractive industry.

most visible regime, the concession, is admitted as depicting space as "a political, legal, and economic category: it is owned, distributed, mapped, calculated, and controlled".[64] Furthermore, "the concessionary territory, as an object of surveys, maps, and a myriad of representations, is central to and necessary for nature's renewed legibility and its material appropriation".[65]

After the extraction, land remediation

What happens after the extraction? What are the outcomes after an intense anthropogenic activity such as this one?

In these sites, there is no possible fallowness: in short, "the condition of a resource or productive force set aside to accumulate potential value to be extracted or realized afterward" does not exist.[66] As soon as ground resources run out, the potential value as extracted capital ceases. This means than when a property terminates its activity, it becomes *out of duty*, it no longer allows the accomplishment of its purpose within the exploiting field. Within this panorama, PAE's decree states that the aim is "to promote the recovery of environmental and degraded landscape areas as a result of the cessation of extractive activities of non-metallic mineral resources".[67]

Even if the repair plan asserts the need for an "hierarchy of the recovery of abandoned extractive activity areas considering Visual Sensitivity",[68] an aesthetical concern seems not enough within a network of interdependencies far more complex than that. As previously emphasized, if an active and productive past already conceals its core interdependencies – which needs to be addressed – at the same time, a process of recovery should clearly unveil the future scenarios envisaged for those sites. It might be coupled with a disclosure of present and future extractive practices, given that a full public access brings forth accountability.

Today, as the concern for the environmental impacts of construction is ever more present on the global agenda, along with a shortage of many resources for civil construction activities, a critical awareness of the territories' building materials urges. In this sense, to interrogate the island's dependencies through an urban lens seems to be essential for a control of architectural materials. These landscapes disclose part of the extractions that *produce* the island, and considering that material and environmental impacts are *also located* in the future, it is suggested to engage urban production with a practice of care.

64 Ghosn, "The Image of the Oil Territory", in *Elements for a World: Stone*, 21.

65 Ibidem.

66 Álvaro Sevilla-Buitrago, "Antinomies of Space-Time Value", in *New Geographies 10: Fallow*, eds. Michael Chieffalo and Julia Smachylo (Cambridge: Harvard University School of Design; and New York: Actar Publishers, 2019), 17.

67 Regional Secretariat for the Environment and Climate Change, PAE, 28.

68 Regional Secretariat for the Environment and Climate Change, PAE, 42.

Towards a practice of care

The acknowledgment of the invisible production networks is understood as a form of care for the possible futures of the island's materialities. As Charlotte Malterre-Barthes argues, "every decision designers take in a project has an impact not only on the site of construction, but also on the site of extraction".[69] Through the recognition of these sites, architects and designers might "think of landscapes of ecological production and extraction as potentially working in concert with one another".[70]

In this context, the relationship of care is not egalitarian. It is first extracted, then depleted, and finally remediated. The association between care and equality is a very complicated one, said Boris Groys.[71] What does it mean to take care? In this case, the actual protection is performed after the damage is done. After soil distress, comes the rehabilitative procedures. When the terrain achieves depletion, exhaustion, it means that the effort has ended: the production was the goal.

In essence, the extraction operation and its reconversion strategies are deeply asymmetrical: what is taken is far more substantial than what is given. As it is at present, caring seems merely corrective. Furthermore, the so-called "phantom resources" designate, simultaneously, those resulting from unequal ecological exchange and those that are invisible in architecture.[72] In other words, the incipiency revealed through an incomplete analytical frame obstructs further scrutinization.

Drawing attention to Bruno Latour's term, "to land" – or better transmitted through the original term, *atterrir*, – it brings immediately to mind the necessity to redefine terrestrial depictions. The Latourian theory calls for accurate policies, which necessarily bring forward the description of the *terrains* that have become invisible.[73]

It is common knowledge today that "what was lived as a rather abstract possibility, the global climatic disorder, has well and truly begun".[74] And if architecture is always a climate actor, as asserted by Pedro Gadanho,[75] architects can advocate for more equitable supply chains, thus, for a more sustainable view on the embodied costs of construction. Moreover, and instead of only considering an energy efficiency scheme, Joseph Grima proposes the evaluation

69 Malterre-Barthes, "The Devil is in the Details", in *Non-Extractive Architecture*, 87.

70 Stephanie Carlisle and Nicholas Pevzner, "The Thin Thread of Carbon", in *Non-Extractive Architecture, Volume 1: On Designing Without Depletion*, ed. Space Caviar (Berlin: Sternberg Press; and Moscow: V-A-C Press, 2021), 101.

71 On an online lecture at the International Conference of the Igor Zabel Award, December 3–4, 2020.

72 Lopez, *L'ordre électrique*.

73 Bruno Latour, *Où aterrir? Comment s'orienter en politique* (Paris: Éditions La Découverte, 2017), 175.

74 Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism* (Open Humanities Press and meson press, 2015), 20, http://www.openhumanitiespress.org/books/titles/in-catastrophic-times/.

75 Gadanho, *Climax Change!*.

of externalities as a metric of sustainability.[76] Actually, "recalibrating our thinking about architecture's relation to the environment will not solve climate change in itself but will allow us to formulate an architectural response to the new environmental normal of precariousness and wild unpredictability".[77]

Towards a practice of care within the architectural extractive industries, one ought to summarize what has been approached in this paper in three main engagement propositions: to take accountability; to disclose the practices; and finally, to represent its consequences.

Material (and immaterial) impacts are also *deposited* in the future, thus, to reflect on care is paramount. Care is awareness, is to advocate for a control of architectural materials, for a careful management. To care is to expose the interconnectedness between extractive activities and contemporary political, economic, social, and ecological concerns; to care is to display the futurity of territorial impacts, human and more-than-human ones. An architectural practice of care might derive out of a critical awareness of the island's building materials (fig. 6 and 7). After all, the aftermath of extraction is not merely the memory of it, as the reconversion strategies seem to imply. It is mostly its long-lasting territorial consequences, in and off the island.

76 Grima, "Introduction", in *Non-Extractive Architecture*.

77 Formlessfinder, "Toward a Formless Ecology", in *New Geographies 08: Island*, eds. Daniel Daou and Pablo Pérez-Ramos (Cambridge: Harvard University School of Design, 2016), 129.

[Fig. 6 and 7]
Basalt, S. Miguel Island. © SIARAM

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Songs of the Dead

Alan McFetridge, Antoinette Johnson, Emma Mcloughin, Dan Devitt

Abstract

Songs of the Dead is a photographic exploration of the aftermath of a devastating fire that impacted the community of Fort McMurray in Alberta Canada on the 3rd of May 2016. Six months after the fire, stimulated by media coverage and reflecting on the discourse surrounding dispossession and the environment, the project commenced at ground level with support of a Royal Photographic Society Environmental Awareness Bursary in a region inhabited by Anishinaabe[1] located within Treaty 8 Territory, the traditional lands of the Cree, Dene and unceded territory of the Métis.

The visual essay presented here is centred in the wake of a major fire event, however, it is also about human law and ecosystems. By traversing discussions on ethics within documentary photography and briefly exploring the history Aftermath of this medium, we argue how photography can better address socio-ecological issues within climate change through poetics. We offer a way of resisting the norms of documentary photography, resulting from subject and process-driven methods.

Key-words: Fire; Geography; Ethics; Photography; Ecology

1. Fiola, Chantal, and Rick Monture. 2015. Rekindling the Sacred Fire: Métis Ancestry and Anishinaabe Spirituality. N.p.: University of Manitoba Press. P1

Alan McFetridge is a photographer from Aotearoa. His field studies of Landscape Fire include regions within Canadian boreal, Australia and Greece. He receives invitations to visit Indigenous land, founded the Centre of Ecological Philosophy, been a panelist at the Association for Art History Annual Conference in 2021 and lectured at the John Hopkins Museum of Archaeology.

Antoinette Johnson is a researcher with an undergraduate degree in English and Drama from Queen Mary University of London. Prior to joining the Centre for Ecological Philosophy, their research has been primarily interested in the relationship between 19th Century western scientific developments and literature, theatre, art, photography and the every-day performance of the self or persona. Antoinette intends to continue developing their work at Oxford University by completing a Masters in Cognitive and Evolutionary Anthropology.

Emma Mcloughin is a visual anthropologist exploring the intersection of the arts and sciences within ecology and climate change. She is interested in understanding how photography, and visual culture more broadly, can be involved in critiquing and challenging systems of power within the Anthropocene through political-ecological imagining and collective world-making. Emma holds an MA in Visual and Material Culture from University College London and a BA in Natural Sciences from Cambridge University.

Dan Devitt is a Senior Public Health Strategist. His initial academic experiences were humanities -based (BA Hons English Lit & Lang (Kings College London 1995) MA in Text &Performance Studies King College &RADA 1996). Since 2004 he has worked in Public Health, focussing on Children and Young People, Child Death Review and Suicide Prevention, and was an NHS Olympic Torchbearer in 2012 in recognition of his work on Health Inequalities in London. He has contributed to national guidance and specialist academic publications associated with Child Death. He is an Executive Member of the Association of Child Death Review Professionals.

Songs of the Dead

Cold wind circles columns of falling tears

Blows a heartless war cry of deadmen down
by money river

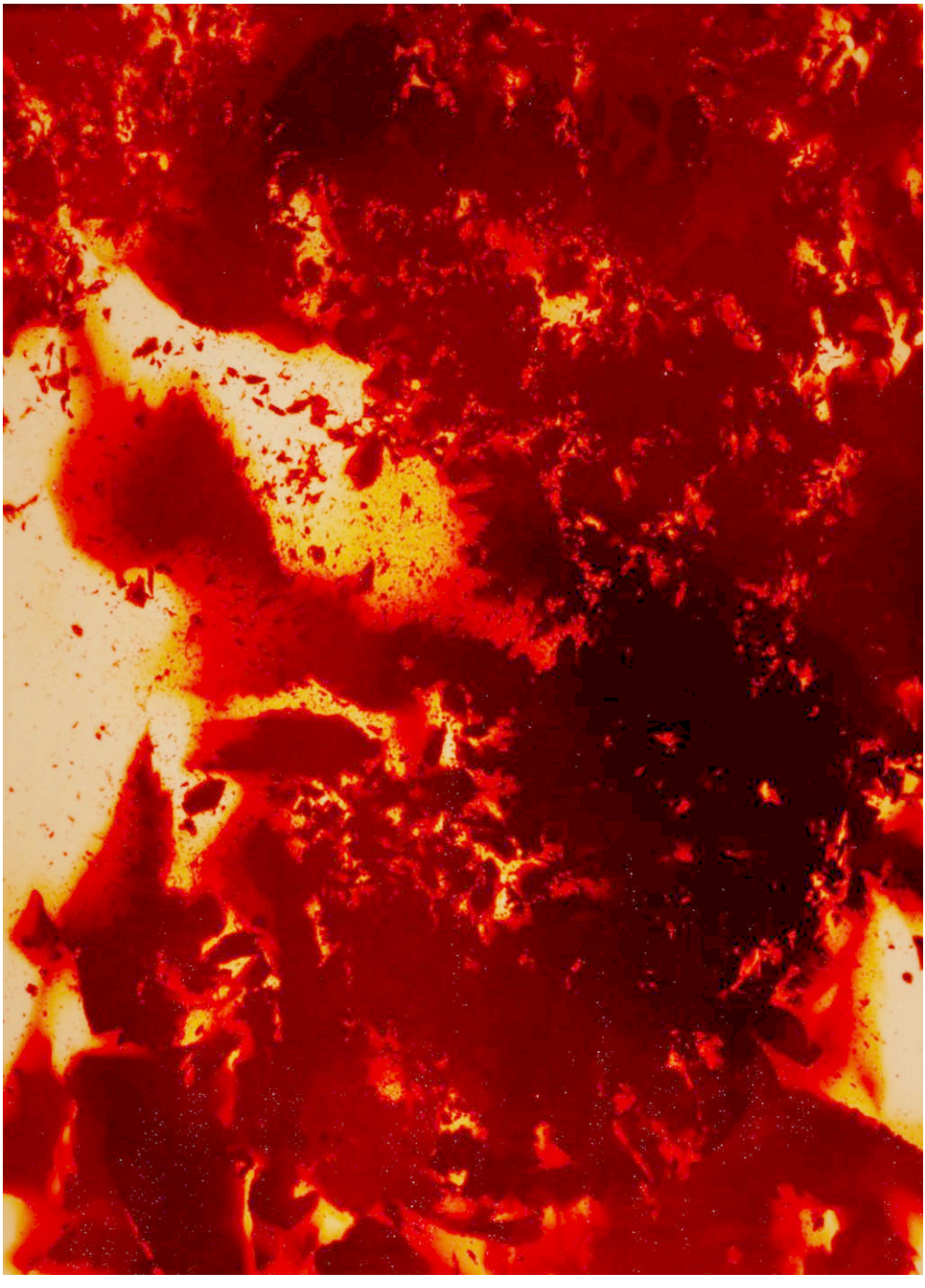
At noonday their boats come ashore

full of goodbyes for the young

The old trapper told me where their hearts
are kept

Hidden in a bag under the bed of the eldest
he said.

A.M.



My Blood is Related to Them.

Make Wealth and Become Poor.

They Always Go too Far.

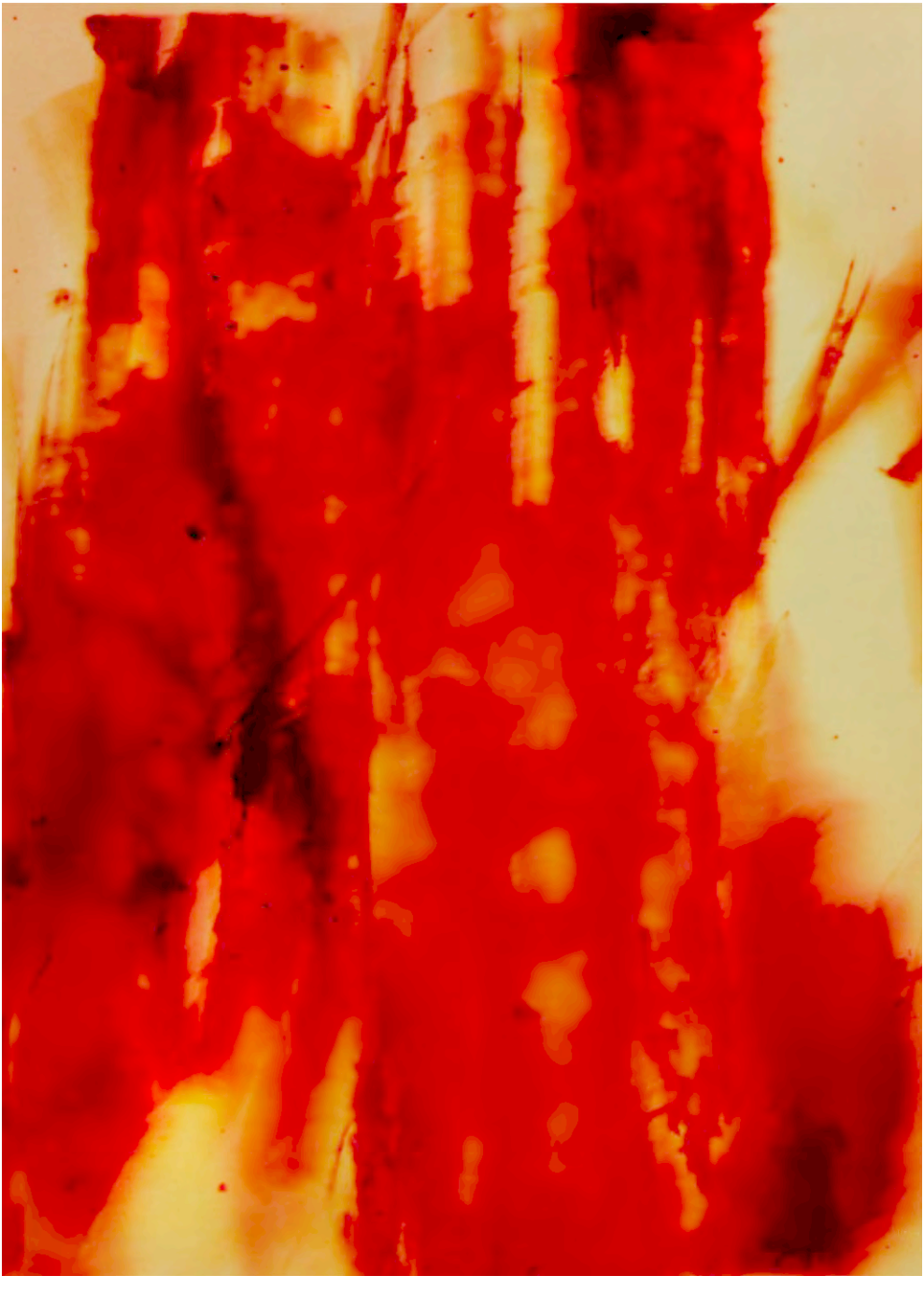
The Last Man.

The Heart of Earth is Gold.

from "Thus Spoke Zarathustra"

My Blood is Related to Them.
Make Wealth and Become Poor.
They Always Go too Far.
The Last Man.
The Heart of Earth is Gold.

Pyrogram



The initial purpose had been to capture the immediate impact on landscape and response to the fire. The photographer viewed dramatic news media of a sudden mass evacuation as it was unfolding. The iconography of wildfires in the media included highways jammed to a standstill, residents attempting to flee, a spectacle and tragedy played out for prime time, the gaze of the camera highlighting the scale of the tragedy.[2,3]

The fire began near the Tar Sands of Alberta[4] oil extraction operation and the urban service centre of Fort McMurray, a home to industry workers from the 1960s.[5] With attributes of a natural resource boomtown.[6] The scale of displacement and the population's isolated position was a direct result of complex global interests, and (unwitting) consumer demand for oil.[7]

Preliminary interviews with Professor Mike Flannigan (University of Alberta) revealed an escalation of Boreal Forest burning occurring in the context of the climate crisis. As the project unfurled communal traumatisation became evident, altering the context for delivery and the reflective consideration of its artistic and academic context.

From a starting point of representation the project was informed by discourses of environmental and human trauma, refocusing it to seek to achieve more than simple voyeurism.

The evolution of the project shifted its focus towards what has been termed 'late photography' in the context of the climate crisis. David Campany outlines the long social history of the 'late photograph': how photography's overshadowing by video and moving image has perhaps left photography at the ''aftermath of contemporary culture'', similarly leaving photography to capture the subject of the aftermath.[8] No longer about capturing the event as it happens, epitomised by images like Robert Cappa's ''falling soldier'', photography has attempted to coordinate around a position beyond the event itself.

2. Pyne, Stephen J. 2016. The Fort McMurray fire, climate change, and our fossil-fuel—powered society. https://slate.com/technology/2016/05/the-fort-mcmurray-fire-climate-change-and-our-fossil-fuel-powered-society.html.

3. Cotter, John. 2016. ''Alberta declares state of emergency as firefighters struggle to save Fort McMurray.'' The Toronto Star, May 4, 2016. https://www.thestar.com/news/canada/2016/05/04/hot-dry-winds-threaten-to-worsen-hellish-fort-mcmurray-wildfire-today.html.

Pyne, Stephen. 2022. ''Stephen J. Pyne presents ''Between Three Fires.''' YouTube. https://www.youtube.com/watch?v=ISjOpLRUktY. 44':44''

4. Canadian Government. 2020. ''What are the oil sands.'' What are the oil sands? https://www.nrcan.gc.ca/our-natural-resources/energy-sources-distribution/fossil-fuels/crude-oil/what-are-oil-sands/18089.

5. Huberman, Irwin. 2001. The Place We Call Home : a History of Fort McMurray, as Its People Remember, 1778 - 1980. N.p.: Historical Book Society of Fort McMurray.

6. Keough, Beth. 2015. ''Planning for growth in a natural resource boomtown: challenges for urban planners in Fort McMurray, Alberta.'' Urban Geography 36 (8): 1169 -1196. https://doi.org/10.1080/02723638.2015.1049482.

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8. Campany, David. 2003. ''Safety in Numbness: Some remarks on the problems of 'Late Photography.''' David Campany. https://davidcampany.com/safety-in-numbness/.

From conflicts, the aftermath of the Gulf War[9], Afghanistan[10] or Ground Zero after 9/11[11], these seemingly superior images have become a convincing style of static, slow detail and memory in a changing environment. Allan Sekula observes that whilst the documentary has witnesses and records "mountains of evidence ... the genre has simultaneously contributed much to spectacle, to retinal excitation, to voyeurism, to terror, envy and nostalgia, and only a little to the critical understanding of the social world".

The photographer was informed by the lived experience engaging with the subjects and landscapes. In interactions with the subjects of the project, observations were manifested in personal conflicts. In retrospect the photographer questioned the project's intentions and now actively questions the delivery of "late photography".

Martha Rosler[12] criticises photojournalism's failure in positively caring for its subjects, instead exposing and exploiting the troubled in a problematic aestheticised response. As Campany warns, late photography's "banal matter-of-factness" can lead to a sense of the sublime, encouraging an "indifference and political withdrawal that masquerades as a concern". This is something that can be handled by leaving the images behind, assuaging "any stirrings of conscience in its viewers the way scratching relieves an itch and simultaneously reassures them about their relative wealth and social position".

It is apparent in the photographs that there is a disconnection between the starkness of the observed impact of the fire, and the encounters and ensuing relationships that the photographer developed with the inhabitants of Fort McMurray. There is an obvious representation of the impact of the fire and resulting clean up. The traumatisation of the landscape is evident and by their absence in the images, but through the sharing of their narratives, the photographer sought to highlight the trauma and experience of the Fort McMurray inhabitants in a way that avoided exploitation.

The project quested to understand and address the structures, drivers and needs of the community and landscape and eschewed direct personal focus to avoid the pornography of voyeuristic pseudo representation, sensationalising or cheaping the trauma of human beings seeking to exist and carry on their lives which are not usually figuratively represented. It attempted to create a genuine response to collective human action and indigenous existence that is appropriate for addressing contemporary land abuse and cultural injustices, as Sekula notes attempts to "frame the crime, the trial, the system of justice and its official myths"[13].

9. Selgado, S. 2021. "Gulf War aftermath." Legion Magazine. https://legionmagazine.com/en/gulf-war-aftermath/.

10. Innes, Randy. "'The Day Nobody Died', War Photography, and the Violence of the Image." RACAR: Revue d'art Canadienne / Canadian Art Review 39, no. 2 (2014): 88–99. http://www.jstor.org/stable/43202470.

11. Meyerowitz, Joel. 2011. Aftermath – 2011 Edition. N.p.: Phaidon Press.

12. Rosler, Martha. 1990. 'In, Around, and Afterthoughts (On Documentary Photography)'. In The Contest of Meaning: Critical Histories of Photography, edited by Richard Bolton. Cambridge, MA: MIT Press.

13. Sekula, Allan. 1978. "Dismantling Modernism, Reinventing Documentary (Notes on the Politics of Representation)." The Massachusetts Review 19, no. 4 (1978): 859–83. http://www.jstor.org/stable/25088914.

The problem with many of the perspectives on the landscape in photography is the weighting of Western views and prioritisation of their privilege and exclusivity of their vision. It has been noted that a fairly typical White-European approach is likely to have scant regard for the land's health and stewardship because of an obsession with money (Neidjie, B. 1989). Irwin Huberman for example is unable to access the worldview that surrounds him. He commits just 5 paragraphs of a 283-page history book on Fort McMurray, "The Place We call Home" to 'ancient communities' suggesting that 1719 was the beginning of time for the place today and no mention of the historic conservative totemic knowledge systems, violent history of assimilation and brutal actions that provided the space for his eventual settlement.

In Conclusion

As Dostovesky notes – 'the impression made by the reality is always stronger than the description" – The House of the Dead.[14] This is a theme from the photographer who methodically captured crepuscular images over 49 days in two Mid October to Mid November 2016 and Mid January to Mid February 2017.

As the ecological catastrophes we face become commonplace and our collective horror at the images we see becomes over time muted with a familiarity and distancing from the "impression" of the images that become a wallpaper – unseen, eventually unremarkable, the project highlights the need to seek perspectives that are rare to learn about how best to give care to the lands of our beginnings.

As these events flash across our news feeds more frequently, it is essential to widen the subjective context of these aftermath landscapes to take the time to consider the forces at play. Rather than leaving these images behind, we must be sensitive to the lived aftermaths that continue after the visible catastrophic events.

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Collision course: Bagnara crumbling without care?

Bruna Di Palma, Mario Ferrara

Abstract

«Collision is the crash, the impact between two bodies in motion» (Treccani, "Collisione"). In the landscape, movement characterises both the evolution of built parts and the mutability of natural parts, and new balances or new imbalances are defined starting from the possibility of recognising stable or unstable lasting arrangements. The intermediate areas between city and nature are the place of contact between the different modes and speeds of transformation of the natural and artificial components of the landscape. The contact between these components can be defined as an encounter or a collision, depending on the greater or lesser level of acceptance or rejection that is produced by the intersection.

The collision is therefore identified as an extreme figure in order to understand the relationship between different phenomena that is difficult to translate, with the same power, into a design theme. «In the passage from analysis to design, it seems that the term collision tends to lose its precision to some extent. Its descriptive power rarely goes beyond the level of metaphorical evocation to become an operational design tool» (Corbellini 2015, p.69).

In Bagnara, a strip of coastline in Castelvolturno, indiscriminate construction has come into collision with the uncontrolled power of the sea. In this coastal landscape of southern Italy between the Volturno river to the south and the Agnene canal to the north, the unstable balance between land and water has created a narrow sandy strip dotted with houses' ruins and inhabited by bathers. The lack of breakwaters leaves the sea currents free to erode the beaches; the presence of houses built illegally on state-owned land put the inner linear city beyond the boundaries of stability. The current landscape of Bagnara consists on the one hand of a sandy shore, with unique characteristics on the Campania coast, which acts as an unstable base for crumbling ruins, and on the other, the water swallows up shreds of buildings that become artificial rocks. The sinuous curves of the sandy and watery nature of Bagnara are juxtaposed with the rigid folds of buildings broken by the slow catastrophe.

A social and aesthetic practice, photography, understood with Olivier Lugon as a documentary art, explores this landscape, becoming tangible evidence of a reality in oblivion that presents a multifaceted and complex pathological dimension. Illuminating, revealing and disseminating the state of health of Bagnara is the only cure currently in place for this landscape. The photos, like a "caress on the world" of this unstable strip of land, provide a therapeutic practice and a poetic vision of the crumbling reality of Bagnara.

Key-words: unstable landscape; waterscape at risk; architectural ruins and nature; documentary art; therapeutic photography

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Mario Ferrara architect, architectural photographer, master in Photographic representation of architecture and the environment at the La Sapienza University of Rome. PhD in Representation of architecture and the environment, he works in photographic campaigns for research about architecture, landscape and territorial contexts at the Department of Architecture of the Federico II University of Naples. He teaches Photography in public and private school and in national and international workshops.

Many concepts are included within the word "landscape": according to João Nunes it is a dynamic condition that registers a continuous overlapping of signals, induced or spontaneous transformative processes, involuntary and accidental movements, sometimes even collision phenomena.

"Collision is the crash, the impact between two moving bodies" (Treccani, "Collision"). In the landscape, movement and change characterise both the evolution of man-made parts and the mutability of natural parts. These alterations define imbalances, unstable arrangements, more or less lasting encounters. The intermediate areas between city and nature are particular places to observe this phenomenon linked to the contact between the different modes and speeds of transformation of natural and artificial components of the landscape. In the case of particularly catastrophic crashes, the collision between these components can define fractured and wounded soils, disrupted and necrotic spaces, mutilated buildings that define a disrupted landscape, "a suffering subject", according to Roberta Valtorta's definition.

Vulnerability and resistance, fragility and stability, temporariness and permanence, safety and risk are just some of the dual and opposite aspects that characterise landscapes on a collision course. Time plays a special role in these situations: the persistence of a collision condition that cannot be resolved crystallises instability as a fixed condition of a liveable landscape. When the collision is not the consequence of sudden catastrophes such as eruptions, earthquakes or floods, but of processes of slow degeneration of the landscape, the condition to be repaired is not identified as a state of emergency, "is not resolved in a plausible order" (Cavanna 2022, p.10), it takes on the character of an ordinary and perturbing condition to which one's everyday life belongs.

A particular case of vulnerability concerns the condition of coastal territories. The uncertain boundary between land and sea constitutes a specific fringe where different vulnerabilities coexist: erosion and deposition, formal and informal, identity and multiplicity, interscalarity and multiscalarity, resistance and interference, overlapping and repair. The shoreline, in particular, «is a hybrid space between land and sea, between empty and full, between nomadic and sedentary» (Careri 2021, p.62).

On the shoreline of Bagnara, in Castelvolturno, indiscriminate construction has come into collision with the uncontrolled power of the sea. In this coastal landscape in southern Italy, between the Volturno river to the south and the Agnene canal to the north, the unstable balance between land and sea has created a narrow strip of sand dotted with ruins and inhabited by bathers. The lack of breakwaters leaves the sea currents free to erode the beaches; the presence of houses built illegally on state-owned land projects the linear city behind it beyond the boundaries of stability. The current landscape of Bagnara consists on the one hand of a sandy shore, with unique characteristics on the Campania coast, which acts as an unstable base for crumbling ruins, and on the other, the water swallows up shreds of buildings that become artificial rocks.

The sinuous curves of Bagnara's sandy, watery nature are juxtaposed with the rigid folds of buildings broken by the slow catastrophe. The suffering of this disturbed and perturbing landscape is contrasted by the serene attendance of bathers. The people inhabit the shoreline in a paradoxically serene manner and bear witness to the real existence of this surreal landscape, giving Bagnara the status of a theatrical stage on which the scene of a pathological and stable contact between man, land and sea unfolds. In these cases, the perception of safety, which usually represents an essential condition of living, becomes a secondary factor, overtaken by the habit and familiarity of living in an uncertain landscape that, for the younger segments of the population, also represents the only form of landscape known and rooted in memory.

In this ruined landscape of Bagnara, one can trace with the aesthetic condition of ruin porn, reflecting on the condition of permanence of ruins in everyday landscapes that acquire a profound figurative force as a representation of a landscape in decline that nevertheless holds a hidden promise of redemption, "the possibility of transforming inhabitants from spectators into citizens" (McLain, 2016, p.10).

Reversing the logic of linear planning processes through which this promise could be realised, for landscapes such as Bagnara's, the time of waiting and suspension define a precise historical period, a long phase of involution, in which the intersection between nature and artifice defines permanent collision frameworks. As it is evident in this case, collision is thus identified as an enigmatic figure, a concept useful for defining a complex relationship between different phenomena. Before becoming a field of design experimentation, it finds in documentary photographic representation a possible vehicle for raising awareness, a descriptive operation that works on the potential of the gaze to focus attention, an aestheticising attention, on those landscapes that has a discontinuous and problematic identiy, an identity that is difficult to define.

The photographic gaze dedicated to Bagnara works in the sense just described and follows the wake of historical international initiatives that have interpreted photography as the "author's documentation" of "secondary" and vulnerable landscapes. The Mission Photographique de la DATAR commissioned to almost thirty photographers by the French state[1], for example, aimed at documenting the French landscape of the 1980s restoring to it that beauty and formal dignity

1 The photographic mission of DATAR (Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale) is a public commission of the French Interministerial Committee for Regional Planning (CIAT) initiated in 1984 and entrusted with twenty-eight photographers, French and foreigners, including Doisneau, Koudelka, Basilico, Baltz, Hers, Fastenaekens, Garnell, Drahos, Trulsch, Depardon, with the aim of representing the French landscape of the 1980s. The mission became an opportunity through which the chosen photographers could free themselves from the need for an illustrative look at the urban and natural landscape and turn their research towards a more aesthetic or documentary activity. The photographers travelled all over France to create a collection of 2,000 images that is currently kept at the Bibliothèque nationale de France. Before the photographers' investigation ended, some of the work was exhibited in the exhibition 'La Mission Photographique de la DATAR. Travaux en cours 1984/1985' held at the Palais de Tokyo in 1985.

of which economic development has robbed it. In addition, the exhibition New Topographics: Photographs of a Man altered Landscapes curated by William Jenkins with photographs by Robert Adams and Lewis Baltz, among others, emphasised the tension between the traditional beauty of the American land of the 1970s and the results of human presence within it[2].

A social and aesthetic practice, the photography, intended with Olivier Lugon as documentary art, explores this landscape, becoming tangible evidence of a reality in oblivion that presents a multifaceted and complex pathological dimension. The photo series, the inseparable concatenation of frames chosen to represent this coastal collision, «can become the most powerful weapon and at the same time the most tender lyrical note» (Moholy-Nagy 1975, p.131). Illuminating, recording and disseminating the state of health of Bagnara is the only therapy currently in place for this landscape. Echoing Gianni Celati's metaphor from an interview with Luigi Ghirri, these photos, like a "caress on the world", on this unstable strip of land, provide a therapeutic practice and a poetic vision of this crumbling shoreline reality in which «there are still adventures to be experienced» (Careri 2021, p.62).

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Authors' work

The work is the result of research carried out jointly by the two authors, but the photos are by Mario Ferrara, while the text is by Bruna Di Palma.

2 "New Topographics. Photographs of a man-altered landscape' was conceived by William Jenkins and hosted in the International Museum of Photography at the George Eastman House (Rochester, New York) between 1975 and 1976. Jenkins involved ten photographers (eight North Americans and two Europeans), Robert Adams, Lewis Baltz, Joe Deal, Frank Gohlke, Nicholas Nixon, John Schott, Stephen Shore, Henry Wessel Jr. and Bernd and Hilla Becher, with the aim of documenting the anthropised American landscape, the encroachment of human beings, nature as a no longer pristine power.

Landscape as Heritage in the province of Chañaral, Atacama region, Chile

Sebastián Palacios

Abstract

To understand the landscape as heritage is to recognize it in a synthesizing condition, as a complex system of ecological, historical and social legacies. This approach allows an articulation and reading of the territory not as a sum of particularities but rather as a particular system, where the landscape, as a collective construction of society, is not only understood as a material construction, but also as a construction of memory and cultural expressions, which in the Atacama Desert have become evident with a clear mining emphasis, temporally since pre-Columbian times and spatially throughout the transversality, longitudinality and altitudinal levels of the territory.

Key-words: Atacama; desert; landscape ; heritage ; territory.

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The territorial character of the Atacama Region has been shaped by the economic mono-dependence linked to mining processes for decades. It is in this territory where the greatest discoveries of silver and copper mineral deposits were made, with which the economic bases, key productions and international relations of the state were forged, generating and contributing pioneering technologies in Chile and South America, new sources of energy, transportation and communication, transforming the country towards the fourth decade of the 19th century into the first copper producer in the world.

In the province of Chañaral, the cultural heritage is made up of sites linked to mining since pre-Hispanic times, called "World Heritage of Humanity" because they are part of the Andean road system Qhapaq Ñan[1]. Landscapes with industrial infrastructures that illustrate the mining boom period, as well as relict sites made up of few and fragile elements with varied surfaces, vestiges that have no written history, but that reflect the will of the anonymous inhabitants to act and inhabit this territory.

Most of these sites are uninhabited, in some, there are still some miners who work in the clearings left by the times of higher production, in others, caretakers safeguard various pieces of great historical value, among these vestiges are the industrial territories, which are manifested as works in some cases and in others with a certain extension and complexity, they can be identified: mining basins, veins, mining pits, railway networks, productive corridors, camps, extraction, accumulation and management structures, "as they have also been called, territorial structures that testify to the recent industrial past of our society. They are the <<landscapes>> of industry "[2].

The reading of these elements present in the territory without the landscape they conform leads to an incomplete understanding of the territory that is observed and inhabited, especially in a region where the predominance of the geographical over the built, but not the modified, is present in greater percentage and evidence before our senses in multiple scales; in the words of José Ortega: – "It is evident that the transformations affect, in the European framework, a very humanized space, while in the American one they affect, above all, a virgin natural space". – Indeed, the transformations produced by mining or the search for energy sources occur in places without direct anthropic settlements –without the implication that they are not shocked by their effects– rather, they occur in places made up in great percentage by natural elements.

[1]UNESCO. (2014). Qhapaq Ñan – Sistema vial andino. 2018, de UNESCO Sitio web: https://whc.unesco.org/es/list/1459
[2] José Ortega Valcárcel, El patrimonio territorial: El territorio como recurso cultural y económico en Ciudades: Revista del Instituto Universitario de Urbanística de la Universidad de Valladolid (Valladolid: Universidad de Valladolid, 1998) 33.

[Fig. 1]
Relict railroad line. 2017

[Fig. 2]
Memorial site. "Animita", 2017.

Some of these sites can be seen as we advance from the coast of the Pacific Ocean towards the interior of the desert. This is how vestiges and artifacts linked to the old train that ran along a large part of the Salado River appear, which can still be seen on the road (fig. 1), cut and twisted by the passage of heavy rains have been scattered throughout the basin. While at various points along the road there are "animitas", small constructions that enunciate tragic events and remember the souls of those who have lost their lives on the road, in this area most of them linked to mining (fig. 2).

At present, there are abandoned productive settlements, such as the former railroad town, a station and the Llanta train station (fig. 3), which at an altitude of 1,200 m.a.s.l. still conserves the station, train station, machinery, artifacts, and even houses people who return year after year to celebrate and thank the virgin (fig. 4). There are also historical sites such as "Mina Sebastopol" that are still visited by independent miners looking for the mineral remains left in the territory by decades of exploitation (fig. 5).

As one advances towards the altiplano, more archaeological remains appear in the landscape, ceremonial, productive and transit sites, the so-called "tambos" appear, small shelters, circular or quadrangular in shape, built in a system of stone pirca, without mortar as in the case of "Tambo Valle Salado", which at an altitude of 1,720 m.a.s.l. still preserves and it is possible to appreciate its orthogonal enclosures (fig. 6).

There are also large infrastructures such as the sections of the Qhapaq Ñan, which today are threatened by the advance of large mining industries and the lack of concrete protection of the fragile archaeological remains, which in many places are only constituted by the movement and accumulation of rocks (fig. 7). Finally, in the altiplanic zone above 3,300 m.a.s.l., where mining projects are concentrated, where lithium mining projects are concentrated due to the large number of lagoons and salt flats, there are still remains of ruins that once supported the exploitation of borax and other minerals in the territory, as in the case of the "Borax Mines" that still preserve different types of constructions such as walls used as part of the houses, large areas used for industrial work, material storage yards, among other constructions (fig. 8).

Most of these elements still remain and are part of the construction of the landscapes, although as elements in their uniqueness each one can give through different readings testimonies of the past, it is in the territory where it provides and evidences the various forms of organization and development around the exploitation and use of natural resources. It is the landscape that reveals the actions and actors that have built it. In it, the different layers of values and meanings of this mining cultural landscape make it possible to understand it as a system capable of adapting to change and opening new opportunities for local development, perhaps in the future not only from an extractive perspective, but also from a scientific, patrimonial, touristic and artistic perspective, among others.

[Fig. 3]
Railroad cars in the abandoned mining village "Llanta"., 2017.

[Fig. 4]
Altar of the virgin in the abandoned mining town of "Llanta", 2018.

[Fig. 5]
Unloading rail and mineral waste in the historical mine "Sebastopol", 2018.

[Fig. 6]
Archaeological ruin related to the Inca road system in Chile, 2018.

[Fig. 7]
The Inca road system in Chile. Background: copper mine, 2018.

[Fig. 8]
Archaeological ruins in lithium extraction salt flat, 2018.

Six Stones and a Plinth: Spanish Hórreos as Cultural Landscape

Gili Merin

Abstract

This visual essay looks into a typology of granaries that is common in Northern Spain: the Hórreo. It describes their genealogy, structural components, and current use in the Spanish province of Asturias. The essay seeks to give attention not only to their agricultural use but also to their striking visual appearance and its integration within the Asturian Landscape. It argues, following the words of archaeologist Richard Bradley, that the Hórreos have a monumental presence; as an offspring of prehistoric temples—where food surplus was divided by the priests—they are a relic of a time when agricultural production was ritualised, and are thus a reminder of the blurred distinction between the sacred and profane.

Key-words: Architecture, Landscape, Storage, Spain, Photography

Gili Merin is an architect, photographer and researcher. Formerly the head of History and Theory of architecture at the Royal College of Arts (RCA) and a Diploma Unit Master at the Architectural Association (AA), she is currently a Post-Doc fellow at the TU in Vienna and a lecturer at the Negev School of Architecture in Beer Sheva. She holds an MA and a PhD from the AA and had studied architecture at Bezalel (Jerusalem) UdK (Berlin), and Waseda University (Tokyo).

She lectured, participated in panels, and led workshops at various institutions, amongst them the CCA in Montreal, Harvard GSD, TU Delft, and the Universities of Syracuse, Porto, Aarhus, Rice, Carelton, and Aalto.

Her photographs have been exhibited in a number of exhibitions and publications, including the Venice Biennale, Louisiana Museum of Modern Art, HKW in Berlin, The Rotterdam Biennale and the Seoul Biennale for urbanism. Her writings and reportages have been translated into German, French, Spanish, Russian and Portuguese; she has been published in several journals including the Economist, the AA Files, MIT's Thresholds, Plat Journal, The Guardian, Apollo Magazine, The Architects' Journal, and the Architectural Review.

Meandering through the Spanish province of Asturias, one cannot ignore a unique agricultural typology: the four-post granaries, or *Hórreos*. From Latin *Hordeum* ("barley"), these striking granaries have been in continuous use since at least the 13th century. Though varied in colour, scale, and materiality, the store-houses share a typological logic and an iconic shape: a raised rectangular volume topped with a pitched roof, supported by four or six heavy stone posts which isolate the yield from humidity and rodents.

Hórreos are built of two distinct parts. The base is often made of hand-carved limestone posts (*Pegoyos*) topped with disk-shaped elements (*Muela*) upon which four square wooden beams (*Trabes*) are positioned to support the storehouse. The main part of the Hórreo, the storehouse itself, is usually made of chestnut wood, topped with a pitched roof made of slate, straw, or tiles. It is accessed via a detached stone staircase (*Subidoria*) that leads to an exterior balcony (or a *corredor*) that is also used to dry products such as garlic, onion, and corn.

The Asturian Hórreos (numbered at 10,000) and their counterparts around the Iberian peninsula are viewed by scholars as the genealogical successor to the European *four-poster* (*Speicher* in German), a type of timber granary common in Bronze and Iron Age Europe (mostly found in Germany and Britain). In the Iberian peninsula, however, it is likely that they date to the late Mediaeval period, where they were developed following the introduction of new crops (such as corn) by incoming colonisers.[1]

1 Richard Bradley, *Ritual and Domestic Life in Prehistoric Europe*, 5

In *Ritual and Domestic Life in Prehistoric Europe* (2005) archaeologist Richard Bradley argues that while scholars of prehistory tend to study the Horreos in the context of an agricultural economy, they give "too little thought to the visual impact of such structures and need to consider their place in the local topography and their impact on the people living among them."[2] Indeed, despite their widespread existence, little has been written about the architectural expression of these structures; their position within the landscape and their affective power over society.

2 *Idem, Ibidem.*


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Hórreos are built above gardens and farms, attached to houses, raised on platforms in a courtyard enclosure or erected at the side of the road or in a village centre. Oftentimes, as can be seen in the photos above, the Hórreos have a strong visual presence to the point that they are sometimes more prominent and placed on a higher platform than the house to which they belong and even the town's church. As such, Bradley argues "they are not just agricultural buildings; they are also monuments."[3] The monumentality of the Hórreos is grounded not only in the prominence of their visual expression, but in their key symbolic and practical role in an agricultural economy focused on individual survival and longevity. As a structure used to store crops, Hórreos are tied to cycles of agricultural production—associated with notions of abundance and scarcity, and also with the annual calendar of religious rituals which imbue them with particular cultural meaning.[4] In that sense, the Hórreos embody two categories that seem to be mutually exclusive: the sacred and the profane.

3 *Ibidem.*

4 *Ibidem*, 6


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Hórreos are then not only an index of the local economy or a token of architectural currency but a reflection of a particular way of life, an integral part of the Asturian topography. *Topography*, (literally 'place description') is understood here as the three-dimensional formation of the terrain, blurring figure and ground in order to articulate the natural and the cultural. As Denis Cosgrove argues in *Social Formation and the Symbolic Landscape* (1984), landscape is an ideological construct; a way of offering human control over the natural world.**5** By eliminating the distinction between god-made and man-made, seeing the world through the perception of landscape allows various elements to merge into a single view that produces an affective response. These photos portray the Hórreos as a signifier of agricultural labour and ritual, a part of the landscape as much as the sea, mountains, and the population of Asturias.

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8th Sophia Journal International Conference | 15-16 Sept. 2023

Landscapes of Care: Photography, Film, Modern Architecture and Landscape Heritage

The 8th Sophia Journal International Conference will present a live and videoconference program organised by CEAU / FAUP and the event will be broadcasted live online, encompassing a rich and diverse program around: roundtables for each panel concerning a focused topic coming from Sophia´s comprehensive call; presentation of articles and visual essays submitted; Photography exhibition: The Idea of Álvaro Siza.

This International Conference integrates the thematic cycle "Landscapes of Care", addressing contemporary photographic and visual practices that focus on how architecture understood in a wide sense can help to heal a broken planet. The concept of "Landscapes of Care" has increasingly been adopted by diverse areas of study, from health geography to the arts, architecture and heritage preservation. It is used here in order to understand and document modern architecture, building, city and territory as living and inclusive organisms, as well as heritage resources for global sustainability.

Modern architecture is a 'heritage at risk' as it belongs to a recent past that has not yet been sufficiently recognised by the authorities, scholars and general public. Our aim is to explore the ways in which photography and film can be used as meaningful instruments of research into the socioeconomic, political, historical, technical and ecological dimensions of modern architecture, city and territory.

Álvaro Siza's "Piscina das Marés", by Mark Durden and João Leal. Leça da Palmeira, Portugal, 2021.
Courtesy of the artists

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