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Exhibiting Environmental Encounters: Exploring how an exhibition of contemporary art contributes to overcoming climate change communication challenges

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Citation

Schultz, A. (2022). *Exhibiting Environmental Encounters: Exploring how an exhibition of contemporary art contributes to overcoming climate change communication challenges*.

Version: Not Applicable (or Unknown)

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Exhibiting Environmental Encounters

Exploring how an exhibition of contemporary art contributes to overcoming climate change communication challenges

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MA Thesis Arts and Culture

Specialization Contemporary Art in a Global Perspective

Leiden University 2022–2023

11 / 12 / 22

*“Water bodies have the power of change.
They can move hills or mountains,
make them collapse,
disappear or reappear,
and reveal layers of planetary history.”¹*

¹ Ayala, Franchette, and Tauriainen, *Text for River Oracle*, 1 (my italics).



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1. Introduction

This thesis is about the contribution of the contemporary art exhibition *Emotions are Oceans* at RADIUS Center for Contemporary Art and Ecology (hereafter RADIUS) in Delft, The Netherlands, to climate change communication, and to several climate change communication challenges in particular. Climate change certainly is one of the most pressing and complex issues of our lifetime. It affects and threatens the future of all life on earth, human as well as non-human. Last October it was all over the news how in 2021 the concentrations of the three most important greenhouse gasses hit records and it will only get worse for sure.² Communication on issues like these and climate change in a broader sense takes place through a plethora of communication channels and via various actors, such as journalists, scientists and policy makers. This is no easy task, since the phenomenon is characterized by a high degree of complexity and has to do with science, politics, socioeconomics and culture simultaneously. It therefore asks much of its communicators, while on top of that the public they want to reach is very diverse when it comes to for instance level of education and ideology.³

In the search for effective and appropriate communication means, the importance of culture is becoming more and more prominent.⁴ In other words, a ‘cultural turn’ has taken place in the field of climate change communication.⁵ Within this turn, various forms of expression are suggested to hold the potential to effectively communicate about climate change. For instance, in their article about what they call ‘artful communication’ about the issue, cultural geographer Harriet Hawkins and geographer and sound artist Anja Kanngieser contend that currently it has been widely acknowledged that “creative practices – from literature and film to performance and, recently, contemporary art – can extend and enhance practices of climate change engagement.”⁶ Also climate change communication scholar Susanne Moser notices the increased interest in the potential of the arts in communication about the phenomenon and in getting people involved with it.⁷ Besides, in the introduction of *Curating the Future* scholars Jennifer Newell, Libby Robin and Kirsten Wehner argue why exhibitions are particularly valuable in the communication process, as they promote meaning making and learning experiences through curated encounters with a wide range of objects that constitute a display.⁸

² Horton, “Atmospheric levels of all three greenhouse gases hit record high.”

³ Moser, “Reflections on climate change communication research and practice in the second decade of the 21st century,” 351.

⁴ Hawkins and Kanngieser, “Artful climate change communication,” 1.

⁵ *Ibid.*, 1.

⁶ Hawkins and Kanngieser, “Artful climate change communication,” 2.

⁷ Moser, “Reflections on climate change communication research and practice in the second decade of the 21st century,” 353.

⁸ Newell, Robin, and Wehner, “Introduction,” 5.

The ideas behind the foundation of RADIUS, which opened in May 2022, are in line with these developments and insights. The art exhibitions the center organizes are meant to contribute to their aim of getting the public acquainted with particular climate change related topics, raising awareness and increasing (deeper) understanding.⁹ Furthermore, in their policy plan, the founders write how they believe artists play an important role in telling the stories of climate change and in critically evaluating and reflecting on the causes and consequences of the issue, which is why they want to give them a stage.¹⁰ In this thesis it will be investigated how this translates into practice and which means and strategies the curators implement to communicate with the public, based on the analysis of their very first exhibition: *EMOTIONS ARE OCEANS: Bringing Water to Life in the Encroaching Desert* (hereafter *Emotions are Oceans*).

There exists a significant body of literature that investigates the role of arts and culture in the quest for a more sustainable future. In this literature, a distinction can be made between among other things research that focuses on the (communicative) functions of art(works) in a specific exhibition context and research that reviews the impact of art in itself.¹¹ Although in this thesis there will be an emphasis on the former, insights from both fields are relevant in order to better understand what the role of an art exhibition can be in the climate change communication process.

As over the years quite some contemporary art exhibitions on climate change have been organized, various academic analyses of those exhibitions and the effects they have have been performed. When investigating this category of exhibition, the research focus varies. A first aspect that has been explored are the emotional responses of visitors to a certain exhibition.¹² Furthermore, some researchers have put emphasis on the curatorial intentions behind the making of a contemporary art exhibition on climate change.¹³ Also, the impact of the political stance an exhibition takes has been researched.¹⁴ In addition, in a couple of analyses the influence of the (local) geographic setting was taken into account and discussed.¹⁵

⁹ Lekkerkerk, Rusca, and Queta, *RADIUS Beleidsplan*, 13.

¹⁰ *Ibid.*, 5.

¹¹ For the first field of research see Caso, "Tipping Point," 1053–57; Hemstock and Capstick, "Communicating Climate Change," 599–615; and Payne, "Portraying the Political," 157–74. For the second field of research see Galafassi et al., "Raising the temperature," 71–79; Nurmis, "Visual climate change art 2005–2015," 501–16; and Roosen, Klöckner, and Swim, "Visual art as a way to communicate climate change," 85–110.

¹² Bureaud, "Lovely Weather," 182–83; and Hemstock and Capstick, "Communicating Climate Change," 599–615.

¹³ Caso, "Tipping Point," 1053–57; and Payne, "Portraying the Political," 157–74.

¹⁴ *Ibid.*

¹⁵ Bureaud, "Lovely Weather," 182–83; and Hemstock and Capstick, "Communicating Climate Change," 599–615.

Similarly, another important aspect that has been taken into consideration when analyzing contemporary art exhibitions on climate change is their institutional setting. It matters whether exhibitions take place in for example a public or private gallery, a community center or a museum and to date climate change art exhibitions have been analyzed in varying institutional contexts.¹⁶ However, an institutional form that has not received much scholarly attention yet is the center for contemporary art and ecology. Internationally, apart from RADIUS, several centers like these exist. For instance, in Mexico, there is the Guapamacátaro Art & Ecology, a place where artists, scientists, educators and activists collaborate with the shared aim of creating a more sustainable future. About institutes like this a small number of academic articles has been published, but these do not explicitly investigate the role of their exhibitions in communication about climate change.¹⁷

The second field of study, that evaluates the role of the visual arts in climate change communication, is a relatively new area of research. It has only been receiving scholarly attention since five years or so.¹⁸ Here, larger reviews of artworks as well as more specific case studies have been conducted, based on which most scholars take a quite or even very positive stance with regards to the contribution of the arts to climate change communication, debates and transformation processes (compared to other forms of climate change communication).¹⁹ At the same time, some scholars also warn that specific types of climate change art, like those that focus on the 'apocalyptic sublime', do not constructively contribute, due to the overwhelming (negative) feelings they cause among viewers.²⁰ Still, given the high potential of the visual arts in climate change communication and potentially in climate change action, researchers have indicated that it is an important topic for further research.²¹

One of those specific case studies into the communicative qualities of contemporary artworks serves as the starting point for my research. The study was executed by Harriet Hawkins and Anja Kanngieser and for this research they selected three contemporary audio-visual artworks. The researchers investigated how the environmental encounters these works create through their sonic and visual features respond to three major climate change communication issues.²² In this thesis, their approach is applied to an art exhibition, instead of

¹⁶ See Bureaud, "Lovely Weather," 182–83; Caso, "Tipping Point," 1053–57; Hemstock and Capstick, "Communicating Climate Change," 599–615; and Payne, "Portraying the Political," 157–74.

¹⁷ See for example Marván and Linford, *Guapamacátaro Center for Art and Ecology. Interdisciplinary Residency Program Maravatío, Michoacán, México*, 1–59.

¹⁸ Hawkins and Kanngieser, "Artful climate change communication," 3.

¹⁹ Cameron, Hodge, and Salazar, "Representing climate change in museum space and places," 9–21; Dieleman, "Sustainability, art and reflexivity," 1–26; Galafassi et al., "Raising the temperature," 71–79; Nurmis, "Visual climate change art 2005-2015," 501–16; and Roosen, Klöckner, and Swim, "Visual art as a way to communicate climate change," 85–110.

²⁰ Nurmis, "Visual climate change art 2005-2015," 510.

²¹ Hemstock and Capstick, "Communicating climate change," 601.

²² Hawkins and Kanngieser, "Artful climate change communication," 1–12.

separate artworks. Shifting focus from the evaluation of single artworks to the exploration of an exhibition as a whole adds a meaningful dimension of research interpretation. In an exhibition visitors do not only look at the objects on display; while moving around they also take notion of and are affected by the relations that exist between the variety of objects as well as their surroundings.²³

Given the status of existing research in the field, my thesis is of academic value for a couple of reasons. First of all, as mentioned a new contribution to Hawkins and Kanngieser's work can be made. In addition, using their framework in the context of an exhibition enables me to propose a different focus for analysis of a contemporary art exhibition on climate change, as existing research in this field has concentrated on visitor response, curatorial intentions, political meaning and geographic and institutional setting. My research takes climate change communication challenges as its focus. Moreover, my thesis sheds light on an exhibition in an understudied type of institutional context, namely a center for contemporary art and ecology. Finally, as RADIUS is a newly opened institute, no academic research about their practices has been published yet. This thesis will highly likely be one of the first academic explorations of their very first exhibition program and how it contributes to climate change communication.

The research question of this thesis is inspired by Hawkins and Kanngieser's research into 'artful climate change communication'. My approach originates from the three climate change communication challenges they have identified based on previous research. Whilst Hawkins and Kanngieser explore the effects of three separate audio-visual artworks with regards to these challenges, my thesis investigates how a contemporary art exhibition in a center for contemporary art and ecology contributes to overcoming the three communication issues. The specific exhibition at RADIUS that is analyzed is *Emotions are Oceans*, which is described and justified in more detail below. Altogether, this leads to the following research question: *How does the exhibition Emotions are Oceans contribute to overcoming climate change communication challenges?*

To be able to answer this question, in the analysis each of the three challenges Hawkins and Kanngieser formulated is examined separately through a sub-question. First of all, it is considered how the predominantly insensible and abstract nature of climate change and of many of the facets it entails is addressed throughout the exhibition.²⁴ Secondly, the analysis demonstrates how the exhibition reflects on separations in time and space that characterize climate change, especially on those separations that exist between the ones who mainly cause climate change and the ones who mostly suffer from its consequences.²⁵ Thirdly, it shows how

²³ Newell, Robin, and Wehner, "Introduction," 5.

²⁴ Hawkins and Kanngieser, "Artful climate change communication," 2.

²⁵ *Ibid.*, 2.

Emotions are Oceans deals with relations between the human and the non-human and the ways in which these influence our understanding of the environment.²⁶

Following from these research goals, the first theoretical concept i.e. communication challenge that Hawkins and Kanngieser introduce is *insensibilities*. This concept refers to the fact that many aspects of climate change cannot be perceived with the human senses.²⁷ Although it is everywhere, all the time, to most of us climate change is intangible. The second challenge they put forward is *distances* in terms of time and space.²⁸ Due to the time lags between causes and effects of climate change, people do not consider it a direct concern. Moreover, as consequences of climate change are not evenly spread across the globe, some areas and populations are hit harder than others. As a result, to some the impact feels – and in fact is – very distant, making it difficult to relate to. The final challenge Hawkins and Kanngieser present that impedes the climate change communication process is the lack of awareness of the *entanglement* of life on earth.²⁹ Humans tend to attribute themselves a dominant position with regards to nature and the other-than-human, which influences the ways in which we perceive of the environment.

Climate change communication research by amongst others Susanne Moser shows that these three aspects impede (deep) understanding of climate change issues.³⁰ Also, due to issues like these the urgency and the immediacy of climate change are still not widely perceived.³¹ Hawkins and Kanngieser additionally note that insensibilities, distances and entanglement are in fact three of the key obstacles to effective climate change communication, which is why they made this selection.³² Following Hawkins and Kanngieser's example, these three barriers constitute an important part of the theoretical framework of my thesis and they are used as the lenses through which *Emotions are Oceans* is analyzed. More specifically, applying these concepts to the exhibition means that the analysis investigates to what extent the various facets the challenges entail are reflected on and overcome through the manner of exhibition display.

The case study of this thesis is *Emotions are Oceans*, the opening exhibition at RADIUS. This is a key example to understand how an exhibition can contribute to overcoming climate change communication challenges for several reasons. As was mentioned earlier in this introduction, the founders of RADIUS believe that it is very important to get artists and their practices involved in the climate change debate. In their policy plan, it is also mentioned more

²⁶ Ibid., 2.

²⁷ Knebusch, "Art and climate (change) perception," 9.

²⁸ Hawkins and Kanngieser, "Artful climate change communication," 2.

²⁹ Ibid., 2.

³⁰ Moser, "Communicating climate change," 33–36.

³¹ Dilling and Moser, "Introduction," 3–8.

³² Hawkins and Kanngieser, "Artful climate change communication," 2.

implicitly as well as more explicitly RADIUS actively aims at overcoming the three climate change communication challenges. First of all, they write how art can help gain better insight into abstract phenomena like climate change, that transcend the capacities of the human perception and senses, making them inaccessible and hard to grasp for many people.³³ Secondly, with the year program that *Emotions are Oceans* is part of, the curators invite the visitor “to join in a series of journeys through “deep-time” – a vast geological time.”³⁴ In doing so, considerations concerning large time scales and temporal distances seem to be taken into account. Also, geographical separations are expected to occur in the program, as the curators consider the consequences of global crises “both on a local level and on a planetary scale.”³⁵ Thirdly, the challenge of creating a sense of entanglement is also touched upon, as one of the three key themes RADIUS focusses on within their (exhibition) program is “climate, ecology and the increasing entanglement between nature and culture.”³⁶ In line with this, in their program, the founders want to make room for non-human perspectives, instead of taking a human-centered approach.³⁷

Another reason why the exhibition lends itself well as a case study for this research, is the fact that RADIUS is a center that works on the intersection between art, science and ecology and thus actively investigates the relations between these fields. More specifically, its founders are interested in how the combination of practices from these fields can be connected to the living environment of the public (from Delft) themselves, in order to offer them new perspectives on their own lives.³⁸ They consider exhibitions as a major means to facilitate these connections.³⁹ Analyzing one of RADIUS’ exhibitions is therefore expected to provide more insight in how this interdisciplinary approach affects the meaning making capacities of the exhibition displays they design.

In addition to the relevance of the center’s values and starting points, the theme of *Emotions are Oceans* makes the case suitable in the light of my research question too. The exhibition revolves around global water crises, and in particular water scarcity and inequality.⁴⁰ Thus, the main type of matter involved is water, which has many properties, implications and associations that relate it to the climate change communication challenges. In part, the exhibition was inspired by a writing by cultural historian Astrida Neimanis: *Bodies of Water. Posthuman Feminist Phenomenology*.⁴¹ In its introduction, Neimanis first of all describes how

³³ Lekkerkerk, Rusca, and Queta, *RADIUS Beleidsplan*, 12–13.

³⁴ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 3.

³⁵ *Ibid.*, 3.

³⁶ Lekkerkerk, Rusca, and Queta, *RADIUS Beleidsplan*, 12.

³⁷ *Ibid.*, 13.

³⁸ *Ibid.*, 12.

³⁹ *Ibid.*

⁴⁰ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 5.

⁴¹ *Ibid.*, 6.

water connects all life and matter on earth, and how as humans we are all bodies of water.⁴² According to her, this has various implications: “To figure ourselves as bodies of water not only rejects a human separation from Nature ‘out there’; it also torques many of our accepted cartographies of space, time, and species [...]”⁴³ These implications directly touch upon the theoretical concepts that are key to this thesis, which makes the exhibition an interesting research case.

Finally, there are also some practical considerations why *Emotions are Oceans* was chosen as a case study. Firstly, as RADIUS just opened, the choice for exhibitions to analyze at the center was limited. Between its opening and the end of my research period, three exhibitions of their first year *Underland* program were on view. In total, this program consisted of four consecutive ‘chapters’ or group exhibitions, each of which tackled a specific climate change related issue. Moreover, when the second (*Climate of Concern*) and third (*Entangled Life*) chapter were on, there was also a solo exhibition organized, occupying a significant part of the exhibition space. This would have made the analysis of the second or third group exhibition or the first or second solo exhibition more complex, as visitors pass both exhibitions during their visit, thereby impacting the experience of the separate exhibitions. This was not the case during the presentation of *Emotions are Oceans*, making it more suitable for analysis.

In order to answer the research question and the sub-questions of this thesis *Emotions are Oceans* is visually analyzed in depth, taking into consideration various aspects of the exhibition. The approach of the analysis is mainly based on a method for (museum) display analysis proposed by archeology professor Stephanie Moser, which she describes in her article ‘The Devil is in the Detail: Museum Displays and the Creation of Knowledge’. In this article, she offers a methodological framework that guides the assessment of exhibitions with regards to its epistemological functions, in a relatively comprehensive way.⁴⁴ For this framework she established a list of factors and questions that are of importance to get an understanding of how an exhibition display is designed and which effect this has in terms of knowledge creation among its audience.⁴⁵ Examples of these factors are architectural features of the exhibition building and space(s), the theme of the exhibition and the message(s) it aims to convey, the use of color and light and exhibition style. These and other attributes she lists are explored departing from the three climate change communication challenges.

As *Emotions are Oceans* is a contemporary art exhibition and Moser’s framework is more general and not specifically attuned to this category of exhibition, also existing insights from the literature on the role of artworks in climate change communication are taken into

⁴² Neimanis, *Bodies of Water*, 1.

⁴³ *Ibid.*, 4.

⁴⁴ Moser, “The Devil is in the Detail,” 23.

⁴⁵ *Ibid.*

account and related to the works featured in the exhibition. This enables me to incorporate the place and meaning of the artworks in the analysis of the effect the exhibition display has as a whole as well. Besides, important to note here is that according to Moser audience reception and visitors' engagement with displays are of interest for exhibition analysis too.⁴⁶ However, due to the limited scope of my research this will not be included.

The input for the analysis is mainly based on my own visits to RADIUS and seeing and experiencing the exhibition in person. The photos and videos that I made during my visits serve as an important source for the analysis, since the exhibition already ended in June 2022. Also the exhibition catalogue which was written by the curators offers valuable information that is frequently consulted. Once the multi-faceted characteristics of the display of artworks have been mapped in the manner set out above, conclusions can be drawn about the meaning(s), feeling(s), and knowledge(s) the exhibition conveys about the climate change communication challenges and to what extent the issues of insensibilities, distances and entanglement are overcome.

After this introduction three chapters follow. In the next chapter, the theoretical framework of this thesis is presented. It gives a brief background of the developments of climate change communication and further elaborates on why an exhibition could be effective in the communication process. Moreover, the notions of insensibilities, distances and entanglement are specified in more detail and in relation to art. Importantly, Moser's framework for display analysis is set out and attuned to the three challenges, in doing so establishing an alternative theoretical framework. In chapter 3 this framework is used to analyze *Emotions are Oceans*. It is divided in three parts that each depart from one of the communication challenges i.e. one of the sub-questions. The final chapter synthesizes the research findings, leading to an answer to the research question. The chapter ends with suggestions for future research.

⁴⁶ Ibid., 30.

2. Theoretical framework

In this chapter the theoretical framework that informs the exhibition analysis is described. The first section elaborates on climate change communication in a more general sense, how it started and the difficulties it entails. Also, the role of (art) exhibitions in communication on the issue is reviewed. Then, in the sections that follow, the three most prominent climate change communication challenges Hawkins and Kanngieser selected for their analysis of climate change artworks are discussed in more detail. At the end of each of these sections, the potential role of art(works) to help overcome the challenge in question is briefly examined, based on existing literature. The final section of this chapter further explains Moser's methodological framework that allows for in-depth analysis of the functions of an art exhibition in overcoming the climate change communication challenges, in addition to the evaluation of the roles of single artworks.

2.1 Introducing climate change communication and the role of the exhibition

Climate change communication can be compared to other fields of communication on large scale issues such as risk communication, health communication and science communication.⁴⁷ In these cases, the difficulty of communication is twofold, given the complexity of both the communicating itself as well as the complexity of the issues at stake.⁴⁸ Despite significant progress with regards to (scientific) understanding of climate change over the last two decades, the problem can never be fully understood or mapped with all complex aspects it entails and it can neither be exactly predicted how it will evolve.⁴⁹ As such, climate change communication has proven to be a tedious process from the beginning onwards.

From the end of the 1980s till roughly a decade ago, climate change communication was dominated by questions of whether climate change is real or not and whether human activities do or do not (significantly) contribute to its causes.⁵⁰ Communicators were therefore mainly working on attempting to convince people of its existence and the anthropogenic role in it. Also, debates about climate change were initially for the most part a science and policy affair, in which among others physical scientists and environmentalists were the main early communicators of the issue.⁵¹ Consequently, most communication efforts entailed scientific findings and reports.⁵²

In the course of the first decade of the twenty-first century, this changed and other communicators using various means and channels to address more and diverse audiences

⁴⁷ Nerlich, Koteyko, and Brown, "Theory and language of climate change communication," 98.

⁴⁸ Ibid.

⁴⁹ Moser, "Communicating climate change," 35.

⁵⁰ Nerlich, Koteyko, and Brown, "Theory and language of climate change communication," 97–98.

⁵¹ Moser, "Communicating climate change," 33.

⁵² Ibid., 32.

started to participate in the debate, as a result of which public awareness of climate change increased in many countries.⁵³ Exhibitions are one of those more recent forms of communication that are attributed a valuable function in communicating about climate change. Newell, Robin and Wehner emphasize the importance of exhibitions as a (museal) means to convey and create knowledge and meaning about climate (change) issues. They argue that exhibitions have important communicative capacities:

“They [exhibitions] are places that enable embodied learning, key to helping audiences develop their sense of how they are inter-connected with physical environments. ... They bring together people and objects in ways that collapse past and present, near and far, eliding the linear chronologies of modernist progress. They invite understanding of how localized particularities become interwoven with broader geographies and trajectories. Exhibitions also promote new modes of thinking and understanding, emphasizing associational and synthetic approaches that build abilities to consider how our choices, actions and lives are entangled with the other species and forces of the planet.”⁵⁴

In contrast to fast (mass) media that often cover climate change related issues superficially, exhibitions can be considered a form of ‘slow media’, according to the same researchers.⁵⁵ This could provide visitors with a different perspective on and experience of the topics that are presented. Furthermore, performance studies scholar and museum professional Barbara Kirshenblatt-Gimblett refers to “the agency of display.”⁵⁶ In the light of this, she underlines how exhibitions are the means through which museums “perform the knowledge they create.”⁵⁷ On the same line, Stephanie Moser argues how (museum) exhibition displays can be seen as “active agents in the production of knowledge.”⁵⁸ All in all, making (art) exhibitions about climate change is thus a promising strategy to communicate and create knowledge about the issue.

However, how the aforementioned exhibition mechanisms function in response to climate change communication challenges has not been researched yet. The next sections further specify the three communication challenges that are central to this research: insensibilities, distances and entanglement. According to Hawkins and Kanngieser these

⁵³ Ibid.

⁵⁴ Newell, Robin, and Wehner, “Introduction,” 5.

⁵⁵ Newell, Robin, and Wehner, “Introduction,” 5.

⁵⁶ Kirshenblatt-Gimblett, *Destination Culture*, 1.

⁵⁷ Ibid., 3. While in *Destination Culture* Kirshenblatt-Gimblett mainly focusses on the display of (ethnographic) artifacts (in museums), I assume this function of an exhibition display also holds for the presentation of artworks in a non-museal context.

⁵⁸ Moser, “The Devil is in the Detail,” 22.

challenges are “generated through both the constitution of climate change as a phenomenon and the tendencies toward separation that contemporary western environmental relations exemplify.”⁵⁹ To explore how art could aid in overcoming each of these issues, findings from an article by researcher and communicator Joanna Nurmis in which she investigates discourse and practice of visual climate change art between 2005 and 2015 (in comparison to other communicative means) are used as the starting point. Based on the insights from these sections, a translation is made to the framework that enables the assessment of the functioning of an art exhibition in climate change communication.

2.2 Insensibilities: bypassing the human senses

The first communication challenge that Hawkins and Kanngieser take into account in their analysis relates to the *insensibilities* that are inherent to climate change. They describe insensibilities first of all as those aspects of the issue that are “beyond human sensory capacities.”⁶⁰ Similarly, scholar Julien Knebusch writes:

“The notion of climate change is not a notion which belongs to our sphere of experience. It is a concept. Events with a broader existence, i.e. which deploy and reveal themselves only on broader geographical and temporal scales, are generally not perceivable. Our perception needs to be assisted by our intelligence to appropriate these phenomena.”⁶¹

Because we cannot perceive it as such, it is hard to grasp what climate change actually means, what it looks like, what it feels like. It is happening as we speak yet the moment I am writing this or people read this, does not seem to be one in which we are facing one of the biggest challenges humanity has ever been confronted with. For instance, as is widely known, concentrations of greenhouse gasses are increasing significantly on a planetary scale; the main cause of global warming. However, this process is neither visible to the human eye nor detectable by any of our other senses, counteracting the awareness that it is actually taking place constantly at a worrisome pace.⁶²

Also, the temporal and geographical scales Knebusch refers to above make the phenomenon abstract: these scales on which climate change unfolds are often so large they tend to go beyond people’s sensory capacities.⁶³ Pahl, Sheppard, Boomsma and Grove write

⁵⁹ Hawkins and Kanngieser, “Artful climate change communication,” 2.

⁶⁰ Ibid., 2.

⁶¹ Knebusch, “Art and climate (change) perception,” 9.

⁶² Moser, “Communicating climate change,” 33.

⁶³ Hawkins and Kanngieser, “Artful climate change communication,” 2.

how climate change is characterized by “its extension into the future.”⁶⁴ This makes it difficult to experience it in the here and now. Also, consequences of single actions on their own at a specific place, for example taking a plane to the other side of the world and emitting a certain amount of greenhouse gasses, are not immediately visible. It is the accumulation of actions that has a detectable effect, on the longer term and on macroscales. Yet, the relatively slow process of accumulation of causes and effects is difficult if not impossible to perceive.⁶⁵ On that note, Nerlich, Koteyko and Brown describe how “climate change poses risks to humanity but risks that are still for many largely ‘virtual’ risks than real ones.”⁶⁶ Put differently, its impact tends to be regarded as an abstraction.

These insensibilities and abstractions inherent to climate change pose a challenge to climate change communication and are important to overcome to convince people of the actual urgency of the issue. Climate change communicators (e.g. artists and curators) should therefore try to find answers to questions such as: what is needed for people to turn climate change into a more tangible concern? How can the invisible and imperceivable be made (more) sensible and concrete? With regards to these and similar questions, in her research Nurmis demonstrates how art “can ‘educate the senses’ themselves, providing a space for imagining what can be done and what the future will bring.”⁶⁷ In other words, by providing sensorial stimulation, art can enhance our imagination, which is needed to make current and in particular future climate change scenarios more tangible.

2.3 Temporal and geographical distances

The second communication challenge is about spatial and temporal *distances* that characterize climate change. Various types of distances can be distinguished here. First of all, due to the immense time lags in the climate system, there is a delay between cause and effect.⁶⁸ If something happens now, it can take years before its impact manifests itself, which does not only hold for the negative consequences of climate change, but also for the desired changes set in motion through mitigation and adaptation strategies.⁶⁹ Therefore, people tend to assume that during the span of their own lifetime, they will not experience significant harm (or benefit) from it.⁷⁰ Moreover, spatial distances exist between causes and consequences. The first visible effects of human-induced climate change were observed in remote areas on

⁶⁴ Pahl, Sheppard, Boomsma, and Grove, “Perceptions of time in relation to climate change,” 376.

⁶⁵ Hawkins and Kanngieser, “Artful climate change communication,” 4.

⁶⁶ Nerlich, Koteyko, and Brown, “Theory and language of climate change communication,” 98.

⁶⁷ Nurmis, “Visual climate change art 2005–2015,” 505.

⁶⁸ Pahl, Sheppard, Boomsma, and Grove, “Perceptions of time in relation to climate change,” 376.

⁶⁹ Hawkins and Kanngieser, “Artful climate change communication,” 5.

⁷⁰ Nurmis, “Visual climate change art 2005–2015,” 509.

earth,⁷¹ for instance around the north pole, at high altitudes and deep in the oceans, where very few people live.⁷² As a result, climate change tends to be considered physically distant.⁷³

However, this changed as the problem worsened and started to increasingly affect (densely) populated areas. This can be related to the type of distance Hawkins and Kanngieser regard most important in their analysis: the separation between the ones who contribute most to climate change and the ones who suffer the most severe consequences of it, living at the 'environmental frontlines'.⁷⁴ These frontlines, where people have to face the effects on an everyday basis, are often far removed from those who are responsible for the changing climate (as well as for solving it).⁷⁵ Contrary to those at the frontline, for the latter it is a global crisis instead of an acute problem.⁷⁶ According to amongst others Knebusch and Moser, this separation is further strengthened as most societies in the global North have insulated themselves from their environment.⁷⁷ As a result, they do no longer actively experience the climate as such, because their lifestyles are urban- and indoor-oriented, isolating themselves most of the time from natural encounters.

What communication means would help eliminate the different kinds of distances? How can a sense of closeness to environmental impacts be achieved among those people who are furthest away from the places affected mostly? And how can lags in time be bridged? In the light of this challenge, art can certainly be useful. Nurmis' research shows how artists are able to "convey the urgency of climate change by bringing it 'closer to home'."⁷⁸ In other words, art holds the potential to make climate change more personal, and less distant. After all, an artwork engages its viewer on another level than for instance media reports and scientific content about environmental issues are able to.⁷⁹ Contrary to these communication means, Nurmis describes how among its viewers artworks can contribute to "activating their emotional sensitivity, reflecting their personal responsibility, and challenging them to a change of mind."⁸⁰ These art-induced sensations can thus increase the sense of closeness a person experiences with regards to ecological crises.

⁷¹ Here, a anthropocentric point of view is taken, as in these 'remote areas' many forms of other-than-human life and matter are present.

⁷² Moser, "Communicating climate change," 33–34.

⁷³ Nurmis, "Visual climate change art 2005–2015," 509.

⁷⁴ Hawkins and Kanngieser, "Artful climate change communication," 2, 5.

⁷⁵ This became extra relevant since the main question countries debated about during this year's UN Climate Change Conference in Sharm El-Sheikh (COP27) without doubt was: who will pay for the climate damage in the poorer countries (and how much)?

⁷⁶ Hawkins and Kanngieser, "Artful climate change communication," 5.

⁷⁷ Knebusch, "Art and climate (change) perception," 3; and Moser, "Communicating climate change," 34.

⁷⁸ Nurmis, "Visual climate change art 2005–2015," 505.

⁷⁹ *Ibid.*, 503, 506.

⁸⁰ *Ibid.*, 506.

2.4 Entanglement of the human and the non-human

The third and final climate change communication challenge that is central to my research relates to how we as humans position ourselves towards the environment and to the need for acknowledgement of our *entanglement* with it. Like the previous challenge, this one is about distances, yet not in terms of time or space, but concerning separations that have been created between the human / culture on the one hand and the other-than-human / nature on the other hand. Hawkins and Kanngieser note that this is an important distinction to take into account, as the shape the relations between humans and their environment take in our thinking influences our understanding of climate (change).⁸¹

Nowadays, especially Western thinking is still highly influenced by Cartesian dualism. Among others sociologist and philosopher Bruno Latour describes how under this influence we have separated – or maybe even alienated – ourselves from nature.⁸² Because, according to Descartes' philosophy, a distinction can be made between the active human subject and the passive (object) matter around us.⁸³ Whereas humans possess the ability to think and act, i.e. have agency, other types of matter are not believed to have these same capacities. Therefore, humans are attributed an exceptional position from which they can dominate and control nature.⁸⁴ The exploitation of our environment for our own benefit, regardless of the destructive and harmful consequences (partly) is a result of this human exceptionalism and domination.

However, many cultural theorists argue that the profound dichotomy between humans and their environment is unjustified. They propose theories for overcoming these dualisms through a redistribution of agency between various forms of living and non-living matter. For instance Latour contends that we should not regard nature or the non-human as objects that are just present as the background of human actions, but as subjects that have (powerful) agency as well, and that affect the human too. As he explains: "As soon as we come close to nonhuman beings, we do not find in them the inertia that would allow us to take ourselves to be agents but, on the contrary, we find agencies that are no longer without connection to what we are and what we do."⁸⁵ In other words, as humans we live in close interaction with all that surrounds us, and in one way or another we are all interdependent. Also new materialists Diana Coole and Samantha Frost plea for the affirmation of "matter's immanent vitality."⁸⁶ This would help overcome the hierarchical relationship we have with nature.

⁸¹ Hawkins and Kanngieser, "Artful climate change communication," 1.

⁸² Latour, *Facing Gaia*, 14.

⁸³ Coole and Frost, "Introducing the New Materialisms," 8.

⁸⁴ *Ibid.*

⁸⁵ Latour, *Facing Gaia*, 62.

⁸⁶ Coole and Frost, "Introducing the New Materialisms," 8.

The goal and challenge for climate change communicators would then be to promote “different ways of knowing the environment.”⁸⁷ Also, they should facilitate the building of new relationships between humans and non-humans.⁸⁸ These relations would be characterized by the acknowledgement of the entangled nature of all life on earth, including humans as well as other kinds of matter and organisms, and undermine our position of dominance. In the communication used, non-human actors could for example be given a voice, in order for humans to become aware of their agency and the way they relate to them.

Interestingly, in her article Nurmis does not really go into the existing relationship between the human and the non-human. However, other scholars did analyze the role of art in recomposing these relations. For example research by Diego Galafassi and colleagues found that artworks can make people more aware of and open to non-human matter and organisms.⁸⁹ They explain this as follows: “The arts may provide access to different sources of cognitive, emotional and sensual experience, opening up sensibilities to extended ecologies and more-than-human worlds.”⁹⁰ Also David Curtis, who investigated the influence of different forms of art on environmental behavior, demonstrates how art can help to build affective or emotional connections to the natural environment.⁹¹ In both cases, distances between the human and the non-human are reduced.

2.5 From artworks to art exhibition: an alternative framework

Whereas Hawkins and Kanngieser use the three challenges to analyze single artworks; I will use them to analyze an art exhibition. For each challenge the researchers selected an audio-visual art installation that exemplifies the various ways in which it contributes to overcoming this challenge through its visual and sonic elements.⁹² My approach is different and departs from the valuable communicative and knowledge creating capacity that is attributed to exhibitions. Hence, in this thesis I will research an entire contemporary art exhibition about climate change issues in order to identify how a combination of works and a specific manner of exhibition display deals with the three communication challenges and does or does not help overcome them. Like Hawkins and Kanngieser I use these challenges as the theoretical lenses through which I analyze the *Emotions are Oceans* exhibition. However, their framework is also adjusted and expanded so that it can be utilized for exhibition analysis as well instead of analysis of artworks only. As mentioned, this is done using Stephanie Moser’s framework for display analysis.

⁸⁷ Hawkins and Kanngieser, “Artful climate change communication,” 7.

⁸⁸ Ibid., 2.

⁸⁹ Galafassi et al., “Raising the temperature,” 74.

⁹⁰ Ibid., 74.

⁹¹ Curtis, “Creating inspiration,” 183.

⁹² Hawkins and Kanngieser, “Artful climate change communication,” 2.

Moser distinguishes a variety of factors that should be taken into account in exhibition analysis. All these attributes are involved in the knowledge that an exhibition creates, i.e. what it communicates.⁹³ As such, her method allows for assessing how the manner of display and curatorial choices lead to specific meanings. It is through the list of attributes Moser compiled then, that the exhibition tells a story to the visitor. On a similar line of reasoning, cultural theorist Mieke Bal proposes a narratological perspective for exhibition analysis. This perspective enables the researcher or 'reader' of an exhibition to consider or 'read' the separate discursive elements or 'acts' of the exhibition display as an integrated whole.⁹⁴ In other words, it is the combination of elements that is given meaning by Bal. Based on these insights, the goal of this thesis is to examine how the display attributes in *Emotions are Oceans* interact and which narrative they together construct with regards to the three climate change communication challenges. In the following paragraphs, Moser's framework is described and – as it is a very general framework – tailored to the case study of this research with examples of interactions between the display and the challenges that could be of interest.

The first factors Moser refers to are related to the physical characteristics of the building and area where the exhibition is on show, both when it comes to the outdoor and indoor space. Among those are architecture, location and setting.⁹⁵ Architectural features of the building are relevant in relation to what is displayed and it also matters where an exhibition site is located geographically.⁹⁶ What should be taken into account here too is whether or not a building was built as a museum / gallery or whether it became a museum / gallery later on.⁹⁷ In the light of climate change and in this particular case a center dedicated to contemporary art and ecology it should be considered whether the chosen building and location are suitable for the story about climate (change) it aims to tell. Do form and function correspond here or do they clash? And how do architectural attributes relate to the human senses and for example our separation from the environment? Also, does the architecture in combination with the display express anything with regards to relations between the human and the other-than-human?

Then the exhibition space itself has features that influence the visitor experience to a significant extent.⁹⁸ Here, size and shape are of importance as well as the number of (separate) spaces, which affects for example the route visitors take.⁹⁹ Next to this, the (interior) design of the space(s) is of importance, which is determined by among other things decoration(s), display furniture, and use of color and artificial / natural light.¹⁰⁰ In one way or another, these

⁹³ Moser, "The Devil is in the Detail," 22.

⁹⁴ Bal, *Double Exposures*, 3–7.

⁹⁵ Moser, "The Devil is in the Detail," 24.

⁹⁶ *Ibid.*

⁹⁷ *Ibid.*

⁹⁸ *Ibid.*

⁹⁹ *Ibid.*, 24–25.

¹⁰⁰ *Ibid.*, 25.

elements all contribute to the meaning that artworks on display possess as well as to the atmosphere in the room.¹⁰¹ In this research questions that should be asked here are for instance: can the visual characteristics of an exhibition space aid in bringing something closer that is (or feels) far away? Can they assist in creating an alternative sense of time where for instance future scenarios become better imaginable in the present? And do they provide openings for connecting to the non-human?

Equally important is the placement of the artworks in the space(s), or in other words the layout of the exhibition.¹⁰² For this characteristic the spatial distribution of objects in relation to the floor / wall / ceiling surfaces as well as in relation to the other artworks should be mapped.¹⁰³ The same holds for the number of objects and the distance(s) between them.¹⁰⁴ This affects the role(s) the objects have and the story they tell (together).¹⁰⁵ Even more so in the context of climate change, spatial attributes have a significant influence on our perception of the phenomenon. How is this reflected in the positioning of artworks? And do these attributes play a role in terms of the distance between humans and the environment?

Next to museum objects, artifacts and / or artworks, Moser points out how there is many other display types that can be used in an exhibition and that should be taken into account.¹⁰⁶ These can for example be reproductions, graphics or audio-visual material to offer more context to an object.¹⁰⁷ Given the communication challenges climate change poses, what assistive display means are then necessary to effectively communicate? Are such means used at all? And if so, do they for instance help make sensible that what we cannot sense as humans?

Moreover, determination of the exhibition style can be part of the analysis.¹⁰⁸ A display design can for instance be led by ideas or objects, and depending on educational purposes a display can be didactic of nature or leave more room for discovery.¹⁰⁹ Besides, in some cases, there can be a focus on aesthetics, or in others more on experience.¹¹⁰ How does the exhibition style affect sensorial engagement? And does it for example influence our orientation towards the environment?

Finally, when it comes to exhibition content Moser also distinguishes several features that are to be taken into consideration in display analysis. These are subject, message, and

¹⁰¹ Ibid., 25–26.

¹⁰² Ibid., 27.

¹⁰³ Ibid., 27–28.

¹⁰⁴ Ibid., 28.

¹⁰⁵ Ibid., 27.

¹⁰⁶ Ibid., 28.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid., 29.

¹¹⁰ Ibid.

text.¹¹¹ Of course choice of theme and corresponding message of an exhibition are crucial points of attention.¹¹² Textual communication that is present at the exhibition should be analyzed too, and here style of writing, topic, layout, and placement of the texts should be reflected on.¹¹³ Taking into account such features, it is interesting to consider to what extent the climate change communication challenges are dealt with through exhibition texts, and to what extent they are (solely) approached non-verbally through the display of artworks. Also, do the theme and message of the exhibition offer any opportunities to make climate change more tangible and less distant? And are they more anthropogenic or aimed at embracing polyphony?

This chapter first of all offered more insight into the history of climate change communication and the shift that took place with regards to the means of communication that are being used. Also, it has been argued why (art) exhibitions could have value in the communication process, as active creators of meaning and knowledge. Then, the three communication challenges have been explained. The first challenge involves the insensibilities of climate change and the fact that as humans we are not able to physically / directly perceive or experience the majority of its facets. Secondly, due to distances in time and space for many people the issue is not an immediate concern, while in some geographies climate change is already constantly wreaking havoc. Lastly, the final challenge regards the reconfiguration of the relations between humans and nature, based on entanglement instead of separation. These sections also showed that the arts hold the potential to overcome the climate change communication challenges in various ways. The senses, the imagination and the emotions play a key role here. The final section of the chapter made a translation from artwork to exhibition analysis and presented the approach this thesis takes in that regard. It elaborated on the attributes Moser identifies for analyzing an exhibition display. These entail characteristics of the building and of the exhibition space(s), design aspects and content related elements. In the following chapter this alternative framework is applied to *Emotions are Oceans*.

¹¹¹ Ibid., 26.

¹¹² Ibid.

¹¹³ Ibid., 27.

3. Exhibition analysis

In this chapter *Emotions are Oceans* is analyzed. First, some background information about the exhibition is given. Also, as the exhibition space and the corresponding floorplan have some note-worthy general characteristics, these will be briefly described here as well. In the sections that follow it is investigated for each of the three communication challenges how the display attributes from Moser's framework and the selected artworks function with regards to the challenge in question. Put differently, the exhibition narratives around insensibilities, distances and entanglement that the curators created are uncovered.

Emotions are Oceans was on show at RADIUS from 8 May to 26 June 2022 and was curated by director and curator at RADIUS Niekolaas Johannes Lekkerkerk (1988) together with assistant curator Sergi Pera Rusca (1996). It was the opening exhibition of the art center and the first chapter of their exhibition year program, consisting of four chapters in total. The exhibition included thirteen works from a total of nineteen international artists, varying from film to installation to sculpture. The overarching theme of the exhibition was the issue of global water crises. Through this theme and its causes and consequences the visitor encountered all kinds of water bodies like oceans, seas and rivers. Sometimes fluid sometimes evaporated sometimes solid, the he / she moved between floods, deserts and glaciers. In other words, opposites were experienced: water abundance, water scarcity; water facilitating life, water killing life. Some artists zoom in to microlevel; others zoom out to macroscales. All in all, the omnipresence and power of water were made tangible in a diversity of ways.

RADIUS is located in Delft in the pump house and water basin that are part of the city's water tower. The twenty-nine meter tall tower is right next to the house and basin and functions as a landmark for the contemporary art and ecology center. The reception and office of RADIUS are located in the former pump house; the former water basin, which is underground, is now a five hundred square meter exhibition space. After having bought a ticket at the visitor's desk on ground level, visitors take the stairs and descend down into the subterranean space.¹¹⁴ The exhibition space is circle shaped; it is this circular form that was the inspiration for the name the center was given. The core of the circle, which is split into two separate spaces (semicircles), is enclosed by two 'layers'. Both layers are about four meters wide. The outer layer is one big open space through which the visitor can walk and this is the space visitors first enter from upstairs. Part of this layer is used for the toilets, occupying around one third of the layer. The middle layer then is, like the core, split into two and can be entered from both ends of the outer layer. At the ends of the two halves of the middle layer there are walls, so it is not possible to walk around three hundred sixty degrees. From the middle layers, the core

¹¹⁴ This changed after the second exhibition (*Climate of Concern*): the reception and office were then (temporarily) moved to another space, also underground. This means that already at the entrance of the building, the visitor immediately descends, instead of at the entrance of the exhibition space.

can be entered from two sides, and between the two sides of the core there is also an opening so visitors can move between them.

The floorplan can be found under Illustrations (Fig. 1) and clarifies the lay-out of the exhibition space. Also, an artist impression from the architects of the interior of the building is included there (Fig. 2). The ascending numbers on the floorplan show the route the visitors in principle take. Of course, they can deviate from that, although there is only one alternative option (starting at the end). When walking around in the exhibition space, the visitor metaphorically meanders past the artworks and through the different layers, starting from the outer layer, to the center, back to the outside. In none of the parts is it possible to walk a full circle, leading to an interesting choreography when moving around, that reminds of the movements of waves and tides, going up and down (when seen from above) and forwards and backwards again.

3.1 Unraveling insensibilities

This section of the exhibition analysis explores those features and works of *Emotions are Oceans* that in one way or another relate to the challenge of insensibilities. As conceptual phenomenon, climate change is generally not easily perceivable through the human senses and in addition it has an abstract nature due to the immense geographical and temporal scales it unfolds on. Does the exhibition help turn climate change into a more tangible, sensible form? A first curatorial decision that is of interest here is the choice for the theme of the exhibition: global water crises.¹¹⁵ Hence, water is the main element; a type of matter that people are well familiar with. Not only are humans bodies of water themselves, as we consist of water for a large part, practically everyone uses, sees and is surrounded by it on a daily basis. In addition, presumably all visitors have ever encountered bodies of water such as rivers, lakes, ditches and seas. Water is also usually something that is visible and tangible, in the various chemical phases in which it appears. It can be detected by all of our senses: we can see, hear, smell, taste, touch it. Therefore it can be expected that visitors are able to relate to it, at least on this basic, primary level. So, taking water as a starting point to address complex global environmental crises is a strategic choice with regards to insensibilities as by itself it is a sensible subject.

Notwithstanding our (sensory) familiarity with water, global water crises that have arisen in the course of climate change remain abstract and are often not perceivable as such. Right at the start of the exhibition, the curators play with this tension and draw the visitor into it. With the first work the visitors encounter, they present water in a very recognizable form: a giant aquarium. The work was made by Josèfa Ntjam (1992) and is called *Unknown Aquazone*

¹¹⁵ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 5.

(work 1 on the floorplan). Her aquarium is quite an eye-catcher. While descending the stairs this work appears in the visitors' field of view straight away, drawing their attention, due to its size and colors (Fig. 3). Whereas the aquarium's scales of time and space fall within the abilities of human perception, those of environmental issues often do not. As much as we can know and control the water body that is the aquarium, this does not hold for complex water related conflicts. Therefore, with its title that explicitly refers to water's hidden stories and dimensions, *Unknown Aquazone* is a well-chosen entry point for the exhibition.

In line with this, several features of the exhibition (space) make visitors aware of the imperceivability that characterizes climate change. The first of those is the fact that the space is circle shaped. Because of its roundness and the walls that separate the different layers of the space, the visitor is not able to look far ahead or back easily. They do not have an overview of that which is presented. The architecture thus creates limits for their ability to perceive, especially their sight. This is further enhanced by the fact that in most parts of the space it is quite dark, because the basin has no windows and there is (almost) no natural light inside. Also, few light sources are used; only spotlights that illuminate the artworks. The color of the walls is rather dark too: they are mottled rust brown, resembling a kind of camouflage pattern. The lack of full vision resulting from these features of the space poses a metaphor to the general invisible nature of the process of climate change. Another metaphor that is interesting here relates to the order of the artworks. The first nine artworks that are displayed are all about water in fluid form: oceans, rivers, seas, etcetera. Then, the final four works lead the visitor from drought (work 10 and 11) to (glacial) ice (work 12 and 13). The exhibition thus brings the visitor to the literal tip of the iceberg, stressing once more in a more figurative manner how little we can perceive of the problem of climate change. At the same time, the exhibition is an attempt to offer a glimpse into what is taking place below this tip which we normally cannot see.

Making the visitor aware of the existence of insensibilities of global events is further enhanced by one of the selected works that are displayed in *Emotions are Oceans*. This is the second work of the exhibition, made by Dutch artist Sami Hammana. It is a film called ~~~~ that is shown on a screen attached to the outer wall of the space (work 2 on the floorplan, Fig. 4). The film is not about climate change as such; it is mainly about the route of kilometers long underseas communication cables that facilitate immaterial digital data traffic and its resemblance with the route of the fleets that transported goods and slaves across the oceans during colonial times.¹¹⁶ Still, it does not only try to make sensible something that cannot be sensed; it also makes us aware of the fact there are things we cannot see or sense. A recurring shot in the film is a wavy ocean rocking up and down quietly, with a voiceover whispering "How

¹¹⁶ Ibid., 9.

to make sense of that which can't be sensed?" (Fig. 4). Also, Sami Hammana literally refers to the "phenomenal threshold of perception".¹¹⁷ Consequently, just like the architecture, design and lay-out of the exhibition space, the work adds an extra dimension to the communication challenge of insensibilities as formulated in the theoretical framework through making visitors aware of the insensibilities' presence.

The curators have also selected a variety of art pieces that work with insensible concepts and phenomena that are part of the larger concept of climate change and that seek to make them more tangible. For instance, one of the works in the center of the exhibition space presents the visitor a rather extreme future scenario of global warming (work 10). The title of the work is *In Desert Times* and its makers are The Kalpana, an artist collective founded by Susanne M. Winterling (1970), Goutam Ghosh (1979), and Bodhisattva Chattopadhyay (1985). The artwork consists of several separate parts and its centerpiece is a three dimensional map of a speculative desert planet where water is no longer present, placed on top of a steel framework (Fig. 5). In combination with the bright pink lights that are attached to the work and that illuminate the entire space, *In Desert Times* makes global warming more concrete and brings it down to perceivable scales in the here and now. Another example is *Circle of Necessities (Halay)* by Turkish artist Müge Yilmaz (1985) that makes water privatization (and its environmental impact) more tangible. Her work consists of dozens of filled plastic water bottles of similar sizes from different brands that are placed on the ground in five intersecting circles varying in size (work 5, Fig. 6). They are lit from the ceiling, as a result of which all bottles cast a shadow on the floor. Due to privatization of water, mainly by multinational corporations like Nestlé, water becomes a commodity that is no longer freely accessible. These developments are to most people abstract of nature yet they could be considered embodied in the act of buying a bottle of water. The bottled water then becomes a possession. As such, the artwork visualizes how water is turned into a means for profit. Since many people buy disposable water bottles like the ones on show, using those as a carrier of the message makes it easier to grasp.

Apart from these artworks that explicitly make concepts more concrete, with the choices for artworks the exhibition also offers means and perspectives that support the visitors' perceptive capacities. The first of those is science. This perspective is presented through *Liquid Properties* by Marjolijn Dijkman (1978) and Toril Johannessen (1978). It is the ninth artwork the visitor encounters and fully occupies the first half of the exhibition space core (Fig. 7). The work is quite large in height as well width, consisting of a metal frame, or skeleton, to which glass spheres and magnifying lenses are attached. The spheres are filled with water

¹¹⁷ Sami Hammana, ~~~~, 2021, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).

from the port of Rotterdam as well as various places in Delft, containing all kinds of organisms that will continue to grow or decay in the installation, depending on the varying water conditions they find themselves in.¹¹⁸ Multiple bright spotlights from different angles light up the artwork from the ceiling; reminding of the bright lights that are used in a microscope in order to get a good view on what is being viewed. The microscope analogy is further strengthened by the structure and colors of the wall surrounding the work: they look a bit like tissue seen from a microscopic perspective. In addition, the whole resembles a molecular structure that was magnified enormously.

The magnifying glasses in the work allow the visitors to have a better look at the water ecosystems that were isolated from the nearby environment of RADIUS. This local origin of the samples makes the concept of 'ecosystem' less abstract and more tangible. These are ecosystems that the visitor might pass by on a daily basis, presumably without noticing. Moreover, *Liquid Properties*, among other things, "renders visible processes in water hidden to the naked human eye."¹¹⁹ Put differently, in the work insensibilities in the more literal sense of the word are present. Whereas the concept of climate change is insensible primarily due to its immenseness; microbes are too small to perceive with the human senses. This is an interesting contrast the work encompasses. What if we could put climate change under a microscope or magnifier like the ones used in the artwork? Zooming in as well as zooming out are both of importance to get a proper understanding of a phenomenon. In both cases, our senses need scientific assistance.

Whereas Marjolijn Dijkman and Toril Johannessen adopt a technical approach, the second perspective that enhances the visitor's perception is poetic. This is facilitated by work 7: *River Oracle* by Paloma Ayala (1980), Anne-Laure Franchette (1979) and Riika Tauriainen (1979). The oracle is a multimedia installation about our human entanglement with other bodies of water (Fig. 8). The work occupies nearly the whole first half of the middle layer of the exhibition space. It consists of multiple pieces of blue and white painted textile, hanging from the ceiling on tree branches, composing a kind of labyrinth of 'solid' water, immersing the visitor. A soundscape of wavy, low tones is constantly on, evoking a feeling of being underwater. Between the tactile watery elements, there are bean bags in similar patterns visitors can take a seat on. The work allows visitors to sense a river's sound and appearance in an intimate way, offering an alternative perception of a climatic phenomenon.

The third means is quite practical and literal: a catalogue. In the exhibition space, no labels with descriptions of and information about the artworks are used.¹²⁰ Only at the entrance

¹¹⁸ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 12.

¹¹⁹ Ibid.

¹²⁰ After the first round of exhibitions this changed. From the second *Underland* chapter onwards, small signs with title of the artwork, year and name of the artist(s) are attached close to the artwork in

of the exhibition space, at the top of the stairs, there is an information board with a description of the background of the *Underland* exhibition series as well as an introductory text about the exhibition on view. The curators seem to have chosen for a focus on the senses and the primary experience instead of the ratio. However, at times the senses need assistance to make the visual 'readable' and understandable. Just as holds for (the concept of) climate change, some artworks require further explanation that enable better understanding of its various dimensions. This is provided through an extensive catalogue that apart from a floor plan contains descriptions of the ideas, themes and inspirations behind each artwork, helping the visitor make sense of aspects they may not have perceived at first sight.

Both the awareness of insensibilities and the means to address them are not necessarily strengthened by use of display objects. The manner of display is minimalistic: the artworks are presented without using additional items, furniture or graphics that affect their presentation or the message they convey. Only for some of the video installations wooden benches were installed so visitors can have a seat while watching. For the rest, experience enhancing means are absent and the curators chose to let the artworks do the work, making them speak for themselves (apart from the catalogue texts). Nonetheless, an attribute of the manner of displaying the artworks that does play with insensibilities – in particular invisibilities – is its predominant transparency: generally speaking, the works can be looked at from many angles. Most of them are positioned in the middle of the space, leaving enough room to fully walk around them, emphasizing how the exhibition at times reveals things that normally cannot be seen. This for instance holds for *Unknown Aquazone* (work 1, Fig. 3) and *Retreat* (work 12, Fig. 9). Still, the bottom and / or top of these and some other works are not always visible, perhaps hiding relevant information.

Finally, an interesting theme that is incorporated in the narrative around insensibilities is the presence of the absent or the appearance of the disappearing, which are both very characteristic for climate change. Like the awareness of invisibilities this was also not yet touched upon in the used theoretical framework. How can something that is no longer there be sensed? The curators selected various works that in one way or another contribute to this narrative, the most pertinent of which are *Imperial Irrigation* and *Retreat*, positioned next to each other. Visitors first encounter the former work (work 11), which is a video installation made by Lukas Marxt (1983). His film is projected on three dimensional rectangular panels standing on the floor, a smaller one in front of a larger one (Fig. 10). It tells the story of the Salton Sea in California that once was a fertile and flourishing area but turned unfit for the wildlife it once hosted due to a couple of reasons.¹²¹ In *Imperial Irrigation* footage made by the

question. Perhaps visitors found it unpractical that this information was initially not given, making it a kind of puzzle at times to find the artworks corresponding to the numbers given in the catalogue.

¹²¹ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 13.

artist of the current landscape is complemented with digital effects and digitized visualizations of flora and fauna. This leads to spacy scenes, particularly because of the combination with the “computerised narration and otherworldly soundscape.”¹²² As such, Lukas Marxt’s film is an attempt to make sense of something that is no longer there. A lake area that has been subject to ecological decay and poisoning, turned into what the curators describe as “an anthropogenic place for non-existence.”¹²³ How do we perceive of this absence and disappearance of life?

With *Retreat* (work 12, Fig. 9) artist Xandra van der Eijk (1985) addresses this question as well. The three white sculptures are plastic 3D-prints of a glacier in the Alps, created based on a scan of parts of its surface that was made by Xandra van der Eijk herself and her team. The work is about what the artist calls ‘ecological grief’.¹²⁴ With this concept she refers to the emotional effect the degradation and loss of ecologies such as glacial ones have on us humans; feelings that we all share but that are possibly underestimated in our contemporary society. How do we perceive and go about the fact that the world is “Losing land to sea, losing ice to sun, losing animals to history”?¹²⁵ Revolving around questions like these, mourning is one of the key themes of the project. Xandra van der Eijk tries to capture matter that will never return again: it freezes a moment in the existence of the glacier, that is constantly receding. This moment is then perpetuated and turned into a material memento (*mori*) of the fading – or dying – body of ice.

The goal of this section has been to scrutinize those aspects of *Emotions are Oceans* that aid in overcoming the climate change communication challenge of insensibilities. The choice for water as theme of the exhibition creates an interesting tension between tangibility and abstractness. Moreover, the architecture of the space of display as well as Sami Hammana’s ~~~~ emphasize the limits of our perception. Then there are works selected that provide examples of insensible and abstract environmental phenomena. In reaction to those, the curators also seek to propose means to overcome insensibilities, both through artworks as well as with the help of their own written texts in the exhibition catalogue. All of these messages do not seem to be actively enhanced by the implementation of additional display objects. A final finding here is the focus of some parts of the exhibition on presence versus absence and appearance versus disappearance.

¹²² Ibid.

¹²³ Ibid.

¹²⁴ Ibid

¹²⁵ Xandra van der Eijk, “RETREAT.”

3.2 Dissolving distances

In this section of the analysis it is investigated which curatorial strategies are used to overcome geographical and temporal distances that are inherent to climate change. The first attributes of the exhibition that are relevant here are the geographic location and architecture of the exhibition space. As the space is a former water basin located underground, it figuratively takes the visitors below the water surface. This is strengthened by the fact that the first artwork the visitor sees is the aquarium piece by Ntjam, potentially evoking associations with being in spaces of water. The 'underwater effect' is also interesting in relation to the location of RADIUS: Delft. The city is located in the western area of The Netherlands, large parts of which are below sea level. It is only a mere twenty-five kilometers away from the lowest point of the country; Nieuwerkerk aan den IJssel (6.8 meters below sea level).¹²⁶ Moreover, Delft is relatively close to the sea and will definitely not be a safe place when sea levels keep rising in the (near) future. It could therefore be that the place will once be flooded, becoming an environmental frontline itself. As such, it brings the potential consequences of climate change closer; what is currently happening somewhere else could also happen here. This hypothetical scenario suits the topic of the exhibition well and in most of the artworks vulnerable geographies take a central role too.

Then, since the exhibition space is located underground, the outside world seems far away once the exhibition space has been entered. It is a rather isolated place. On the one hand, in line with the discussion about insulation from the environment in the theoretical framework, perhaps leaving the 'real world' upstairs reinforces the distance we feel with regards to the climate in general and climate change in particular, removing the problem even further away from our daily reality. On the other hand, feeling detached from the world on ground level and being present in a space that provides visitors the opportunity to reflect on an issue that is not always given that much attention in our daily lives and that creates environmental encounters we usually do not have in urban (Western) areas could also be valuable. Put differently, as aptly formulated by art critic and curator Annick Bureau: "This raises the question of the relation between the gallery and the territory, the (cultural) inside and the (natural) outside."¹²⁷ In the context of this question she explicitly refers to artworks that are made of materials from the direct environment of the gallery in question. However, with regards to climate change it is also interesting to consider this relation, since as a curator you want to bring and show something inside that is actually happening outside. What does that mean for the representation of the problem? In the case of *Emotions are Oceans*, the cultural

¹²⁶ Rijkswaterstaat, "Normaal Amsterdams Peil (NAP)."

¹²⁷ Bureau, "Lovely Weather," 183.

inside that is the exhibition space is in fact turned into a space of natural encounters that shift attention from culture to nature.

The final architectural feature that affects the ability of the exhibition to overcome distances, is the round shape of the exhibition space. This shape allows the curators to play with temporal and spatial separations and literally show that the causes and consequences of climate change are dispersed in time and space for a couple of reasons. First of all, being a circle, the space reminds of a classic clock. While walking through the exhibition, at times the visitor walks counter clockwise, as if he / she moves back in time. At other moments, he / she proceeds clockwise, moving forward in time. The space then serves as a kind of timeline along which past, present and future pass by. The timeframes of the artworks themselves and their positions in the space do not precisely correspond to the visitor's walking direction (towards the future or the past); but still, these all also move between the three kinds of time. Yet, at the end of *Emotions are Oceans*, from work 10 onwards, i.e. after having crossed the center of the circle, all works revolve around the future, so time-related intentions of the curators seem to be expressed in that regard. Thanks to this placement, the visitor thus leaves the exhibition looking forward to the scenarios we are to face when we take no action; what comes around literally goes around.

Secondly, the round shape also resembles a depiction of the earth. Looking at the floorplan with this in mind, the route that the visitors take is so to speak a journey around the world, as they navigate across large distances as well as along very diverse geographies. Like holds for the clock analogy, the position of the artworks in the space does not translate one-to-one to the actual location on the world map where the stories of the works are set. Still, this comparison does also symbolically contribute to reducing distances between people and places. For instance, moving from work 3 to 4, the visitor leaves Middle and South America and arrives in Canada and Bangladesh within only a few meters. Moreover, as was mentioned in the previous section too, the fact that the route is circle shaped prevents the visitor from looking (far) ahead and back easily. In combination with the zig zagging across the imaginary globe this spatial restriction again adds to the awareness that causes and consequences (as visualized by the artworks) tend to be physically removed from each other and as a result are not (always) visible from the same place.

Another attribute of the exhibition that has a clear meaning with regards to overcoming distances concerns the manner of display. None of the presented works (if applicable) stands behind glass or in a vitrine. Also, there are no markings on the floor that indicate what distance the visitor should keep from the artworks. Consequently, nothing interferes between the presented and the beholder and the objects can be looked at and walked around from very close by. In other words, separations are minimized. For example, some of the glass spheres in *Liquid Properties* can (carefully) be observed from below. Besides, visitors can bend over

the speculative map of *In Desert Times* to get a closer view of the intriguing objects that are placed on top of it.

Then, separations are also overcome through the selection of artworks the curators made. Part of the works bring environmental frontlines closer and / or address distances in time, constituting an important component of the narrative the curators aim to tell. The second half of this section of the analysis explores the meanings and messages of several of these works. The first example here is *Serpent River Book* by Carolina Caycedo (1978). This is the third work the visitor encounters in the exhibition space and is probably best described as a couple of meters long unfolded book that meanders through the space like a river, or like a snake. It is placed on a wooden similarly shaped display on the floor, more or less in the middle of the space, and is lit from spots on the ceiling (Fig. 11). Some of the pages lie flat on the display, whereas others are folded and stand more upright, a bit like rough pointy waves. Carolina Caycedo used the technique of collaging to fill the pages with images, photographs and texts. The presented content is about river ecologies in Mexico, Colombia and Brazil. More specifically, and related to *Circles Of Necessities*, it addresses the harmful consequences of the privatization and industrialization of rivers by multinationals.¹²⁸

The issue the artist raises is mainly considered from the perspective of local Amazonian communities who see the environment they depend on changing under the influence of dams and water extraction. Through a diversity of materials the work shows the visitor the disastrous effects of this disturbance of a normally healthy ecosystem, as well as the vulnerability of the latter. The river book can be read in different directions, emphasizing the non-linearity of a complex issue like this and the multiple narratives and perspectives that are involved. While walking along its 'banks' and browsing through its pages, the artist makes the viewer witness of an ecological disaster taking place on the other side of the globe. The book is like a timeline and demonstrates how as time 'flows' by, the situation worsens: whereas at the upper part, the river and its surroundings are lush and healthy, the further one descends down, encountering for instance dams, the land and river lose their liveliness.

After having strolled along Carolina Caycedo's Amazonian river, the visitor crosses quite some land and water to arrive at the places where Ursula Biemann's (1955) video essay *Deep Weather* is set. The screen her work is shown on is placed behind a room divider (see Fig. 11, in the back) against the inner wall of the space (work 4, Fig. 12). The room divider stresses how the visitor is entering other geographical locations and it also is a separating object that suits the content of Ursula Biemann's work well. In her video essay, the artist connects what the curators call 'Carbon Geologies' with 'Hydro Geologies'.¹²⁹ The former is

¹²⁸ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 9.

¹²⁹ *Ibid.*, 10.

set in Canada, in an area where intensive mining for hydrocarbons takes place; the latter is set in Bangladesh, that is under constant threat of floods. Shots of the Canadian extraction activities are interspersed with shots from Bangladeshi carrying seemingly endless numbers of bags of mud they use to build embankments to protect themselves against the rising water. By merging these two geographical extremes, Ursula Biemann makes visible how the fossil fuel industry affects people and their habitats thousands of miles away. With her work, she dissolves distances between causes and effects. Also, she makes the viewer sit face to face with soon-to-be victims in Bangladesh, as she inserted portrait fragments in which we see bag carriers standing still in front of the camera, looking directly at it. This encounter results in a more personal connection to the people at the environmental frontline, in their effort to secure their future.

Next to damaged river ecologies and rising sea levels, the work by The Kalpana (*In Desert Times*) also brings a future frontline closer: the desert. As site of speculation, the center piece of the work that was referred to before gives form to this possible yet quite extreme environmental condition present practices could potentially lead to. On top of the map a handful of objects can be found, representing various species and organic as well as non-organic matter (Fig. 13). Moreover, at one end a head-like sculpture is placed, and at both ends leg-like objects are attached; making the map look like a four-legged creature (Fig. 5). The combination of components leads to a surreal artificial landscape, “merging the real and the imaginary, what used to be and what is to come.”¹³⁰ The work confronts the viewer with the consequences of a changing climate, making it observable in 3D. The use of pink light emphasizes the visitor finds him / herself in the future; it marks another time zone. This triggers the imagination and immerses the viewer in the speculation.

Finally, melting glaciers are another type of environmental frontline that is represented in *Emotions are Oceans*. After having turned their backs towards the places of desertification The Kalpana and Lukas Marxt present, Xandra van der Eijk’s *Retreat* and Himali Singh Soin’s (1987) *We Are Opposite Like That* (work 12 and 13, Fig. 14) immerse them in a much colder climate, more precisely two glacial areas in Europe. Their works set central bodies of ice and their vulnerability. Whereas Xandra van der Eijk’s work focusses on a retreating glacier, Himali Singh Soin’s film plays with an opposite hypothetical scenario. Her film was shot in Svalbard, the Norwegian archipelago in the Arctic Ocean, and is set in an icy, remote landscape (Fig. 15). It was inspired by a fear that spread in the mid-nineteenth century in Great Britain that a new ice age would soon commence, leading to all kinds of imagery and writing on this “impending icy doom.”¹³¹ In the film, the Arctic sceneries encountered in Svalbard are

¹³⁰ Ibid., 12.

¹³¹ Ibid., 14.

interspersed with images from these historical sources. Of course, under the current circumstances it is unlikely that the scenario of a new glacial period will come true. Yet, in combination with *Retreat* the story leads to an interesting tension between climatic futures and frontlines of reducing and expanding.

Throughout this section of the analysis attributes of the exhibition that relate to (overcoming) distances have been considered. Importantly, the location of the building in Delft and its former function of a water basin play a role here in the sense of being a future frontline. Also, the underground exhibition space isolates the visitor from the outdoor environment. The architecture of the space and its shape are interesting with regards to overcoming temporal and spatial distances, based on the analogies of a clock and a globe respectively. The same holds for the absence of 'distancing' displays: no vitrines etcetera are used. The selection of artworks contributes to the narrative about distances too. Some exemplify the geographical distances between those who cause and those who suffer. Lastly, environmental frontlines are brought closer to the visitor in the form of two extremes: the desert and the melting glacier.

3.3 Eliciting entanglements

In this section the exhibition is analyzed in relation to the third communication challenge: rebuilding relationships between the human and the non-human, based on entanglement. This is in fact a key theme of *Emotions are Oceans*. At the end of the introductory text in the exhibition catalogue, the curators ask a couple of interesting questions that inspired the making of the exhibition and that some of the artists must also have had in mind during the creation of their work: "How can thinking about ourselves as watery bodies in connection to other species entangle us in productive ways? How can we move away from anthropocentric water sovereignty by embracing an inter-species consciousness ... ?"¹³² Proposals for answers to these and similar questions are accentuated throughout the exhibition and its narrative in numerous ways.

First of all, the need for reducing the hierarchies we have constructed between ourselves and nature / the environment is among other things expressed in the layout and manner of display of the artworks. There does not seem to exist a hierarchy between them: the distances between the works are more or less of similar sizes (Fig. 1) and it is not possible to skip one of the works during the route visitors take (except for work 8) giving the impression the curators deem no work more important than others. At the same time, the lighting of the art and the space shifts almost all focus to the works, or the non-human. Apart from the spotlights that are emphatically used to light up the objects (and one directed at the stairs),

¹³² Ibid., 6.

there are no light sources installed, leaving the rest of the exhibition space quite dark. As a result, the visitor finds him / herself to a certain extent in the shade, removing the human from the center of attention; an effect that would not have been reached easily in a bright white cube.

Second of all, in the light of the third communication challenge, the exhibition rather heavily relies on the curated artworks themselves. The curators have selected two types of works here: those that demonstrate we are one with nature and those that exemplify non-human life forms and matter have agency too. Some explore both issues. Their selection of those works is very diverse in terms of medium, ranging from film to installation to sculpture. Therefore, they appeal to the imagination in a variety of ways and address the topic(s) through different kinds of experiences. This presumably aids in getting the (complex) message across. What is also relevant here is the absence of labels and texts accompanying the artworks. As a result, the direct and first contact between the visitor and the artwork that in many of the cases discussed in this section stands for a non-human form of life or matter is paramount, giving rise to the potential start of the creation of new (more entangled) relationships. Still, it is up to the visitor whether or not and if so when they read about a work in the exhibition catalogue they might have brought with them into the exhibition space, possibly nullifying the point made here.

The works discussed in this section together more or less constitute a sub-narrative within the exhibition, as they are all positioned right after / next to each other in the exhibition space, except for the last one (works 6 to 10, work 13). They are analyzed here following their order of appearance. The first work is *4 Waters – Deep Implicancy*, an immersive video installation made by Denise Ferreira da Silva (1963) and Arjuna Neuman (1984). The film is projected on a screen against the wall, and headphones can be used to listen to the audio (work 6, Fig. 16). It starts off the (sub-)narrative by going back to the origin of the entanglement of life on earth: the primordial soup. The speculative story of the film departs from the artists' notion of what they call 'Deep Implicancy': the fact that all species have once literally been entangled in this primordial soup, before matter separated.¹³³ Despite the eventual separation of it and the emergence of individual entities, Denise Ferreira da Silva and Arjuna Neuman aim to show "the plurality and interdependence of the whole."¹³⁴

The next artwork invites the visitor to listen to, engage with and maybe even start a conversation with a river, presented as an oracle. *River Oracle* was made by Paloma Ayala, Anne-Laure Franchette and Riikka Tauriainen (work 7, Fig. 8). The interactions between the river and the visitor that the work stimulates are meant to build a deeper, affective connection

¹³³ Ibid., 10–11.

¹³⁴ Ibid., 11.

to this fellow water body. In other words, the work is about knowing the river in a different way than we are used to. As such, the artists propose an alternative experience of the Rhine river, departing from the belief that our bodies are porous and are thus open for – and already in – close relationships with other watery bodies. Also, the work explores the river's agency or its ability to act and influence. This is more explicitly expressed in a text the artists composed which can be found on printed A4 papers next to the artwork. It consists of three parts: 'Bodies of Water', 'Industrial Landscape' and 'Collectivity, Collaboration, Thinking with'.¹³⁵ In short, these are poetic readings about how as humans we relate to rivers / water bodies. For example, they write: "Water bodies have the power of change"; "It has been said that rivers have a voice of their own."¹³⁶ With the work, the artists try to make such statements more tangible for the visitor through offering an immersive experience.

Then after having crossed the oracle, the visitor encounters the immersive video installation made by Alice Dos Reis (1995). The film she created is called *Undercurrent* (work 8) and is shown on a screen that seems to float in the space, attached to the ceiling with two steel cables (Fig. 17). Visitors can take a seat on a wooden bench placed in front of it, with their backs turned to the oracle, and they are invited to use headphones to be able to listen to the soundscape. The main characters of the fictional film are krill (tiny shrimplike crustaceans) and a marine biologist, who researches the bottom of one of the deepest parts of the North Atlantic Ocean.¹³⁷ To be able to obtain the necessary data, the biologist inserts nano cameras in the krill's bellies. The film mainly gives a look into the laboratory, where the researcher works with different kinds of equipment to get and process various types of data and close-ups of the organisms have also been added.

Over the course of her project that we follow, the biologist starts developing skepticism towards her own practices. She feels like she is abusing the krill, for human purposes only. This can be linked to the concept of agency again, as the curators write: "*Undercurrent* reflects on the limitless agency humans grant themselves while stripping it from non-human organisms."¹³⁸ This is exactly the phenomenon Latour and Coole and Frost discuss, and that the film lets the viewers reflect on. Furthermore, the researcher does not only take an ethically critical perspective; she also starts feeling emotionally attached to the little creatures. This leads to enlightening insights the curators summarize as follows: "Alice Dos Reis presents a call for reevaluation of the human systems that mediate contact with other species through a story of unexpected kinship."¹³⁹ As the viewers start empathizing with the biologist, they might

¹³⁵ Ayala, Franchette, and Tauriainen, *Text for River Oracle*, 1–2.

¹³⁶ *Ibid.*, 1.

¹³⁷ Lekkerkerk and Rusca, *EMOTIONS ARE OCEANS*, 11–12.

¹³⁸ *Ibid.*, 11.

¹³⁹ *Ibid.*, 12.

themselves also question the way they go about with other-than-human entities, making the message personal.

After having been carried away in the (virtual) lab setting in *Undercurrent* and having passed *River Oracle* again, the visitor ends up in another lab like scene: that of *Liquid Properties* by Marjolijn Dijkman and Toril Johannessen (Fig. 7). Also with regards to distances between the human and the non-human, this work has a function. With the installation and its water samples full of micro life, the artists want to refer to the fact that as human beings we carry many microbic species in our bodies.¹⁴⁰ In fact, all kinds of ecosystems exist within us, just like the ones on show in the glass spheres. Relating this to the theme of water again, the curators write: “As bodies of water, we are constantly exchanging microbes with one another, making us multilineage organisms.”¹⁴¹ The artwork thus exemplifies how non-human organisms are constantly extremely close to – or rather in – us: we literally co-exist and would not be alive without them. This realization has the potential to nullify the usual separation that is felt between the other-than-human and ourselves.

After *Liquid Properties* the visitor encounters *In Desert Times* (work 10, Fig. 5, Fig. 13). Some elements of the speculative desert site hold the potential to encourage a non-human-centered way of thinking, opening up for alternative inter-species relations. First of all, it is worth noting that neither in the presented landscape, nor in the other parts of the work, human components are present. This raises the question of what will remain from our species on a desertified planet. The artists emphasize that if we are willing to survive, we should learn from (and acknowledge the importance of) other species.¹⁴² In the light of this, the map among others things shows a feather and a snail-butterfly creature, as well as non-living matter like sand formations. The most prominent example they propose here is the camel nose, presented as a hologram. Camels are well adapted to a hot dry desert climate, and with their noses they are able to absorb water vapor from the air to cool specific parts of their body.¹⁴³ This element therefore evokes speculations about potential mutations of the human body that would give us similar survival capacities.

The final work that is analyzed in this section also puts forward a speculative scene of an extreme climate, but quite opposite to the one in *In Desert Times*. It is also the final work of the exhibition: *We Are Opposite Like That*, the film by Himali Singh Soin (work 13, Fig. 15). Interestingly, the story of the film about a potentially upcoming new ice age unfolds as seen “from the non-human perspective of ice as a witness of the geological transformations of the planet throughout millennia.”¹⁴⁴ The artist herself plays a role here: we see her standing in and

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² Ibid.

¹⁴³ Ibid.

¹⁴⁴ Ibid., 14.

walking through the tundra environment, head and body wrapped in a shiny, aluminum foil like material. Also, she is the narrator of the story, that is told via a voice-over. As such, she seems to represent the ice and quite literally gives it a voice. How would ice perceive of the world as it was, is and will be? The work invites the viewer to empathize with a non-human substance. Moreover, *We Are Opposite Like That* speculates about scenarios in which ice reclaims the globe. As such, the film represents ice as non-human matter with agency, that could theoretically wipe us all out, creating “a post-human future.”¹⁴⁵

This section discussed curatorial choices with regards to the challenge of entanglement between the human and the non-human. The curators introduce this as a major theme of the exhibition and several curatorial strategies have been utilized to support it. There seems to exist no hierarchy between the works on show or their manner of display and thanks to the light plan attention is diverted from the human presences in the space. Finally, the mixed-media artworks facilitate a range of very diverse encounters with the non-human, raising awareness of both the intertwinement of life and matter as well as of the agency of other-than-human entities.

¹⁴⁵ Ibid.

4. Conclusion

The aim of this research was to investigate how a contemporary art exhibition at a center for contemporary art and ecology can help in overcoming three major climate change communication issues. To conclude, this chapter looks back on the executed research and its approach and further discusses the research findings. The insights from the three separate parts of the exhibition analysis are integrated here to be able to get an overview of how the various display attributes of *Emotions are Oceans* can or cannot be regarded as curatorial tools to overcome the challenges. Based on that the research question is answered. The chapter ends with suggestions for further research, mainly based on the limitations of this thesis. These suggestions offer starting points to the field to further expand knowledge and understanding of the urgent matter of effective climate change communication via contemporary art exhibitions.

Inspired by the research from Harriet Hawkins and Anja Kanngieser on climate change communication through contemporary artworks, three specific and persistent communication challenges were central to this thesis: insensibilities, distances and entanglement. In the light of these challenges a contemporary art exhibition was analyzed, instead of separate artworks. *Emotions are Oceans* was selected as the case study, offering the opportunity to execute the research in the context of the brand new institute that RADIUS is. Following from this, the research question was formulated as follows: *How does the exhibition Emotions are Oceans contribute to overcoming climate change communication challenges?* Besides, the three communication challenges led to the formulation of three sub-questions and served as the theoretical lenses through which *Emotions are Oceans* was analyzed. The concepts were defined in more detail based on writings and theories by amongst others Julien Knebusch, Bruno Latour and Diana Coole and Samantha Frost. In addition, the theory section briefly reviewed existing insights on the role of artworks in overcoming the selected challenges.

Importantly, the theory chapter proposed display analysis to add a new dimension to the framework Hawkins and Kanngieser established for evaluating the role of art in overcoming the three communication challenges. Through applying this method it could be demonstrated to what extent not only formal, (audio-)visual and narrative attributes of isolated artworks can play a role in the communication process, but to what extent this holds for formal, visual and narrative aspects of the curated surroundings of artworks i.e. exhibition display too. As a result, the way the visitor moves around and the frames he or she so to speak passes could also be taken into account. Stephanie Moser's framework for display analysis was selected and adapted to the subject matter of this research. The multiple factors she lists were then used to explore the effects of the display of artworks in *Emotions are Oceans* in terms of insensibilities, distances and entanglement, based on visits to the exhibition, made photo and video material

and texts from the exhibition catalogue. All in all, the analysis resulted in the conclusions set out below.

The architecture of the building and basin as well as the shape of the exhibition space can be related to the communication challenges in a diversity of manners. *Emotions are Oceans* invites visitors to literally dive into the deep; in the bygone presence of the water that used to be stored in the underground basin they encounter a versatility of water bodies presented through a display of contemporary artworks. Being underground the space quite literally isolates the visitor from their outdoor environment, which forms a contrast with the environmental experiences that the display offers in this state of isolation. Furthermore, being a circle that was divided into two outer layers and a core, the space plays with human restrictions in terms of sensory abilities and perception of space and time that hinder the climate change communication process. As the artworks that are on display also touch upon these restrictions more literally as well as more figuratively, in a sense this leads to an embodied experience of the corresponding two challenges among the visitors. Yet, as the visitor can obviously move through the entire circle, crossing times and spaces, part of the usual limitations are abolished. When it comes to encouraging thinking based on entanglement instead of distances, the architectural and spatial attributes of the display have effect to a lesser extent.

The way in which the space was designed regarding decorations, colors, lighting, layout and display types has also been considered in the display analysis of *Emotions are Oceans*. These design aspects contribute to overcoming the communication challenges to some extent. The use of color and absence of daylight lead to an overall impression of darkness in most parts of the spaces. As a result, the attention of the visitor is drawn to the artworks on display through using bright spotlights (directed at the non-video works). In the light of the third challenge, it was argued how this undermines the human's dominant position. Besides, the feature of darkness was connected to the limited visibility of most climate change issues. Concerning the lay-out of the exhibition spaces, this does not result in a strong hierarchy between the artworks, which is further emphasized because the works are positioned with similar distances between them. This feature of the display was related to the challenge of entanglement. Moreover, the manner of display is transparent: in general visitors can have a close look at the works. Therefore, distances between that what is on display and the viewer are minimized, which suits the goals of overcoming spatial separations i.e. the second challenge well. This curatorial strategy also fosters the visibility of the matter in question. Yet, apart from sight, few other senses are stimulated through the exhibition display. It is only since some artworks offer audio content that hearing becomes part of the exhibition experience too. Finally, not many extra display objects and / or decorations like images have been used that could have assisted in overcoming one or more of the challenges.

Then, the analyses explored the choices the curators made regarding theme and message, use of text and exhibition style in relation to the three communication challenges. Taking water as a (blue) red thread along which environmental crises worldwide are explored and experienced helps to a certain extent to make the subject matter more concrete. At the same time, the theme allowed to zoom in on localities and zoom out to globalities, shifting between places and peoples. Furthermore, the curators underline the fact that humans are bodies of water too, in doing so entangling us with the non-human. With regards to textual attributes, the catalogue provided useful guidance. It is the only medium in the exhibition that offers written explanations and assists the senses where necessary. No labels and texts are used throughout the exhibition space itself. As such, the direct encounter between the object on display and the visitor gets priority over a more rational understanding or didactic intentions of the curators. Put differently, because no textual interventions are present, intimate aesthetic experiences are facilitated that connect the human to the other-than-human.

Finally, the selection of artworks the curators made plays an important role in the effect the exhibition has regarding insensibilities, distances and entanglement. Multiple attributes and stories of the combinations of artworks were explored in the analysis. First of all, eight of the works in one way or another contributed to overcoming insensibilities. *Unknown Aquazone* introduces the theme of the exhibition, which entails quite some insensibilities, in a non-abstract, tangible form: the aquarium. Besides, ~~~~ makes the visitor aware of the insensibilities of global scale issues, be it not explicitly regarding climate change. In contrast, *In Desert Times* and *Circle of Necessities* do directly address the issue and present aspects of it in a more concrete manner. With *Liquid Properties* and *River Oracle*, the curators offer the visitor approaches to make the insensible more sensible: the former through a scientific perspective and the latter through a poetic one. Finally, with *Imperial Irrigation* and *Retreat* the curators show how climate change is partly characterized by absence and disappearance; phenomena that are difficult to sense. This form of insensibilities was not specifically touched upon in the theoretical framework.

In the section of the analysis on distances, the functioning of five selected works in overcoming this challenge was considered. Both *Serpent River Book* as well as *Deep Weather* confront the viewer with geographies that are severely affected by climate change, linking widely separated causes and consequences and bringing distant effects closer. Then, *In Desert Times* brings a possible future scenario on a world dried out due to extreme global warming to the here and now of the exhibition space. Also visualizing the effects of the rising temperature, *Retreat* and *We Are Opposite Like That* set central the melting glaciers of Europe and the environmental frontlines they are. Especially *Retreat* visualizes how climate change is not an event in the far away future, but how it is affecting the earth every single second.

Lastly, to a significant extent, the challenge of entanglement between the human and the non-human was related to the selection of artworks and the messages they bring across. The first of these works is *4 Waters – Deep Implicancy* that tells about the shared origin of all forms of life. Similarly, *Liquid Properties* revolves around our (internal) co-existence with and dependence on other species. *In Desert Times* presents a non-human-centered speculation about the survival of non-human species on a desertified planet. *River Oracle* connects the water body the visitor is with the watery body of the Rhine river on a deeper level, eliciting a more affective approach to this non-human being. At the same time, it explores the latter's agency. Also about agency of the other-than-human are *Undercurrent* and *We Are Opposite Like That*, that investigate the agential capacities of krill and a body of ice as well as draw attention to the (strong) emotional bond that in fact exists between them and us.

From all these findings the exhibition narratives around insensibilities, distances and entanglement that *Emotions are Oceans* encompasses can be distilled, based on which an answer to the research question can be formulated. In the analysis it was argued how some attributes of the exhibition do contribute to overcoming the communication challenges to a certain extent, whereas there is also aspects of the display that have less or conflicting effects. First of all, the exhibition tends to confirm the insensible nature of climate change, both through architectural and spatial attributes and choice for artworks, making the visitor aware of this characteristic of the issue. At the same time, several assistive means to see or experience phenomena we normally cannot perceive have also been provided in the form of artworks and text; use of other objects was limited and did therefore not necessarily enhance this. Revolving around bodies of water the concepts presented in the exhibition involve contradictions, being tangible yet at the same time abstract. Second of all, the round shape of the space results in a remapping of temporal and geographical scales, reinforced by several artworks that allow the visitor to travel both in space and time without distancing display interventions. Yet, while encountering future and present environmental frontlines, the visitor is sealed from the real time climate above ground. Third of all, the exhibition provided multiple compelling stimuli for re-thinking and 're-feeling' our relationship with nature and non-human organisms and matter. It has been argued how the display lay-out and design reflect a non-human centered approach, or at least a non-hierarchical one, in subtle ways. Moreover, the artistic encounters that help shape the display narrative around entanglement offer immersive invitations to orient ourselves toward the environment in alternative ways. Overall, the research shows how a display of contemporary art can add a layer of multiple meanings to the functions separate artworks might have in overcoming the climate change communication challenges, through exhibiting environmental encounters in engaging and at times embodying ways.

Future research

This research proposed a new approach for investigating how a contemporary art exhibition can address and communicate about climate change, taking the communication challenges of insensibilities, distances and entanglement as the starting points to analyze an exhibition display. Yet, there are several components that remained underexposed in this approach that could be incorporated in future research in the field.

Firstly, audience reception of *Emotions are Oceans* was not taken into account, while this certainly is a crucial aspect when the effects of an exhibition are studied. After all, the visitors are the ones curators and artists are aiming to communicate with. Therefore, interviewing them (before as well as after their visit) would be a valuable addition to the visual analysis, that would strengthen the conclusions that can be drawn about overcoming communication challenges through exhibition encounters.

Perhaps in combination with the latter, curatorial objectives and intentions could be integrated in the analysis too. The curators could provide insightful comments on intentional choices with regards to selection of artworks, lay-out of the exhibition space and much more. Also, are they aware of the formulated climate change communication challenges, or not? A conversation about these topics could benefit both the art center's as well as the researcher's side.

Furthermore, and more specifically related to the case study, it would be interesting to analyze the *Underland* exhibition series as a whole, since *Emotions are Oceans* is part of this larger exhibition program. In addition, the proposed framework could also be applied to exhibitions at other types of art and cultural institutes that make presentations about climate change issues, where the meanings of the display attributes discussed in this thesis are presumably different.

Finally, this research revolved around three major communication challenges, but there is other characteristics of climate change that hinder the communication process to a significant extent too. For instance, the uncertainty and unpredictability associated with the issue complicate communicating about the issue.¹⁴⁶ The framework could thus be extended with more challenges, giving curators (and artists) the opportunity to respond to this with their practices and keep working on meaningful exhibitions.

¹⁴⁶ Moser, "Communicating climate change," 35.

Illustrations

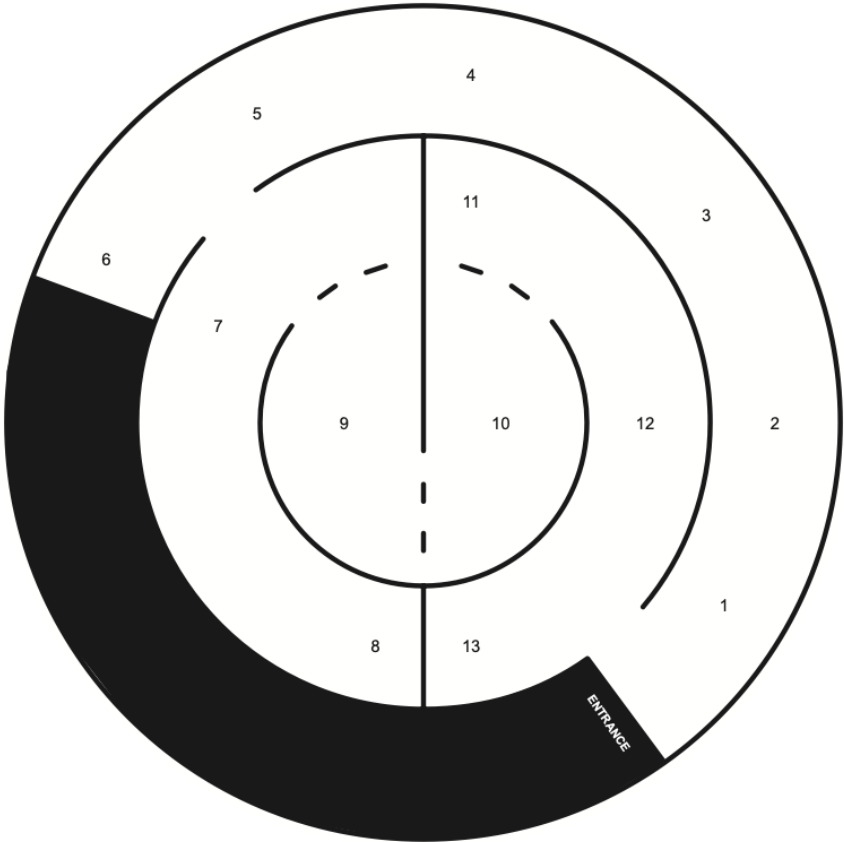


Fig. 1. Floorplan of the exhibition space at RADIUS Center for Contemporary Art and Ecology, from the exhibition catalogue of *Emotions are Oceans*.

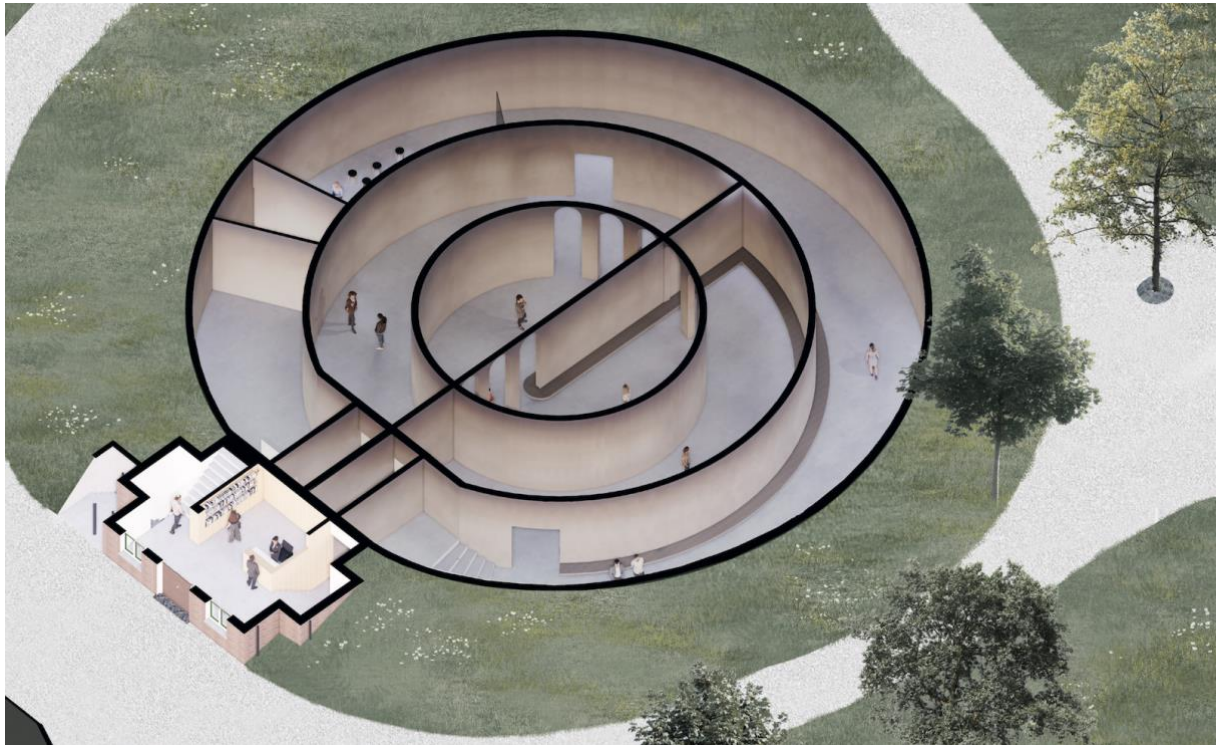


Fig. 2. DP6, *RADIUS Center for Contemporary Art and Ecology*, Delft, Kalverbos 20, 2021–2022. Artist impression of the exhibition space located in the underground water basin at the Delft water tower, n.d.



Fig. 3. Josèfa Ntjam, *Unknown Aquazone*, 2022, photomontage printed on Plexiglas, earth, 200 x 250 cm, viewed from the staircase (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 4. Sami Hammana, ~~~~, 2021, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 5. Susanne M. Winterling / *The Kalpana*, *In Desert Times*, 2020, mixed media, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 6. Müge Yilmaz, *Circle Of Necessities*, 2013 – ongoing, all possible water bottles from Amsterdam, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 7. Marjolijn Dijkman and Toril Johannessen, *Liquid Properties*, 2018, hand blown glass objects, welded metal structure, lab clamps, corks, brackish water samples, dimensions: variable, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 8. Paloma Ayala, Anne-Laure Franchette and Riika Tauriainen, *River Oracle*, 2022, printed Cyanotypes with activated sound and piezo microphones, headphones on printed beanbags, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 9. Xandra van der Eijk, *Retreat*, 2019, 3D-printed bioplastic, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 10. Lukas Marxt, *Imperial Irrigation*, 2020, video installation, 20:04 minutes, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 11. Carolina Caycedo, *Serpent River Book*, 2017, artist book, 72 page accordion fold, offset, printed canvas hardcover, dimensions: variable, (Delft, RADIUS Center for Contemporary Art and Ecology).

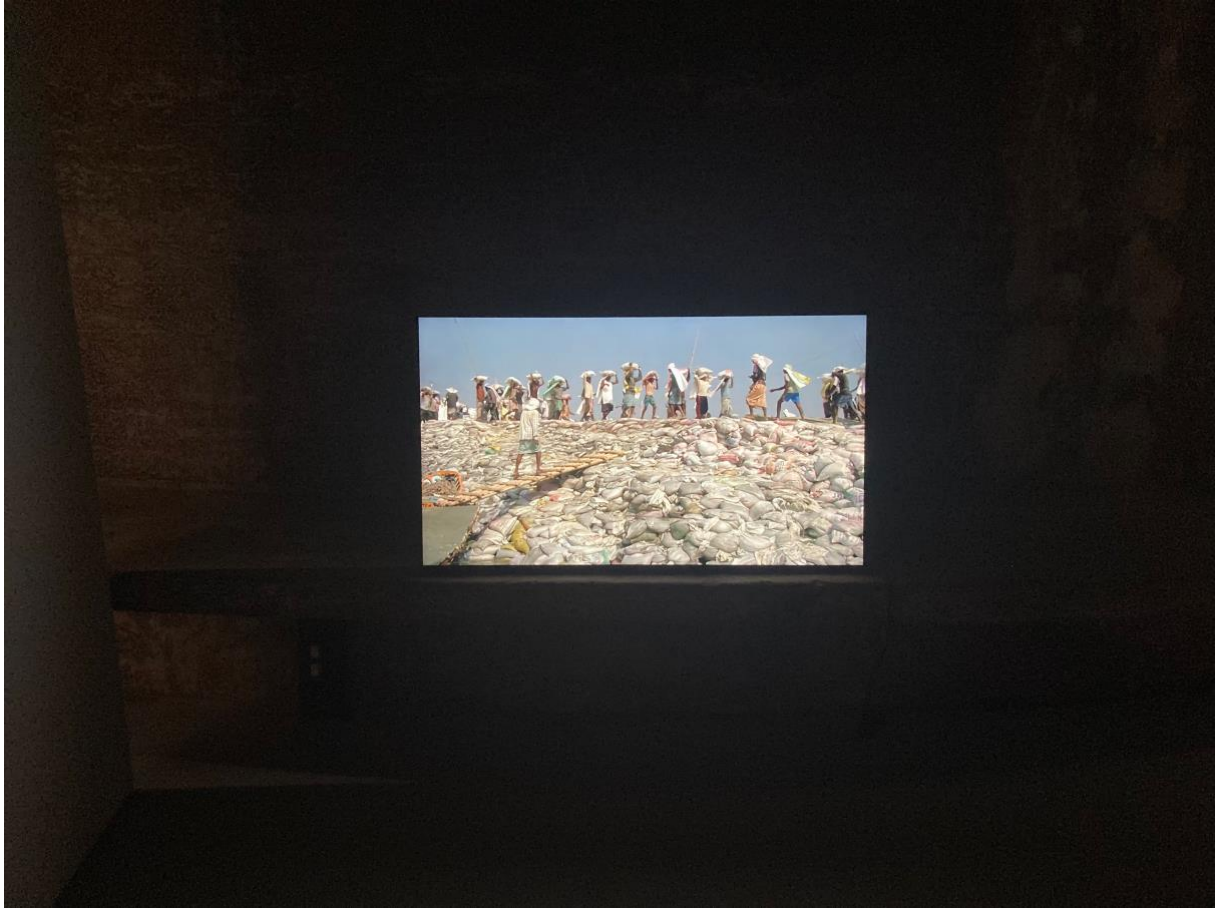


Fig. 12. Ursula Biemann, *Deep Weather*, 2013, video installation, 9 minutes, (Delft, RADIUS Center for Contemporary Art and Ecology).

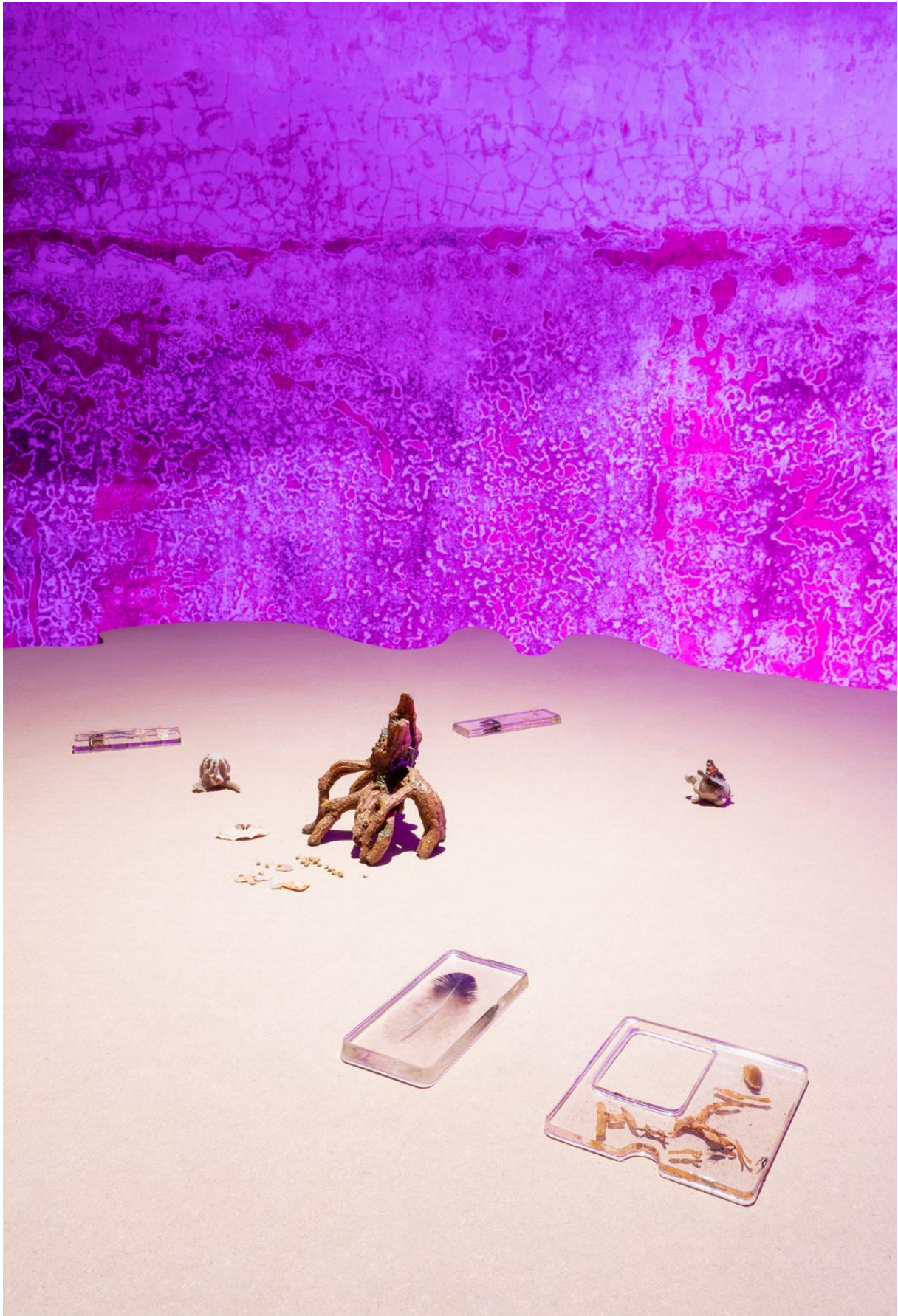


Fig. 13. A close look at The Kalpana's *In Desert Times*, 2020, mixed media, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 14. View of work 12 and 13. In the front: Xandra van der Eijk, *Retreat*, 2019, 3D-printed bioplastic. In the back: Himali Singh Soin, *We Are Opposite Like That*, 2019, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 15. Himali Singh Soin, *We Are Opposite Like That*, 2019, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 16. Denise Ferreira da Silva and Arjuna Neuman, *4 Waters – Deep Implicancy*, 2018, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).



Fig. 17. Alice Dos Reis, *Undercurrent*, 2019, video installation, (Delft, RADIUS Center for Contemporary Art and Ecology).

Illustration credits

Fig. 1. Downloaded 18 October 2022. <http://www.radius-cca.org/en/exhibitions/underland-chapter-1-emotions-are-oceans>

Fig. 2. Downloaded 5 June 2022. <https://www.dp6.nl/en/projecten/radius-centrum-voor-hedendaagse-beeldende-kunst-en-ecologie>.

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<http://www.radius-cca.org/nl/exhibitions/benedenwereld-hoofdstuk-1-emotions-are-oceans>.

Fig. 17. Photo by author.

Bibliography

Primary sources

Ayala, Paloma, Anne-Laure Franchette, and Riikka Tauriainen. *Text for River Oracle*. Delft: RADIUS Center for Contemporary Art and Ecology, 2022. Published in conjunction with the presentation of *River Oracle* as part of the exhibition *EMOTIONS ARE OCEANS* at RADIUS Center for Contemporary Art and Ecology, May 8–June 26, 2022.

Secondary sources

Bal, Mieke. *Double Exposures: The Subject of Cultural Analysis*. London and New York: Routledge, 1996.

Bureaud, Annick. “Lovely Weather: Reflecting on the Letterkenny Donegal Art & Climate Residencies and Exhibition.” *Leonardo* 45, 2 (2012): 182–83.

Cameron, Fiona R., Bob Hodge, and Juan Francisco Salazar. “Representing climate change in museum space and places.” *Wiley Interdisciplinary Reviews. Climate Change* 4, 1 (2013): 9–21.

Caso, Federica. “Tipping Point: Kay S. Lawrence’s exhibition on climate emergency.” *Globalizations* 18, 6 (2021): 1053–57.

Coole, Diana, and Samantha Frost. “Introducing the New Materialisms.” In *New Materialisms*, edited by Diana Coole and Samantha Frost, 1–43. Durham: Duke University Press, 2010.

Curtis, David J. “Creating inspiration: The role of the arts in creating empathy for ecological restoration.” *Ecological Management & Restoration* 10, 3 (2009): 174–84.

Dieleman, Hans. “Sustainability, art and reflexivity.” *Sustainability: A new frontier for the arts and cultures* 108 (2008): 1–26.

Dilling, Lisa, and Susanne C. Moser. “Introduction.” In *Creating a Climate for Change: Communicating Climate Change and Facilitating Social Change*, edited by Lisa Dilling and Susanne C. Moser, 1–27. Cambridge: Cambridge University Press, 2007.

Galafassi, Diego, Sacha Kagan, Manjana Milkoreit, María Heras, Chantal Bilodeau, Sathbh Juárez Bourke, Andrew Merrie, Leonie Guerrero, Guðrún Pétursdóttir, and Joan David Tàbara. “‘Raising the temperature’: the arts on a warming planet.” *Current Opinion in Environmental Sustainability* 31 (2018): 71–79.

Hawkins, Harriet, and Anja Kanngieser. “Artful Climate Change Communication: Overcoming Abstractions, Insensibilities, and Distances.” *Wiley Interdisciplinary Reviews. Climate Change* 8, 5 (2017): 1–12.

Hemstock, Sarah L., and Stuart Capstick. “Communicating Climate Change: Reactions to Adapt and Survive Exhibition and Visitors’ Thoughts About Climate Change in the Pacific

- Islands Region." In *Addressing the Challenges in Communicating Climate Change Across Various Audiences*, edited by Walter Leal Filho, Bettina Lackner, and Henry McGhie, 599–615. Cham: Springer International Publishing, 2018.
- Kirshenblatt-Gimblett, Barbara. *Destination Culture: Tourism, Museums, and Heritage*. Berkeley: University of California Press, 1998.
- Knebusch, J. "Art and climate (change) perception: Outline of a phenomenology of climate." In *Sustainability: A New Frontier for the Arts and Cultures*, edited by Sacha Kagan and Volker Kirchberg, 242–61. Frankfurt am Main: Verlag für Akademische Schriften, 2008.
- Latour, Bruno. *Facing Gaia. Eight Lectures on the New Climatic Regime*. Cambridge: Polity Press, 2017.
- Lekkerkerk, Niekolaas Johannes, and Sergi Pera Rusca. *EMOTIONS ARE OCEANS*. Delft: RADIUS Center for Contemporary Art and Ecology, 2022. Published in conjunction with an exhibition of the same title, organized by and presented at RADIUS Center for Contemporary Art and Ecology, May 8–June 26, 2022. Exhibition catalog.
- Lekkerkerk, Niekolaas Johannes, Sergi Pera Rusca, and Epifania Queta, *RADIUS Beleidsplan*. Delft: RADIUS Center for Contemporary Art and Ecology, 2021. Policy plan. Accessed on 22 March 2022. <http://www.radius-cca.org/en/information>.
- Marván, Alicia, and Amy Linford. *Guapamacátaro Center for Art and Ecology. Interdisciplinary Residency Program Maravatío, Michoacán, México*. Maravatío: Guapamacátaro Center for Art and Ecology, 2018. Published in conjunction with a residency program of the same title, organized by Guapamacátaro Center for Art and Ecology, May–June 2018. Catalog from summer residency session.
- Moser, Stephanie. "The Devil is in the Detail: Museum Displays and the Creation of Knowledge." *Museum Anthropology* 33, 1 (2010): 22–32.
- Moser, Susanne C. "Communicating climate change: history, challenges, process and future directions." *Wiley Interdisciplinary Reviews. Climate Change* 1, 1 (2010): 31–53.
- Moser, Susanne C. "Reflections on climate change communication research and practice in the second decade of the 21st century: what more is there to say?" *Wiley Interdisciplinary Reviews. Climate Change* 7, 3 (2016): 345–69.
- Neimanis, Astrida. *Bodies of Water: Posthuman Feminist Phenomenology*, London: Bloomsbury, 2016.
- Nerlich, Brigitte, Nelya Koteyko, and Brian Brown. "Theory and Language of Climate Change Communication." *Wiley Interdisciplinary Reviews. Climate Change* 1, 1 (2010): 97–110.
- Newell, Jennifer, Libby Robin, and Kirsten Wehner. "Introduction: curating connections in a climate-changed world." In *Curating the Future*, edited by Jennifer Newell, Libby Robin and Kirsten Wehner, 1–16. London: Routledge, 2017.

- Nurmis, Joanna. "Visual climate change art 2005-2015: discourse and practice." *Wiley Interdisciplinary Reviews. Climate Change* 7, 4 (2016): 501–16.
- Payne, Kellie. "Portraying the Political: Contemporary Art Exhibitions and Their Engagement with Climate Change Politics." In *Climate Change and Museum Futures*, edited by Fiona R. Cameron and Brett Neilson, 157–74. Abingdon: Routledge, 2015.
- Pahl, Sabine, Stephen Sheppard, Christine Boomsma, and Christopher Groves. "Perceptions of Time in Relation to Climate Change." *Wiley Interdisciplinary Reviews. Climate Change* 6, 3 (2015): 375–88.
- Roosen, Liselotte J., Christian A. Klöckner, and Janet K. Swim. "Visual art as a way to communicate climate change: a psychological perspective on climate change-related art." *World Art* 8, 1 (2018): 85–110.

Web sources

- Horton, Helena. "Atmospheric levels of all three greenhouse gases hit record high." *The Guardian*, October 26, 2022.
<https://www.theguardian.com/environment/2022/oct/26/atmospheric-levels-greenhouse-gases-record-high>.
- Rijkswaterstaat. "Normaal Amsterdams Peil (NAP)." Accessed on 10 October 2022.
<https://www.rijkswaterstaat.nl/zakelijk/open-data/normaal-amsterdams-peil>.
- Xandra van der Eijk. "RETREAT." 2019. Accessed on 27 October 2022.
<https://www.xandravandereijk.nl/projects/retreat>.