CALM BEFORE THE STORM

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RADIUS
Center for Contemporary Art and Ecology
Kalverbos 20
2611 XW Delft
www.radius-cca.org

Underland
Year Program 2022–2023

RADIUS commences its first year of existence with an exhibition program consisting of four chapters. Partially modelled after the eponymous novel by Robert MacFarlane, the *Underland* exhibition cycle is an exploration of subterranean spaces as observed through art, literature, mythology, science, ecology, memory, and the physical landscape. We descend into RADIUS' subterranean exhibition spaces, through the surface of the Earth's biofilm, to make an observation about what takes place underneath man-made layers of concrete, tarmac and the constructed artificiality of our surroundings, to examine our relationship to darkness, life and death beneath ground level.

In four chapters, *Underland* invites you to join on a series of journeys through "deep-time"—a vast geological time—along water sources and caverns, composite layers of soil, mines and drilling sites for unearthing minerals and fossils, fungal and root networks, and storage and hiding places providing shelter and protection within the increasingly unstable environment of the Anthropocene, the current era in which humankind dominates. The basis for considering the Anthropocene as our current geological epoch rests on the claim that the historically accumulated, planetary environmental effects of an expanding human population, technological innovation, and economic development have become inseparable from the Earth's geological processes.

The compounded crises of capitalism, sociopolitical unrest, environmental catastrophe, and technological transformation is becoming increasingly pressing and tangible, both on a local level and on a planetary scale. In addition, the struggle for social emancipation and the role of colonialism and racism are inextricably linked to the current ecological depression, re-drawing attention to the fragility of Earth and life itself. The gravity of the situation is such that it is no longer possible to place ourselves outside the ecological breakdown equation. As the underground journey at RADIUS begins, the obscured depths of the underland are blazed with open-hearted encounters across deep time that reveal pathways to weather the Anthropocene.

The *Underland* exhibition cycle is developed to provide a sense of grounding for the art center in its early beginnings, but predominantly serves as a public conversation starter for a continuous program around ecology and climate concerns, as facilitated through current artistic practices. Not dissimilar from science, art has the capacity to raise perception and consciousness for those elements, processes and dimensions that bypass our human sensorial capacities altogether. Both engaged in developing languages to inform an understanding and gain traction with our speculative present, we believe that art as a field must extend and apply itself without invitation, to trigger responses where none have been called for, and to confront what we take for granted. Moving through critical zones, the artists in *Underland* seek to unearth and undermine a singular human-centred perspective as to register more reality thanks to multiple templates, for which pluralism is understood not as a plurality of perspectives on one reality, but as a multiplicity of agencies that register numerous realities.

From fieldwork-taking to patchwork-making, *Underland* is envisioned as a space for synthetic thinking, science fact and fiction, forging new bonds between human and non-human forms of agency. From thinking and acting in a human-centered vacuum, to a life continuum.

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A Shelter in the Anthropocene

EDWARD CLYDESDALE THOMSON
ARMANDO D. COSMOS
TUOMAS A. LAITINEN
JUMANA MANNA
NEDA SAEEDI
EMILIJA ŠKARNULYTĖ
ELISA STRINNA
JUN ZHANG

CALM BEFORE THE STORM is the fourth and final exhibition of the UNDERLAND year program. The eight artists in this group exhibition provide insight into the need for preservation and shelter when living environments become progressively volatile and unpredictable. How can humanity implement science, technology, creativity and ingenuity to resist ecological breakdown? And, how can artistic and design practices propose ways of living in the Anthropocene, in consideration of all living organisms on Earth?

After the seed banks of Afghanistan, Syria, Iraq and the Philippines were lost to wars, floods and fires, the World Seed Bank was established in 2006 on Sval-bard, a remote Norwegian archipelago of glaciers and frozen tundra. This seed bank, popularly nicknamed the *Doomsday Seed Vault* or the *Frozen Garden of Eden*, is located deep within a sandstone mountain, and safeguards the largest variety of plant seeds in the world. The SGSV, nuclear waste storage bunkers, and other facets of so-called underground vaults culture exemplify the ways in which humans seek refuge when environmental breakdowns trigger more and more disastrous events.

Only one-third of the nuclear residue is repurposed as energy. The remainder is mostly stored in underground repositories. These repositories are designed to exist longer than humanity, as nuclear residue remains highly toxic for more than a thousand years. In the United States, however, these repositories are running out of storage space, and nuclear waste is already stored in the open-air, closer to human and non-human life, which significantly increases the threat of radioactive disasters.

As a solution to these risks, so-called doomsday luxury homes are being built in remote locations far away from nuclear targets, earthquake-prone zones, and dense urban areas where viral infections spread rapidly. Although these particular real-estate enterprises are thriving, the high-priced bunkers they sell do not offer any solutions, but only an illusion of time standing still. And besides, is it not an example of exceptionalism when only the very rich can afford to be saved?

These real estate enterprises are not the only ones trying to escape the current climate regime instead of contributing to overcoming it. With his company Space X, Elon Musk is planning to populate Mars with one million people to establish a “free planet not governed by the laws of Earth”.[1] By intending to commodify the cosmos, advanced capitalism is turning science fiction into reality. As revolutionary such Post-Anthropocentric strategies may seem, they only advance the Anthropocene by making significant additions to its social, political, and ethical positions.

In popular post-apocalyptic fictions of alien invasions, zombie apocalypses, environmental disasters and technological singularities, contemporary societal, ecological, and political concerns are turned into tales of self-reliance. Structures of order have been destroyed and chaos has taken over. An exceptional few are trying to survive the turmoil. Often, white, heterosexual and cisgender heroes are the main characters, a narrative pattern sustained by Social Darwinistic notions of ‘survival of the fittest'. The end of the world—which is different from the end of the Earth—is the end of modern civilisation. Ultimately, these stories revolve around human exceptionalism, which is paradoxical, since this is precisely the cause of many global catastrophes.

Educator and researcher Stephanie Wakefield argues that doomsday-driven fictions and enterprises rarely offer concrete approaches to overcome the current climate regime. Upon closer examination, they only seem to rush headlong toward supposed solutions. To work out the complexities of the ecological crisis, Wakefield claims that we ought to acknowledge that we are not only living in the Anthropocene, but also—and more specifically—in its “back loop”: a time of release, fragmentation, and great potential for reorientation.[2]

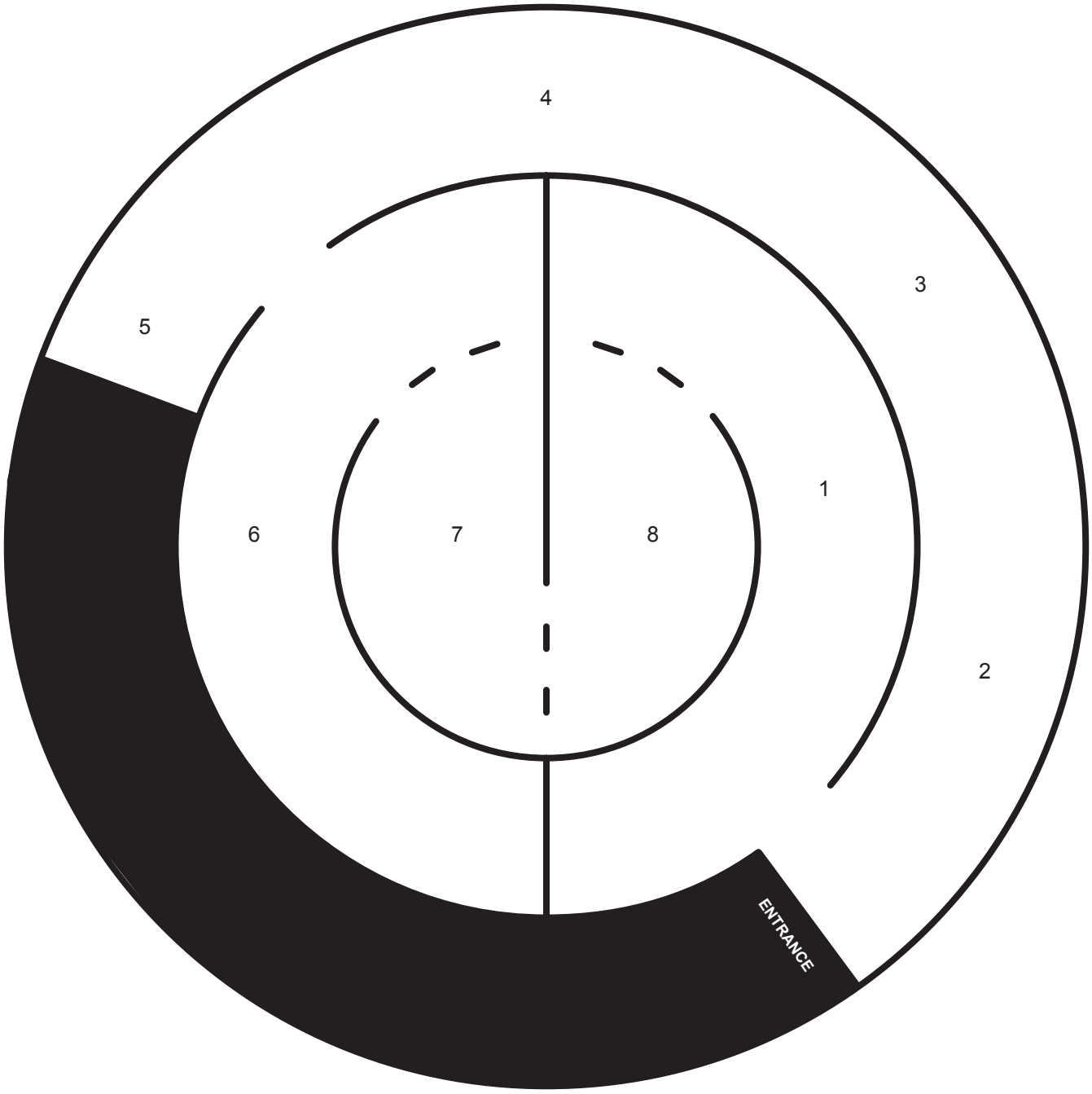
Not only Wakefield argues that the present age is characterised by enormous, far-reaching changes. The recently deceased philosopher, sociologist and anthropologist Bruno Latour also describes enormous shifts in cosmogonies—that is, models that provide explanations for the origin and development of the universe.

In this present moment of vast changes, we must reorient ourselves, and continue to speculate on new ways of living and assembling. What roles can art and science play in this? Guided by the speculative languages of the artworks, the final chapter of *Underland* offers insights for a better-equipped imagination in light of both current and future planetary transformations.

1 “Mars & Beyond. The Road to Making Humanity Multiplanetary”, Space X, accessed 5 March 2021, <https://www.spacex.com/human-spaceflight/mars/>.

2 Stephanie Wakefield, *Anthropocene Back Loop: Experimentation in Unsafe Operating Space.* London: Open Humanities Press (Critical Climate Chaos: Irreversibility Series), 2020, p. 21.

Floorplan



1. Tuomas A. Laitinen, *ΨZone (Cocoon),* **2022.**
2. Armando D. Cosmos, *Whole Earth Trilogy,* **2019.**
3. Neda Saeedi, *Parasitoid cell of desirable future,* **2019–ongoing**
4. Edward Clydesdale Thomson, *Landfall,* **2020–2022**
5. Jumana Manna, *Wild Relatives,* **2018.**
6. Elisa Strinna, *The Antarctic Gardener,* **2022.**
7. Emilija Škarnulytė, *t1/2,* **2019.**
8. Jun Zhang, *Respiration,* **2021**

TUOMAS A. LAITINEN
ΨZone (Cocoon)
2022

Tuomas A. Laitinen's artistic practice is situated in the boundaries that separate species from technology. Working with video, sound and light, as well as chemical and microbial processes, Laitinen explores how interspecies awareness and knowledge is formed in porous systems. The installation, specifically tailored to RADIUS, acts as a kind of symbiotic contact zone that allows viewers to experience life forms through microbiological processes, alchemical illustrations, speculative glass shapes, moving image, and ultrasonic audio.[3]

The video projection descends into a world where lifeforms are entangled with geologic formations and technological devices. Chemical reactions and residues transform into landscapes and the microscopic becomes enlarged. Past ecosystems are slowly metamorphosing, looking at the possibilities of repair and the quest for a future amid the remnants. GI-rendered lenses distort and refract the images, as different ways of knowing emerge from the various layers.

The multichannel ultrasonic audio installation correlates with the video projection. The audio is composed of sonic references to containers, cocoons, shelters, and holders. It also features sounds of cooking processes such as boiling, simmering, melting, cracking, and sounds of internal bodily functions. In addition to this, a spectral voice utters words on the climate crises that we face in our time. As a result of ultrasonic quality of the installation, it feels as if these sounds originate from within our bodies.

Altogether, Laitinen presents an immersive space that constantly fluctuates, a space in which we can experience symbiotic contact through the senses. Experiencing the installation is an exercise of deep listening, where repeating chants and sounds from different speculative ecosystems are entangled and disentangled again and again.

3 Symbiosis refers to any type of a close and long-term biological interaction between two different biological organisms.

ARMANDO D. COSMOS
Whole Earth Trilogy
2019

The tapestries of Armando D. Cosmos contain a wide variety of images, for example historical printed matter, iconographic imagery, genetically engineered crops and images of nuclear power plants. These detailed and layered compositions enrich the dry and matter-of-fact discourse of scientific publications. Cosmos uses the city as a framework that merge humans with technology to depict the future as a diagram that incorporates different technologies that tend to have a polarizing effect on societies. With these visions of the future, Cosmos questions if visual languages can nuance our thinking about nuclear power and genetic engineering.

Science is greatly capable to record hard facts and disseminate them, yet it is sometimes unaware of the many biases that were part of its inception and continue to inform it. Using pre-existing scientific imagery, Cosmos tries to reveal such biases and inconsistencies. Scientific infographics do not report absolute objectivity, but they propose a singular perspective to understand reality. Can these be transformed to include science more fully in the public domain? Cosmos narrows the gap between science and art to make artistic practice within scientific communication relevant. Through different aesthetic choices, he questions what happens when scientific imagery is no longer solely focused on accuracy, but instead seeks to be more accessible and engaging.

Armando D. Cosmos' series of visual icons enable a comprehensible and compact storytelling of scientific ideas for a far-reaching impact. Visual language has the power to convey scientific information to a wider audience and at the same time expose its subjectivity.

NEDA SAEEDI
Parasitoid cell of desirable future
2019—ongoing

The installation *Parasitoid cell of desirable future* is part of a long-term project by Neda Saeedi, which focuses on gardening and its colonial and imperial dimensions. Botany is often thought of as a passive and benign practice, yet it is rooted in the history of colonialism and the exploitation of nature. It emerged as a scientific discipline in the eighteenth century, a period marked by colonial voyages of discovery in which ships regularly brought collections of plant samples to Europe. Plant collectors were sent across the world to find and categorise new species to later hybridise and grow them in plantation systems, most commonly in European colonies. This practice of monoculture is a consequence of the objectivisation and renaming of nature, ecosystems and agricultural knowledges for economic revenue.

In this work, Neda Saeedi primarily focuses on the emergence and popularity of gardening video games. Instead of introducing players with fair and sustainable agricultural practices, these games often revolve on growth and efficiency. The glass spheres inside the installation contain elements that reference different gardening video games, such as *Starcraft,* where blooming plants on extraterrestrial planets has become a human necessity; *Fallout,* a game involving underground living in post-apocalyptic futures; or *Minecraft,* a game based on plantations in a class-divided feudalist society. The glass pedestals on which the spheres are displayed resemble the shape of the protoporphyrin molecular structure—the shared crucial molecule in all living organisms

Writer Hu Fang argues "The creation of botanical gardens is perhaps similar to that of zoos, in that the botanical garden is proof of humanity's collective corruption. We have been documenting the disappearance of plants while generating an aesthetics of disappearance: humans appreciate the plants in a botanical garden or park for the value of their beauty and rarity".[4] In *Parasitoid cell of desirable future,* Neda Saeedi gathers both utopian and dystopian visions of gardening, and embeds these in the colonial and imperial narratives.

4 Hu Fang, "Why We Look at Plants, in a Corrupted World", e-flux #65 SUPERCOMMUNITY, May-August, 2015, https://www.e-flux.com/journal/65/336570/why-we-look-at-plants-in-a-corrupted-world/.

EDWARD CLYDESDALE THOMSON
Landfall
2020-2022

Edward Clydesdale Thomson's project focuses on shelter building. This practice is becoming increasingly common at the convergence of climate chance, conflict, art, and design. After the birth of his daughter River, Thomson decided to focus on protective structures for future inclemencies such as extreme rain, drought, or heat. Following his interest in site-specific artworks, the artist reached out to the Erasmus University in Rotterdam and Deltares, an institute for applied research in water based in Delft. Together with these institutions he speculated on the future of the Netherlands, as the country's climate would be defined by extreme rainfall, soaring summer temperatures, and more frequent storm winds.

River's crib for the flood (2020) is a speculative sculpture that envisions a baby crib as a vessel in the circumstance of flooding. The piece is composed of a laser-cut steel keel based on a portrait of climate activist Greta Thunberg, a windsurf mast, an import barrel, a woven wicker crib, and a kite made from the artist's favourite t-shirt. The feathers attached to the kite and the seashell net bound to the barrel are elements that aid in land formation. The kite, on the other hand, would function as the steering device. For this exhibition, Thomson is also debuting the animation film *Flood to drought* (2022) where River's crib and others are in motion and change over time and use.

Each of the artist's cribs are hybrid structures that respond to a specific climate catastrophe. These sculptures deal with the desire to provide care and protection, but at the same time, they call into question the extent to which we can actually protect ourselves from catastrophes. Moreover, the various objects incorporated in the sculptures challenge the meaning of technological progress in a future world affected by climate change.

JUMANA MANNA
Wild Relatives
2018
Duration: 64 minutes

Jumana Manna's film *Wild Relatives* began in 2012, when the ICARDA (International Center for Agricultural Research in Dry Areas relocated from Aleppo to the Beak Valley in Lebanon due to the escalating Syrian civil war. To create a duplicate of their seed bank, ICARDA withdrew backup seeds preserved in Svalbard Global Seed Vault in Norway. *Wild Relatives* traces the intersecting paths between Syria, Lebanon, and the Arctic, and shows encounters between human and nonhuman lives across distant geographies through the transaction of seeds.

Manna's film inserts the course of seed migration within the broader historical context of agricultural modernisation from the 1960s onwards, international policies paved the way for industrialised farming in developing countries, resulting in the large-scale planting of high-yielding crops at the expense of local wild varieties. As state and corporate control increased, mechanised production replaced traditional agricultural practices even further. Throughout the film, Manna exposes the profit-oriented homogenisation of agriculture and the resulting dissonances between state and individual, industrial and organic methods of seed preservation, and between climate change and biodiversity.

Wild Relatives exemplifies the artist's interest in the taxonomic categorisation of nature, and how it has profoundly altered the life cycles of plants and the livelihoods of farmers. The extraction and transference of plant resources from the Middle East to the Western world in the nineteenth century was a consequence of the imposition of colonial logics over flora, which rationalised "unproductive" landscapes to increase profits. Despite their good intentions, the Svalbard Global Seed Vault and other contemporary gene banks are the inheritance of the modernisation of nature. Moreover, they are implicated in the transaction of high yielding seeds in impoverished areas, which ultimately reduces biodiversity.

Jumana Manna connects underground vault culture with the geopolitics of ecological decay in a globalised world, showcasing the interconnectedness of agricultural histories and practices with the movement of people, resources, and capital.

ELISA STRINNA
The Antarctic Gardener
2022
Duration: 24 minutes

Inspired by recent research on bio-regenerative technologies and the global pandemic of COVID-19, *The Antarctic Gardener* is a story of human and plant confinement and survival in the extreme environment of Antarctica. In a time where biotechnology develops rapidly to cope with upcoming ecological disruptions, Elisa Strinna speculates on artificial ecosystems that will be necessary to survive possible futures.

The starting point of *The Antarctic Gardener* is the archive material of the EDEN ISS project, a greenhouse where ground and plant cultivation technologies for safe food production in outer space are researched. This project is located near the Neumayer II station in Antarctica, and has been running since 2017. It aims to be incorporated in the International Space Station or a possible colony on the moon. Nevertheless, results from their research may also be applicable on Earth, given the potential consequences of climate change.

Like many of the plants they take care of, whose sexuality is monoecious —meaning that they possess both male and female sex organs—*The Antarctic Gardener* is an androgynous figure. We follow them go about their day as they dream, exercise, read, meditate, attend online psychoanalytic sessions, pollinate strawberries, and walk on the Arctic ice. Confined to a closed ecosystem, nourished by LED lights and fertilisers dissolved in the air, the plants grow uninterruptedly in an artificial cycle, in spite of the weather outside. Nevertheless, the harsh and isolating conditions take a toll on the gardener's mental health as they become progressively assimilated into the automation and artificiality of their surroundings.

The Antarctic Gardener is part of Strinna's research project *People will miss the Earth*, in which she studies attempts to artificially reproduce the Earth's ecosphere to prepare for an upcoming ecological catastrophe. Starting from the transformation of Earth's atmosphere, temperature, topography and ecologies through biotechnology—mainly through greenhouse infrastructures—the artist opens a reflection on the future of humanity and the models of living together with more-than-human entities in more sustainable ways. With this film installation, Strinna considers our ability to imagine life in compromised future ecology is changing as a result of biotechnology.

EMILIJA ŠKARNULYTĖ
t1/2
2019
Duration: 18 minutes

The films of Emilija Škarnulytė shape-shift between documentary and fiction. Fascinated by the concept of deep time, the artist explores different time scales and space depths, from the cosmic and geologic, to the ecological and political.[5] *t1/2*—also called half-life—is a term used in nuclear physics to indicate the required time for a substance to reduce to half of its initial value. This term mainly describes how quickly unstable atoms undergo radioactive decay or how long stable atoms survive.

The film is composed of footage from a Lithuanian nuclear power plant, Etruscan tomb monuments, the Super-Kamiokande neutrino observatory in Japan, the CERN antimatter factory, the Duga radar, and a submarine base from the Cold War. Sinuously moving through them, Škarnulytė takes us to a journey through the lens of a future archeology, in which we can witness the material and ideological imprints that massive scientific structures will leave behind on a post-human Earth.

Škarnulytė approaches her films from the perspective of a future archeologist who lands on Earth and observes the scars that humans have left below and above ground. She is fascinated with the act of measuring, be it the world, history, or the decaying time of atoms. Choosing different reference points and magnitudes, whether it is the atom, the human body, or nuclear plants, Škarnulytė seeks to enrich our awareness of measure and scale through fascinating visuals and immersive sound.

t1⁄2 reveals all that is larger than us and larger than life: a looming climate catastrophe, ideological constructions, massive scientific structures, recent geopolitical processes. The film stands as a fictional meditation on how and where science produces knowledge and the extent of its interaction with the Earth, leaving behind monuments of measurement and extraction fated to become archeological remnants.

5 "Deep time" refers to the time scale of geologic events, which is vastly, almost unimaginably greater than the time scale of human lives and human plans.

Respiration is an installation that speculates on a post-Anthropocentric species whose life depends on human breath. Carbon dioxide emissions contribute significantly to global warming and climate change, but what if it becomes a foundational element for a new kind of species? A fictional species composed of lime skin and biomaterials inside the installation lives as a result of carbon dioxide breathed into the inhaling devices by humans. The human body is the medium in *Respiration,* and the planet's atmosphere a trigger to speculate on new life forms in future environments.

The artist's research on the Dutch shell lime industry resulted in *Respiration*. Shell lime is a fine-quality lime made by roasting seashells and used in building foundations. Shell lime plaster and its production deeply influenced the urban and natural environment of the Netherlands. Under the threat of rising sea levels, it is likely that landscapes containing lime scale will eventually flood, returning the seashells to their place of origin. Altering this prospect, and many others caused by current ecological deterioration, requires a stronger cooperation between artistic and scientific research, where data and imagination are equally necessary.

In the realisation that human beings cannot live nor produce knowledge isolated from the rest of life on Earth, philosopher Donna Haraway asks: "What happens when organisms plus environments can hardly be remembered for the same reasons that even Western-indebted people can no longer figure themselves as individuals and societies of individuals in human-only histories?"[6] With *Respiration,* Jun Zhang adds to Haraway's inquiry by presenting a future scenario where interspecies reciprocity lies at the core of living in this changing planet.

6 Donna Harway, 'Tentacular Thinking: Anthropocene, Capitalocene, Chthulucene', *e-flux journal* #*75*, september 2016. https://www.e-flux.com/journal/75/67125/tentacular-thinking-anthropocene-capitalocene-chthulucene/.

Underland, Chapter 4
CALM BEFORE THE STORM: A SHELTER IN THE ANTHROPOCENE
10 December – 12 February 2023

Edward Clydesdale Thomson
Armando D. Cosmos
Tuomas A. Laitinen
Jumana Manna
Neda Saeedi
Emilija Škarnulytė
Elisa Strinna
Jun Zhang

Curator: Niekolaas Johannes Lekkerkerk
Assistant Curator: Sergi Pera Rusca
Text: Sergi Pera Rusca
Translation: Niels Bekkema
Graphic Design: Sabo Day and Pernille Winther
Production and Coordination: Eva Burgering
Education: Fleur Knops
Communication: Daan Veerman
Technical Support: Menno Verhoef and Stefan Bandalac

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RADIUS
Center for Contemporary Art and Ecology
Kalverbos 20
2611 XW Delft
The Netherlands
info@radius-cca.org
www.radius-cca.org