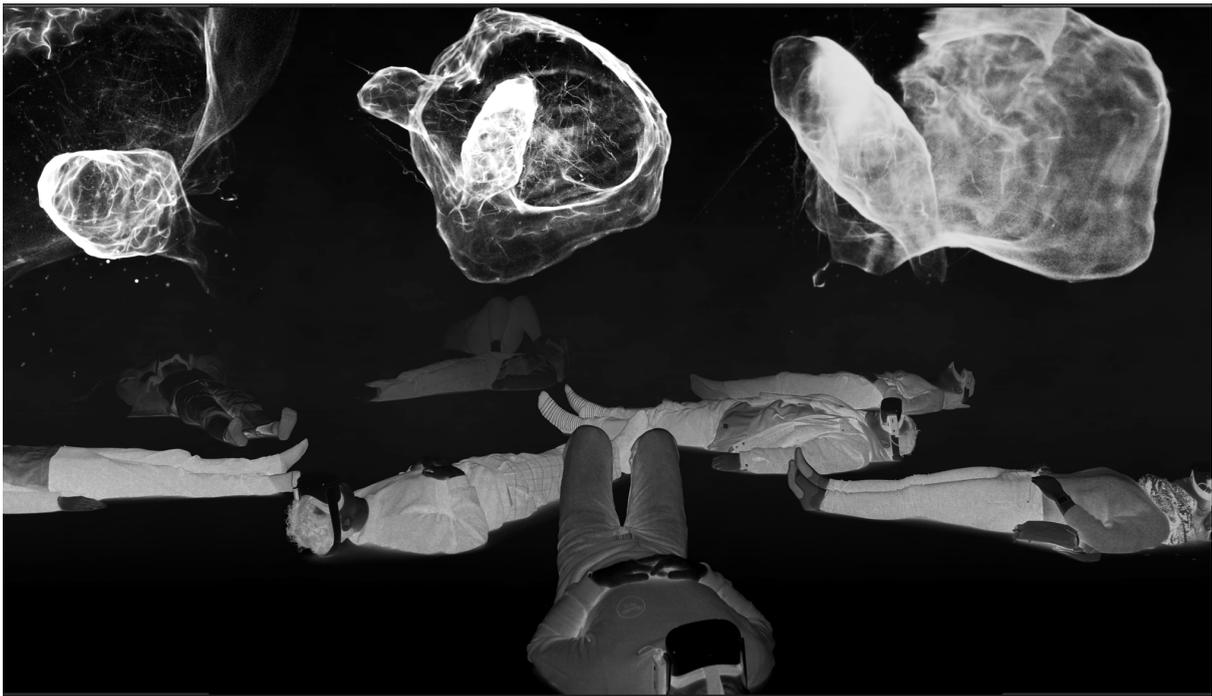


Garden of Ghost Flowers

www.ghost.flowers

An Ongoing Experiential Laboratorium of Technology, Resonance
and Non-Human Agency
(2022- ongoing)



Visitors lay down on the ground among the digital matters of their failed resonance, watching the Ghost Flower they collectively created together.

In mediaeval times, tsunamis, hurricanes and earthquakes were believed to be subject to human misconduct. The irony of this is that in our own époque, the so-called Anthropocene, a relationship has indeed been proven between humanity and so-called natural disasters.

In an ongoing artwork taking the form of an experiential laboratory around technology, resonance, and non-human agency, Garden of Ghost Flowers proposes a collaboration with the public inspired by the experiments and exploration of the 18th Century Garden. By turning our gaze towards ourselves inside the Garden, the artwork is an ongoing process of how technology makes us and lays the ground for our human umwelt; how it connects and disconnects us from each other and other life forms and processes.



Monotropa uniflora (*Monotropa* – one turn; *uniflora* – one flower)

A Flower and a Sociological Concept

Two things inspired the Garden. Firstly, the sociological concept of resonance. (**Endnote 1**) is defined by sociologist Hartmut Rosa as a mode of interacting with the world that is not based on control but rather an attitude of open listening through which one can be genuinely affected by the other. Secondly, it is modelled after the traits of the ghost flower *Monotropa Uniflora* (**EndNote II**), commonly known as the ‘ghost flower’, a plant that abandoned photosynthesis survives in darkness and feeds on the fungal web in the earth’s soil. In the same way, these mycorrhizal networks transfer water, nitrogen, carbon and other minerals to the flower, the networks of human qualities, such as listening, caring, and adapting, expressed through and between the voices of the visitors as a kind of polyphonic singing, becomes the digital Ghost Flowers food. Like with its biological counterpart, it is uncertain if this relationship is symbiotic or parasitic.

Visitors are Invited Into a Biosphere, an Environment Framed By Technology

Inside the biosphere runs the life cycles of a mixed reality object powered by a genetic algorithm: a Ghost Flower that feeds on the resonance of those who visit it.

One life cycle of the flower lasts for 20 minutes, but a visit to the biosphere also requires time for preparation and then also reflection.

The relations and intra-action between visitors, groups of 10 - 20 people mediated by VR technologies, form a biotope for the flower to grow in. Unlike how museums isolate objects from their original context, the components of this installation - its visitors and the AI system of the digital life form, are embedded parts of the Garden's biosphere. Visitors must involve themselves with the artwork that unfolds as a process. Each lifecycle of a Ghost Flower is a unique reflection of the relations and interactions of its own group of visitors. Each visit leaves the biosphere in a state from which the next group starts to create a new cycle of the Flower. Neither the artists nor the programmers that made the algorithms that form the Ghost Flower organisms know the outcome of each visit inside the biosphere.

By posting an artificial lifeform as an explicit mediator of human relations who learns and reacts to its visitors, the encounter between the humans in the biosphere also involves meeting 'the more than human' in the technology itself.



Two visitors feed the digital life-form using their voices in resonance with each other

The artwork is divided into two modes or states:

Living: When visitors are inside the biosphere, feeding a new lifecycle of the flower. The distinction between the artwork and those that visit it is blurred. The Biosphere consists of 10-20 interconnected VR headsets inside a white cube space. A guide assists visitors in taking on their headsets. At the beginning of a lifecycle,

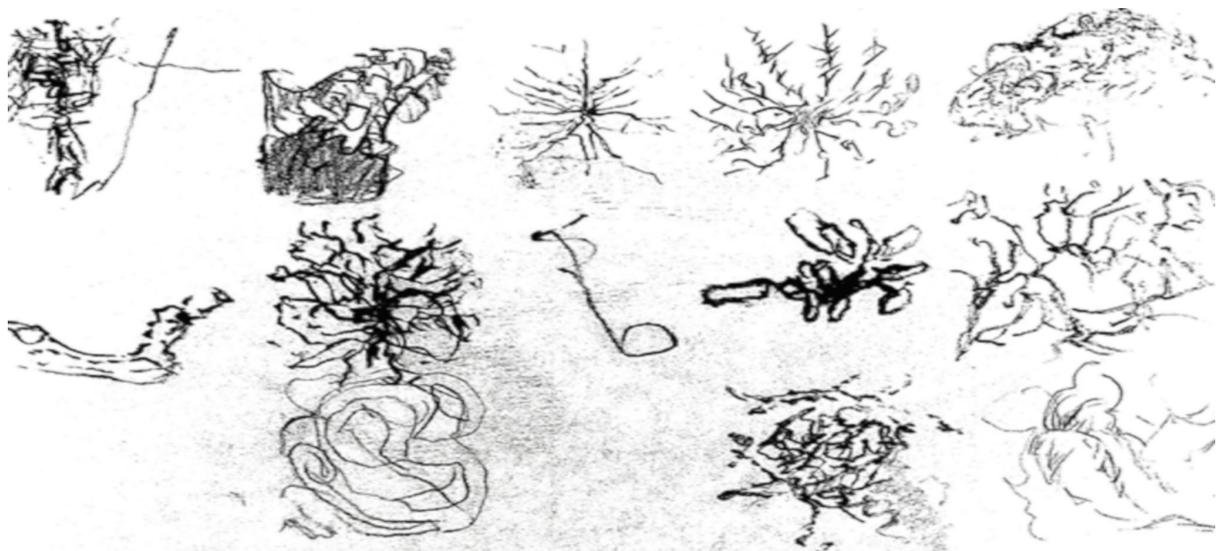
the screen is black. Only when visitors start to use their voice do they see particles and cells coming out of their mouths and the other visitor's mouths, resembling *mycelium webs*, building blocks for the biotope from which a Ghost Flower grows. If the conditions are right, their voices distort and mutate, crystallise and become visible cellular material, forming tangible extensions between them. However, because there is no receipt for resonance, the visitor's ability to adapt to the feedback from the system that produces the Flower is vital. If they do not adapt, the cells fall dead as soot onto the floor.



Two visitors feed the digital life-form using their voices in resonance with each other



Dormant: When the biosphere is dormant, visitors can view the most current life cycle of the Ghost Flower in the VR headsets creating a strange and ghostly presence of the collective of people that created the flower, which is now absent, only their voices and attempts to resonate with each other, stored in the game engine. No visitor is present in this view, only the virtual life form, of which the visitors are an unseen integral part. We see their voices as clusters of particles touching, sometimes falling as ash to the floor when failing to bind with each other, sometimes binding and forming large forms of the Flowers' body. On the wall, there are also drawings, observations and analyses from the algorithmic data of the system but also observations from staff and guides of the Biosphere that facilitated each visit between people and the digital life-form. The unique knowledge they gained from these encounters, as well as the language they choose for naming these new experiences and relations, form another layer of the exhibition.



Drawings of sprites for resonance, 2020. Garden of Ghost Flowers (2020 -)

Techno Cosmologies

Making the artwork available only through an interface of augmentation using AR and VR technologies creates a framework for a mediated collective experience using one of our most basic forms of human expression, our voices, we want to initiate a conversation on how these technologies make us.

Immersion has often been associated with a non-critical approach and with “experience-based economies” where individuals ‘consume’ experiences isolated from each other and their environment and where intentions of care quickly can transform into desires for control and ownership.

Rather than taking visitors to a virtual place elsewhere, the virtual reality technology in the garden is more similar to a microscope or other measurement equipment, revealing layers of the world where we stand which lay outside of the spectrum of our perception. Blurring what are commonly assumed to be mutually exclusive states, visitors of the Garden are guided through methods of being whole-heartedly immersed and watchful at the same time. Steered by the flower towards fundamental aspects of care rather than control, inside the Garden, visitors may experience a radical perceptual shift away from the ‘acceleration of time’ prevailing in neo-liberal societies. They might find both hope and distress in the encounter, where their desire for a reparative relationship with their environment is met by a new ecological system, one where digital objects and artificial entities blur the boundaries of life and death.

No tool is neutral. Human ability or pre-condition to developing technologies are limited by the human Umwelt. Current industrial-technological progress is based on only one particular cosmology, i.e. one view of the world and the human, leading to a philosophical monoculture underpinning technology. Media philosopher Yuk Hui calls for techno-diversity: not diversity within technology, but a diversity of technologies.

“Without techno diversity, we only have homogenous ways of dealing with nonhuman agencies and the world itself—as if homogeneous equals universal.”

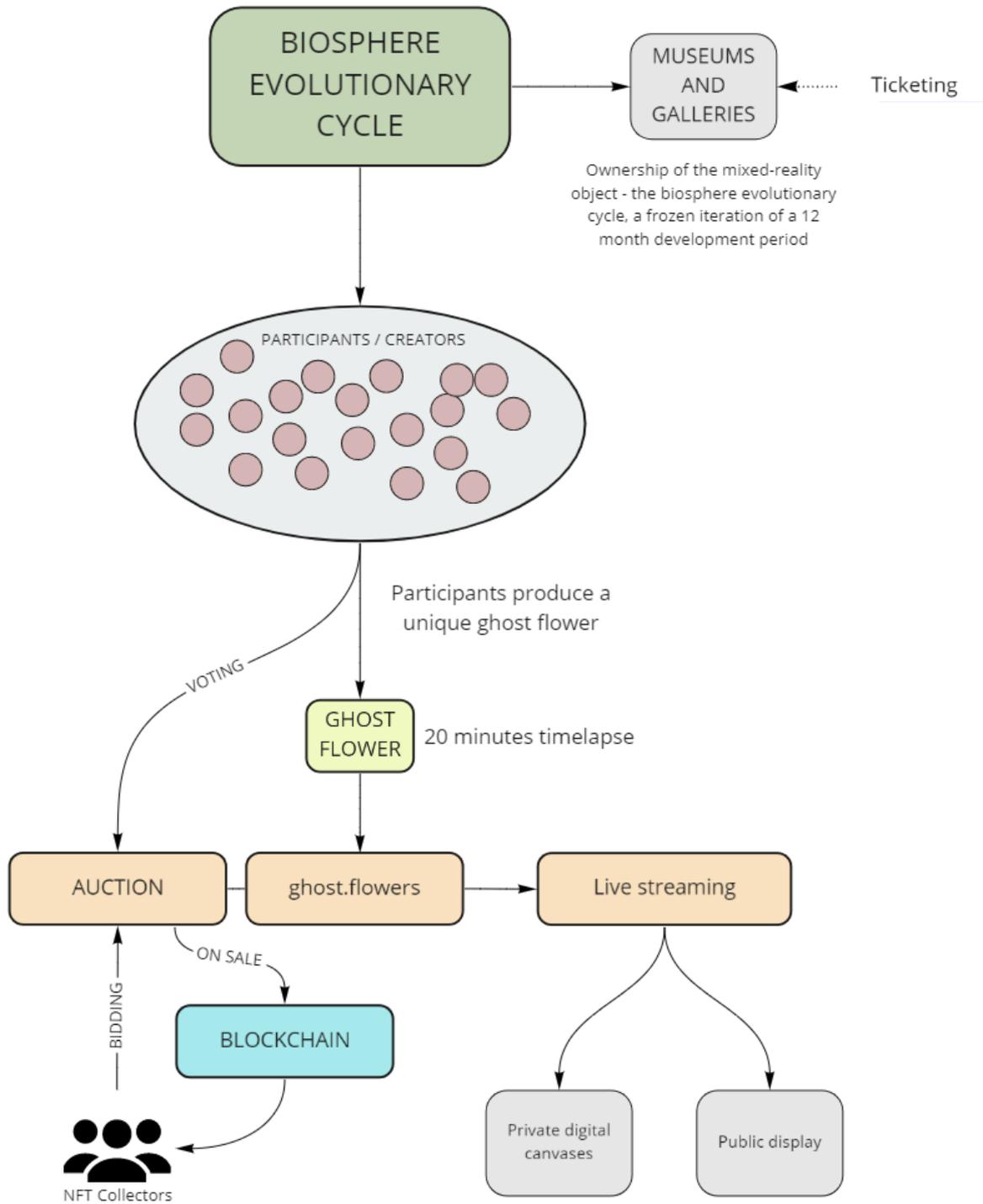


Three monitors outside the Biosphere running real-time streaming of a test session within the Garden of Ghost Flowers

A fully autonomous de-centralized evolving artwork

Visitors experiencing works of art do traditionally not contribute to the value of the artwork. Nor is the act of experiencing art thought of as labour or performance that has value outside of the experience itself. Ownership and values are governed by state-owned museums, private collectors and the art market.

In the Garden of Ghost Flowers, the notions of ownership and value change. By being a part of the collective resonance that feeds the flower, like the mycelium web feeds the digital Ghost Flower's biological counterpart, each visitor owns the data that makes up one part of a particular cycle of the flower's digital existence - realised via a contract of decentralised ownership. By recognising the collective form of this artwork and making it be reflected in the financial model we eventually want to make Garden of Ghost Flowers independent from its initial creators L&S+UG as producers of the evolutionary cycles and financially independent. The first step towards this is giving each visitor a login to a server with the data and a digital contract stating that a visitor owns a share in the collective that created this particular cycle of the Flower. The continued route may involve minting NFTs and adding a machine learning algorithm analysing the procedural elements of each ghost flower timeline and autonomously experimenting by changing the experience's variables, then spending the royalties from the NFTs on future developments, which are managed by the same AI system.



NFT Sale:

- 70% - Equally distributed among the ghost flower's creators.
- 15% - Garden of Ghost Flowers - spent on creating new evolutionary cycles.
- 5% - Donated to environmentalist charities chosen by the participants.

The Biosphere

The Garden's Biosphere, the container that holds each new cycle of the Ghost Flowers' life, exists in both the physical and the virtual simultaneously - a mixed-reality object. In the same way, any original artwork is collected, the biosphere is kept and maintained by a museum or any other private or public collection) securing the preservation of each evolutionary cycle of the biosphere to be experienced in its original manifestation.

One evolutionary cycle of the Biosphere consists of:

A Server Space

10 - 20 x HTC Vive Focus 3 Goggles

Installation & Showing Instructions

on Screens or projectors to display the Flower

Although the Museum preserve and owns each new cycle of the Biosphere / that holds the artificial life cycle of the flower, Each Ghost Flower is archived, and after each session, the visitors can register to enter a partnership with the flower that they were a part of creating, allowing them to co-own and revisit an artwork that continuously projects into the future.

Past and Future

Click on the links below to read further.

Manchester International Festival (MIF) and CPH: LAB have funded the project's initial R&D. The Garden has undergone an extensive first round of back-end development and production. As part of winning the ⇒ ACT AWARD commission in the spring of 2022, a few cycles were shown at STRP in Eindhoven.

From the early stage of the conception of the project, the Garden has continuously been in a 'Work in Progress' format in a program running at Magasin, and we will continue this format for future commissions in 2023. Together with the philosopher Peter Godfrey-Smith, author of *Other Minds*, we got a chance to unpick some of the project's core questions about consciousness and how it may or may not be limited to organic life forms with metabolizing cells.

See the conversation with Peter Godfrey-Smith at Magasin III ⇒ here

We ran the first cycle of the *Garden of Ghost Flowers* 7-10 April 2022, at STRP Eindhoven ⇒ STRP program and co-curated ⇒ **Scenario # 18** Infinite Conversations. Of that which is not me, but of which I am a part With perspectives of **Yuk Hui** and others.

- A program of talks and conversations

Following the Discourse on the Digital Garden

Although developed and created by its human participants, the project aims to resonate with something unknown and wild within the digitally framed Garden.

Can we really meet other minds? Does reciprocity exist? Is the digital world of the Internet a mirror of the limitations of the human imagination? Can we do anything to change that? Can the internet be more like a biodiverse forest? What is wildness in code? Can there be non-human computing? Questions like these will form the basis for a series of in-person talks and conversations, working groups, workshops and showings. The process and workshops inside the Garden of Ghost Flowers act as real-life reference material and anchor the conversations.

This program is envisioned to be a complementary discourse of the project's exploration of art and technology: not from a position of what the tech can do (for us) but rather a reflective and curious practice to find out just how a more diversified technology can be designed, that is not exclusively based on an extractive practice based on calculation, command, and control, instrumentalization, or extraction, but rather on listening, adaptation, and intra-actions.

1. One is to understand how technology can be less human-oriented and strengthen perspectives that are more than human, like, for example, getting an experiential glimpse of the lifeworld of plants or the imagination of artificial intelligence with, if just a speck of awareness.

2. And, since the ability to get this perspective is enabled by a computer system of genetic algorithms that learns and reacts to what the group does inside the biosphere, we hope that unpicking the experience in discussion will also involve meeting 'the more than human' in technology.

3. Finally, since the Garden is a collective experience where you collaborate with other people in a group is also a way to understand differences and divergence in the minds of '*other humans*'.



Endnote 1 **Resonance**

The sociologist Hartmut Rosa uses the term resonance to describe a mode of interaction between humans and the world that is not based on control, instrumentalisation, or extraction but rather on listening, adaptation, and interaction. He borrows the term from physics, where resonance describes a relationship between two vibrating bodies who both affect and stimulate each other, but with the addition that the objects in his framing speak with their own voice. A resonant quality in a relationship is thus something akin to a conversation or a dance, where all parties affect and are affected by the other parties.

For Rosa, the term is an attempt to approach the question of what constitutes a good relationship with the world as free from cultural connotations as possible. A resonant relationship is by no means a permanent state but a momentary departure from a default mode of silent instrumentalisation. It cannot be systematically or artificially created, as it is reliant on mutual listening and speaking that cannot be predefined.

Qualities of resonance reveal a fundamental contradiction of modernity, which opens new areas for humans to find resonance in a while at the same time reducing the resonant rates of these areas by subjecting them to human

domination. Contemporary technology is primarily used to control our world and to reduce our resonant relationships to simple, streamlined experiences over which we exert full control. At the same time, technology has the potential to open up vast new areas for us to find resonance.

Endnote II **Monotropa Uniflora**

Monotropa Uniflora, also known as ghost plant, ghost pipe, Indian pipe, or ghost flower, is a flower that does not gain its energy from the sun. It lacks chlorophyll, which gives it a translucent, ghostly white colour, sometimes fading towards pink or reddish, and commonly with black dots. It ranges from 10 to 30 centimetres in height and is found across temperate regions of the Americas and Asia, although it is rare and appears only under the right conditions. Due to its independence from sunlight, it can grow in complete darkness. It is one of the few species of plants that do not photosynthesise, meaning it has abandoned the process of turning light energy into chemical energy. Instead, it is a mycoheterotrophy, a plant feeding on underground fungal networks that live in symbiosis with trees. It is not known if the relationship between the flower and the fungi is parasitic or symbiotic or what the Ghost Flower gives back to those it feeds off. This gives it a trickster-like quality, a being that abandoned the standard ways of energy production, hacking its way into the nutritional weave that underpins life. The plant is used in herbal medicine as a remedy for pain, anxiety, nervousness, psychosis, irritability, and restlessness. It does not remove the sensory experience of these ailments but instead changes how they are perceived. The Ghost Flower puts the one who ingests it beside the pain, so they can see and deal with it. It was the favourite flower of Emily Dickinson, who called it “the preferred flower of life”.



Crystallized sprite as a consequence of resonance between 2 or more people



Dispersing sprite coming out as soot as a consequence of failed resonance

BIO

Lundahl-seidl.com co-artists

Lundahl & Seidl live and work in Stockholm. Their immersive solo projects reinterpret the medium of the exhibition as interpersonal processes via choreography, matter and time. Presented around the world, notably at the Royal Academy of Art in 2014, Gropius-Bau in 2016, and Kunstmuseum Bonn in 2017. Group Exhibitions include the 8th Momentum Biennale of Nordic Contemporary Art 2015 (NO), 'An Imagined Museum' Centre Pompidou Metz 2016-2017 (FR), the 3rd Kochi Muziris Biennale 2016-2017 (IN), and a recent commission: Echoes of Alternative Histories at Staatsteater Kassel, which coincided with Documenta Fifteen. In the fall of 2022, the duo was visiting artists at the ACT Programme at MIT.

The duo Lundahl & Seidl have developed a method and an art form comprising staging, choreographed movement, instructions, and immersive technologies, juxtaposed with material objects and the human ability to organize perception into a world. Notions of freedom, autonomy, and what is real, imagined, and perceived are negotiated in an investigation of virtual reality, not as a form of technology but as an ability or sensibility to a relationship with surroundings, with increased insight into how technology makes 'us' and lays the ground for 'our' human umwelt – how it connects and disconnects us from each other and other life forms and processes.

Untold.garden co-artists:

Untold Garden is an experiential art studio exploring and building tools for participatory design and art and creating captivating experiences using cutting-edge immersive technologies. Their work sits on the intersection of collaborative processes and design tools, virtual sculptures and interactive performances, artificial ecologies and organic social networks.