INTRODUCTION

In an era where anthropocentrism defines more than ever the relationship we as humans build with nature, shifting the centre of attention can become a revolutionary act.

The exhibition presents a selection of sculptures and installations about the potential of algae and bacteria. Investigatiang the origin of life as we know it, the works are plunging the viewer in an aquatic atmosphere where blue-green algae are cultured in handmade glass containers that grow on metal structures.

As an observation of temporality, the works change over time and showcase different declinations of a long-standing artistic project that involves lab research and field work. It expresses a journey that touches upon urban and aquatic environments, making the invisible visible.

Woven by Nature recalls the alchemical element of water, that, according to Greek philosopher-mathematician Thales of Miletus was believed to be the original matter out of which the world was created.

Woven by Nature is also the second chapter of a double exhibition. The first chapter 'Sensorial Skins' was presented at Pilar - House for Art and Science - in April 2021.

ANNEMARIE MAES

Annemarie Maes is a visual artist whose research-based practice combines art and science, with a particular focus on biotechnology, ecosystems and almost- alchemical processes.

She works with a range of biological, digital and traditional media, including live organisms. She exhibited internationally in a variety of contexts, and was awarded an Honourable Mention at Ars Electronica 2017 for her ongoing research project The Intelligent Guerrilla Beehive.

CAMILLA COLOMBO

Camilla Colombo is a curator and producer, focusing her practice of interdisciplinarity at the nexus of art and sciences. She is co- founder of Ohme and Saloon Brussels. Currently based in Brussels, Camilla holds an MA from Bocconi University (Milan, Italy) and an MA from Goldsmiths College (London, UK).

IN COLLABORATION WITH:

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EN/
WOVEN BY NATURE

ANNEMARIE MAES

29.04-
16.05.2021

1. L'Origine du Monde II (2019-2021)

Bacterial colonies of Synechocystis, agar agar, water. Hand blown glass cells, metal structure, sea sand

Poetically representing extensive research into the potential of cyanobacteria and microalgae, *L'origine du monde* is composed of a metal structure on which glass cells, filled with cyanobacteria, are growing as they were young, sprouting buds on a tree in springtime. The cyanobacteria are producing real-time photosynthesis, slowly colonizing their nutrient gel, growing into electric green veins running through the medium. As autotroph organisms, they provide their own food, obtaining their energy through oxygenetic photosynthesis. They consume CO2 and they release oxygen, exactly as plants do. Cyanobacteria have been an important element for forming the earth's oxygen atmosphere.

2. Guerrilla Beehive (2017-2019)

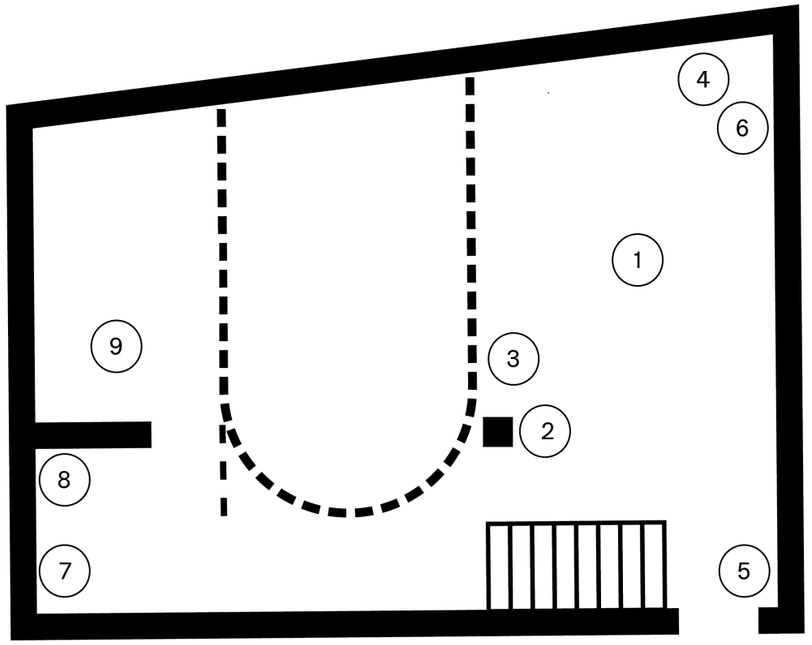
Sculpture & prototype of a speculative beehive with biological pollution sensor Organic materials & 3D prints. Electronics, Solar panel, Raspberry Pi

The *Guerilla Beehive* is a prototype from a speculative research project. Conceived as a mobile shelter for swarming honeybees, it combines in a radical way smart materials, biomimetic forms and biotechnology. In a next iteration, the outer shell of the beehive will become a biosensor to monitor the health status of the environment. This research tackles a challenging domain where a collaboration between human and non-human actors is necessary to maintain the resilience of our ecosystem.
Colonies of colour-changing cyanobacteria will grow a dense biofilm on the outer shell of the *Guerrilla Beehive*. When the honeybees return to their nest after foraging, they land on the outer shell of the beehive with (possible) pollution- or pesticide particles in their fur, and they activate the bacteria in the biofilm. If the amount of pollution is trespassing a specific degree, the cyanobacteria in the biofilm will react by changing colour and as such give an alert.

3. Sea Garden I (2019)

Algae Photobioreactor
Synechocystis cyanobacteria, Laboratorium vessel, pH meter, temperature meter, peristaltic pump for Optical Density meter, electronics, Raspberry Pi

The apparatus *Sea Garden* is the result of merging scientific research with artistic production. *Sea Garden* is a home-made bioreactor for the production of algal biomass. The instrument is an integral part of the *Guerrilla Beehive* project, as it is assuring the conditions for survival of the Synechocystis algae colonies that form the basis for the creation of the biological pollution sensor, as well as for the bacterial colonies in the installation *L'Origine du Monde*.



4. Winogradsky experiment (March 2020)

Winogradsky columns
Glass columns, mud, shredded newspaper, egg yolk, eggshells, plaster dust, rainwater

A Winogradsky column is a device for culturing a large diversity of microorganisms. The transparent devices are filled with mud and rainwater from the artist's rooftop garden and mixed with nutrients as cellulose, eggshells, gypsum and egg yolk. When exposed to an abundancy of sunlight, the microbes in the mud start to flourish. This results after a long process in an aerobic/anaerobic gradient, with patterns showing the growth of different microorganisms: species of bacteria, cyanobacteria, and algae.
This simple scientific device reflects the health of the soil. It invites the viewer to observe and question the slow changes that happen spontaneously in nature at a micro-scale we often fail to take into consideration.

5. Disappearance (2021)

Slow transformation process by bacteria, tangerines, lemons
Sculpture, 60cm x 42cm x 42cm, metal plinths, glass box, plexi glass boxes, water, bacteria, 40cm x 40cm x 80cm

Disappearance focuses on change and temporality. It is time in action. Five plexiglass boxes are filled with lemons and tangerines that are slowly eaten away by bacteria, until nothing is left. In this degradation process, the organic matter progressively transforms and reduces, till the point of disappearance. Reminiscent of the biblical quote "ashes to ashes, dust to dust", this work stands as a silent testimony of the inevitable action of natural forces and life itself. The solid matter turns into liquid, which, in turn, will eventually evaporate, leaving just an ethereal trace of what was before.

6. Glossa (2018)

Scanning Electron Micrograph of a honeybee tongue 215cm x 162cm - B/W photograph on Hahnemühle paper

Glossa - the Greek word for 'tongue'- is a close up of the tip of a honeybees' proboscis. It is made with the Scanning Electron Micrograph at a magnification of 150. Playing a dazzling game of scale, the details photographed lose their meaning to acquire a new, abstract dimension. This simple procedure transforms the complexity of the honeybee body part into a minimalistic image.

7. Alien Intelligence (2018)

SEM micrograpahs, B/W prints of honeybee parts and pollen lightboxes 26cm x 26cm x 10cm; materials: duratrans prints, brushed steel, translucent and transparent plexiglass, led-lights

Alien Intelligence is a photographic series focusing on the collaboration between honeybees, bacteria and the urban environment. The black-and-white photographs reveal the elaborate design of some dissected parts of flowers and honeybees.
Since Darwin, it is clear that flowers and bees engage in an evolutionary race. The honeybee is a complex insect with numerous sensorial features which are matching perfectly with the demands of sensual plants.

8. Bacterial Mantarey (2018)

Sculpture 65x65x120
materials: micro-organisms, organic matter and metal

This organic sculpture builds upon a body of research that focuses on biofilm formation. It is using the aggregation of bacterial colonies as a metaphor for the communication between a diversity of neighbourhoods in cities. The biofilm as a city and the city as a biofilm.
A biofilm is an association of micro-organisms in which microbial cells adhere to each other on a living or non-living surface. Biofilm formation is a cooperative group behaviour. The bacteria in the biofilm communicate via quorum sensing, a system of stimuli and response.

9. Variation Games (2017-2018) + Territorial Flow (2021)

Account of 1 year intensive bee monitoring Video 12'25"
Mixed material sculpture
Latex, organic pigments, beeswax.200cm x 65cm.

Variation Games are games where the set of rules is constantly adapted by the players. The video *Variation Games* is a condensed edit of a year-long audiovisual observation of the behaviour of a honeybee colony. The recordings are made with an infrared camera and contact microphones inside the beehive. The images demonstrate and reveal decision-making, networking, collaboration and collective intelligence. The soundtrack is based upon recordings made in the beehive. This is not a simple documentation video. *Variation Games* expresses an aesthetics that is reminiscent of expressionist cinema, in a frenzy that communicates the heat and the vibrations of the colony life. Over a dark metal structure, a soft flow of latex, natural pigments and beeswax mix to create a topographic map. The shapes are reminiscent of the bees' foraging territory.