



## EXHIBITION TOUR

### The Intelligence of Plants

October 16, 2021 — January 30, 2022

With Berlinde De Bruyckere, Thomas Feuerstein, Forschungszentrum Jülich, Marshmallow Laser Feast, Pflanzensoziologisches Institut, Abel Rodríguez, Diana Scherer and Nicola Toffolini

Curated by Franziska Nori

For more than ten years, scientists have been struggling to find a new interpretation of the so-called *Intelligence of Plants*. Who are these fellow creatures that make up 85% of the organisms on our planet? And is it time for us humans to improve our coexistence with them, not least because our survival depends on them?

One interpretation of intelligence is the ability to process information efficiently and to respond to environmental conditions with adaptation. Is that enough to label the adaptability of plants with intelligence? In the current debate about this attribution, the application of linguistic descriptions from the human context to plant life has become a central dispute.

Plants, international researchers now believe, have a form of inherent intelligence unique to their species. And, like animals and humans, they have a drive to exist, which is why they engage in complex, increasingly explored strategies of interaction with their environment and other species. What biologists are discovering about the capabilities of plants is helping to revise our overarching notion of life. Increasingly, there is a need to rethink even our self-understanding as humans, and to shift our awareness towards being part of a system of interdependence.

The Frankfurter Kunstverein has invited scientists and artists to transfer their work and knowledge pictorially into the exhibition spaces. At the beginning of the exhibition course, planted rhizotrons from the Institute of Plant Sciences, Biosciences and Geosciences 2 and 3 of the **Forschungszentrum Jülich** can be seen, which analyse living plants using technological measuring instruments. The exhibits make essential processes of living plants visible through digital data collection and thus provide insight into complex scientific research that is currently taking place on the optimization and new fields of applications of crops. The collaboration was developed in cooperation with Dr. Ulrich Schurr, director of the institute, and scientists Dr. Robert Koller and Dr. Andreas Müller.

The exhibits of Forschungszentrum Jülich are juxtaposed with manually created root mappings and prepared plants with their entire root network, which were created by the Austrian **Pflanzensoziologisches Institut** through field excavations. A prepared ash tree with its shallow and far-reaching roots, as well as a winter dandelion whose root reaches over four metres into the ground, are vivid exhibits of the invisible physiognomy of plants. With their work, the scientists have laid the foundations for root-ecological questions. The visualizations of the space below the soil surface have provided a structure to old knowledge about plant communities and were published in the seven-volume series *Wurzelatlas mitteleuropäischer Ackerunkräuter und Kulturpflanzen* (Root Atlas of Central European Field Weeds and Cultivated Plants). The publication is still considered an international standard work in the field of root research.

In the following exhibition rooms, the **artworks of five artists and one artists collective** are presented, they use sculpture, drawing and an immersive VR technique to give an overview of the knowledge about the visible and invisible world of plants and their metaphorical power for humans. All six artistic positions devote their research to a deeper understanding of interrelationships. This allows them to look beyond scientific evidence to address the overarching questions that the shift in contemporary knowledge about plants is currently raising in the human consciousness.

**Thomas Feuerstein** (lives in Vienna and Innsbruck, AT) presents the spatial installation *Hydra*, which consists of a kinetic sculpture that moves green floating algae through 1000-metre-long transparent tubes thanks to a pump system. Like a plant, the chlorophyll-containing algae form sugar through light and produce an algae biomass that the artist dries and presses into pencils to draw paintings with. The sculptural reactor serves as a real working factory of material and at the same time, through its stylised form reminiscent of a whale or a submarine, becomes a metaphor for the cultural reshaping of natural processes through technologies and industrial practices.

**Diana Scherer** (lives in Amsterdam, NL) is exhibiting a living floor sculpture. Scherer uses oat seeds as material, which she grows in nutrient solutions. As the roots grow, the artist forms arabesques and interweavings using a technique she developed together with biologists and engineers. The *Interwoven* project presented at the Frankfurter Kunstverein was awarded the *New Material Fellow Award*, which is donated by the Het Nieuwe Instituut in Rotterdam (NL). The institute awards the prize for the development and application of sustainable materials and innovative technologies.

**Marshmallow Laser Feast** (based in London, UK) is an art collective that uses immersive VR technology to allow visitors empathizing inside the physicality of a giant sequoia. In collaboration with leading researchers from Natural History Museum of London and the University of Salford, the art collective has captured and visualised metabolic processes using LIDAR, white light and CT scanning techniques in their work *Treehugger: Wawona*. From the perspective of a drop of water, visitors take a journey through the lifelines of the giant sequoia, inside the trunk, into the leaves and through them back into the air as chemical particles.

**Nicola Toffolini** (lives in Florence, IT) has been studying texts on botany, philosophy of science, future literature and Renaissance graphics for two decades. For the Frankfurter Kunstverein he created a room installation consisting of eight drawing panels that correspond to the size of human bodies. Using

finest ink pens and black copymarkers, Toffolini draws plants and cross-sections of soil in months of precision work. As stylized maps of nature, they do not intend to depict a controlled nature, but rather carry the temporal dimension of the manual drawing process inscribed within them. In addition, Toffolini works in the format of the foldable notebook. The result is a collection of thoughts, fragments of knowledge and pictorial thinking on topics such as ecological systems, climatic changes and human-induced natural disasters, which revolve around the tense relationship between human culture and nature.

**Abel Rodríguez** (born **Mogaje Guihu**, lives in Bogotá, CO) is an activist and *sabedor* (man of knowledge) of the indigenous community Nonuya. He wants to preserve his knowledge about the plants of the Amazon, their life cycles, their planting and furthermore their spiritual dimension for the following generations through drawings. He received his knowledge through the ancient experience and tradition of his ancestors, who, unlike in the Western separation between man and nature, between nature and culture, lived a life in interconnection with the other living beings. Due to the exploitation of the Amazon and the guerrilla operations of the Revolutionary Armed Forces of Colombia (FARC), Don Abel was displaced to the metropolis of Bogotá. He is a sage and preserver of a disappearing culture. The Frankfurter Kunstverein is exhibiting two of his drawings: *Bosque Vega* (The Vega Forest) and *El árbol de la vida y la abundancia* (The Tree of Life and Abundance). Here, the overarching importance of the tree to the totality of life is depicted. In a video interview by Simon Hernandez, commissioned by the Frankfurter Kunstverein, and the film ABEL by Fernando Arias, viewers are immersed in the spiritual world of Colombia's indigenous communities.

**Berlinde De Bruyckere** (lives in Ghent, BE) closes the tour through the exhibition. The spatial, two-part sculpture *Embalmed Twins I and II* lie in the monumental hall of the Frankfurter Kunstverein like two huge wounded bodies - not human, not plant, not animal. From the dead trunks of two centuries-old oak trees that grew together and were uprooted by Storm Cyril, Berlinde De Bruyckere has created a poetic Memento Mori that figuratively shapes the ephemerality of everything material as the truth that transcends species. Echoing the iconographic tradition of Flemish painting, the artist quotes the mortality of all living things.

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