Stiftung
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Museum
Sinclair-Haus

Fungi

Interwoven Worlds

15.9.2024
–
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Fungi
Interwoven Worlds

Fungi accompany us at every turn. They are in the soil and air, on our skin, in buildings, and out of doors. Some show off their colors with caps and stems; others are miniscule or live in inaccessible places, and many spin extensive underground networks (mycelia). Without fungi, no living organism on earth could exist in its present form. Yet their importance within the web of life is usually underestimated. Learning about fungi means recognizing relationships and interwovenness where previously there were individual organisms. The exhibition *Fungi – Interwoven Worlds* takes you mushrooming – in contemporary art. Supplemented by scientific findings, the show featuring international artists invites visitors to discover the amazing world of fungi.

Their characteristics make fungi natural-born networkers. Although sedentary like plants, they do not photosynthesize. They obtain energy by decomposing plant litter and dead wood or by living on (sometimes also in) plants, animals, or even other fungi. Quite a few live symbiotically with plants, their mycelium providing the host with nitrogen, phosphorous, and water, while in return the fungi receive sugar from photosynthesis and lipids. In view of the many different fungal connections – within the human body as well – the concept of individuality would seem open to debate: Is the “I” perhaps not already always a “we”?

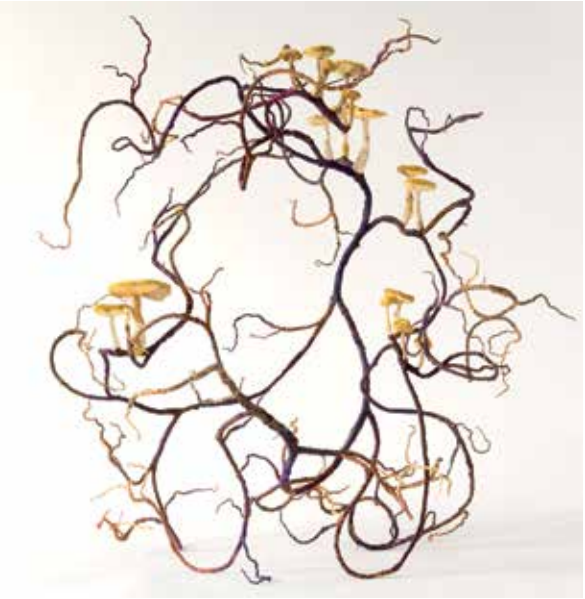
Tremendous potential exists in knowledge about fungi, both to better understand and preserve life on earth and to implement ecologically sustainable lifestyles. Indeed, fungi can serve as a source for material for packaging, clothing, and the construction industry – and we probably still have a lot to learn from these organisms.

With Rodrigo Arteaga, Selin Balci, Suzette Bousema, Anne Carnein, Mia Dudek, Anna Dumitriu and Alex May, Wim van Egmond, Dominik Einfalt, David Fenster, Juan Ferrer and Natalie Cabrera, Fungi Foundation, Takashi Homma, Markus Huemer, Silas Inoue, Liu Yujia, Phyllis Ma, MY-CO-X, Jana Palečková, Irena Posner, SPUN, V. meer and others

Beneath the Surface

When we go into the forest in the fall, with a bit of luck we come across mushrooms: capped and stemmed, tubular or bracket-shaped, with some resembling corals, others little trees. They exist in a whole spectrum of colors, from white with dots to brown, pink, and bright blue. Some are tasty, others intoxicating, and a number lethal. But as fascinating as these fruiting bodies and their effects on humans are, anyone wishing to explore the existence of fungi must delve deeper – and go below the surface.

This is exactly what increasing numbers of artists have been doing for some years now. They let the fungal ways of living entice them into interwoven worlds imperceptible to the naked eye. Drawing on scientific findings and often in collaboration with researchers, they expand our notions about fungi by creating images that bring the hidden into the light. These ways of seeing not only reveal amazing forms. The artists also help us understand the connections between living beings, thus increasingly our awareness that we exist as partners in interwoven worlds.



THE SECRET DANCE

Anne Carnein (* 1982)
2021, fabric, thread, wire, 70 × 70 × 60 cm
Courtesy of the Kunstmuseum Heidenheim

When we hear the word “mushroom,” our minds often initially turn to food, such as sautéed mushrooms or mushroom cream soup. However, as in the case of the apple tree, we only enjoy a small portion of the whole fungus. The part that melts in our mouths is only its fruiting body. The largest part of a fungus is the mycelium. It consists of thread-like cells (hyphae) that spread as a branching fungal network in the soil, in plant tissue (endomycorrhiza) or in other substrates such as food (molds).
Anne Carnein’s sculpture imagines both fruiting bodies (also consisting of hyphae) and the mycelium. Her fragile formations of fabric – often articles of clothing she has cast off – and wire are the result of hours of painstaking handicraft. Rather than depicting the mycelium realistically, she recreates it artistically. Colorful fruiting bodies and numerous intertwined hyphae are seen entangled in a dance that would otherwise remain hidden: *The Secret Dance.*

SUPER ORGANISM

Suzette Bousema (* 1995)

Photographs: 2021, digital prints, charred wood
Illustration: *Super Organism* 12, 100 × 77 cm
Not shown: *Super Organism* 03, 45 × 59.6 cm, *Super Organism* 09, 100 × 77 cm
Tapestry: *Super Organism*, 2021, linen, cotton, 170 × 477 cm
Courtesy and © Suzette Bousema

While collaborating with scientists, Suzette Bousema discovered the beauty of mycorrhizal connections being examined in the laboratory. “Mycorrhiza” means “fungal root” or “root populated by fungi” (from the Greek: *mukês* = fungus, *rhiza* = root). More than ninety percent of land plants in Germany live in symbiotic communities with mycorrhizal fungi that populate their roots. These fungi do not form above-ground fruiting bodies, but rather a widely branched mycelium. Plants supply the fungi with sugar and lipids; fungi provide the plant with water from the ground as well as nutrients such as phosphorous and nitrogen. Bousema’s close-up photographs visualize the networks of fungal filaments (hyphae) and plant roots. The artist’s focus here is beauty rather than scientific accuracy. In her tapestry, Bousema translates the image of interwoven roots and fungi into a woven textile.
Throughout the entire *Super Organism* project, the artist has sought to approach mycorrhizal networks in all their strange uniqueness.

MYCORRHIZAL FUNGI
Fungi Foundation and SPUN
2023, HD video, 4:15 min.
Script and narration: Merlin Sheldrake
Direction and animation: May Kindred-Boothby; Music: Cosmo Sheldrake
Courtesy of SPUN, © Fungi Foundation / SPUN

"Part of our mission is to understand, protect, and nurture the mycorrhizal networks that regulate the earth's climate and the ecosystem." This is the declared goal of SPUN, the Society for the Protection of Underground Networks. The organization is active around the world, focusing on local communities in particular. As part of this process, SPUN connects different disciplines and research institutions, forming a sort of environmental science mycorrhizal network.
The advisory board of SPUN includes biologist Merlin Sheldrake (* 1987), author of the popular science book *Entangled Life* (2020), an international bestseller. The book helped raise public interest in fungi and was an important source of inspiration for this exhibition. In the video, Merlin Sheldrake (accompanied by music by his brother Cosmo) explains how fungi were able to conquer the earth with the help of plants 450 million years ago, thus changing the face of the planet.

Mushrooming

Going “mushrooming” means moving through the world differently than usual – more slowly, the gaze directed at the ground, on the lookout for trees and plants in whose vicinity the sought-after fruiting bodies might be growing. Small things become larger, the path becomes the destination. Findings are shared, whether with family and friends during a meal or with visitors and viewers, as in this exhibition. In this chapter, artists invite us to accompany them on their fungal explorations. Unlike the legendary truffle hunt, these excursions focus less on edible fungi and more on encounters with fungi in their own worlds. A search with no purpose, driven only by fascination, a thirst for knowledge – and an awareness that play and discovery are closely connected.

Fungi were considered plants well into the 20th century. We now know that alongside flora and fauna is the “funga,” the enormous, ever mysterious, little explored fungal kingdom. There are likely more than three million species on earth. Only around 120,000 have been scientifically described and researched. About 2,200 of those species are edible. Follow us into the world of fungi and prepare to be surprised by what you find.

Podcast Art’n’Vielfalt
Marilena Berends in conversation with
mushroom coach Moritz Schmid (in German)

FAMILY TREE

Jana Palečková (* 1979)
2021, photographs, oil paint, shadowbox, 66 × 51 cm (detail)
Courtesy and © Jana Palečková

Do you remember the last time you collected mushrooms in the woods? In Czechia the activity is a big part of many peoples' lives. About a third of the Czech population goes hunting for mushrooms regularly. The Czech language even includes a special verb for it: *houbařit*, or "mushrooming." Foraging for an easily accessible food source has evolved into a social event of such proportions that experts are warning of a decrease in Czechia's wild mushrooms. Jana Palečková's family also loves harvesting mushrooms. They document their findings in mushroom atlases. The mushrooms' different shapes, colors, and sizes remind the artist of the equally diverse members of her family. Inspired by this association, Palečková created over ninety portraits with oil paint on old photographs found at flea markets, giving each of them a unique mushroom as a head.

HUDEBNÍ ATLAS HUB – MUSICAL ATLAS OF MUSHROOMS

Václav Hálek (1937–2014)
2003, Fontána Publishers, Olomouc, Czechia
Private collection

Since his adolescence, concert pianist and composer Václav Hálek has actively pursued his interest in mushrooms. During a tour of the Czech Mycological Association, he heard the sound of a mushroom ring out within him. Hálek subsequently wrote nearly 6,000 short compositions dedicated to specific mushroom species. His *Musical Atlas of Mushrooms* (2003) includes 42 works dedicated to species from the Boletus genus of fungi.

SYMPHONY – MUSHROOMS FROM THE FOREST

Takashi Homma (* 1962)

2011–2019, series of photographs, Lambda prints, 36.5 × 33.5 cm
Illustration: *Chernobyl #12;* Not shown: *Fukushima #3*, *Fukushima #6*, *Fukushima #41*, *Fukushima #44*, *Scandinavia #5*, *Scandinavia #6*, *Scandinavia #13*, *Chernobyl #7*, *Chernobyl #10*, *Stony Point #5*, *Stony Point #11*, *Stony Point #12*, *Stony Point #17*
Courtesy and © Takashi Homma

Half a year after the nuclear disaster at Fukushima in 2011, photographer Takashi Homma went into the surrounding woods – not to seek out destruction, but rather mushrooms. These fungi have been irradiated since the tragedy and now contain cesium-137, a "waste product" of nuclear fission. In the following years, Homma traveled around Scandinavia and Chernobyl to photograph radioactively contaminated mushrooms there as well. The artist shows them free of any protective barrier and still covered with earth in front of a light background, making them appear intact and harmless – when in reality they harbor an invisible danger. Foraging for mushrooms was once a popular and time-honored tradition in all three regions, but was made largely illegal due to the radioactive contamination. Second only to the former Soviet states, Sweden was the country worst affected by the Chernobyl disaster in 1986 be cause winds carried the radioactive material to the northwest. Parts of southern Germany have also shown heightened levels of radioactivity ever since.

MUSHROOMS & FRIENDS

Phyllis Ma (* 1987)

2019–ongoing, series of photographs, digital prints
Illustration: *Chlorophyllum rhacodes and Ramaria*, 70 × 98 cm; not shown: *Spathularia rufa*, 70 × 107 cm; *Grunewald*, 70 × 104 cm; *Russula*, *Clitocybe nuda*, *Amanita muscaria*, *Hortiboletus rubellus*, *Pleurotus ostreatus*, *Imleria badia*, each 70 × 55 cm
Courtesy and © Phyllis Ma

Phyllis Ma's fascination with mushrooms began in 2019, when she visited a mushroom farm in Brooklyn. Today she is a member of the New York Mycological Society; mushrooms have become an important part of her life. In her photographs, she places the mushrooms she finds or receives as gifts from friends against colorful backgrounds, alongside fruit or vegetables from her kitchen and flowers from the supermarket. Of the title *Mushrooms & Friends*, she says, "The 'friends' in the title are meant to reference the way that mushrooms create relationships with whatever surrounds them – insects, trees, birds – and to the community of mushroom lovers from whom I learn so much." Her mushroom portraits move Phyllis Ma to take a closer look and remind her that play and discovery are closely connected.

TERRAFORMERS

Irena Posner (* 1988)

2020, papier-mâché, mattress foam, steel, sand, 170 × 140 × 120 cm
Courtesy and © Irena Posner

Irena Poser has created a constellation of oversized mushrooms, a playful entity in luminous pink. This is her highly imaginative way of approaching the subject of fungi. The bold color scheme also references radiotrophic species of fungi, some of which are pink. They convert nuclear radiation into energy. These mushrooms contain melanin, which makes them very resistant, even in extreme environmental conditions. They can be found living not only in radioactively contaminated areas but also in Arctic and Antarctic frost zones. The sculpture was created during the Covid-19 pandemic. At the time, the artist was attempting to reconnect with nature and learned about fungal survival mechanisms in response to infection. Her *Terraformers* refer to the ability of fungi to constantly create new worlds by decomposing organic material, thus maintaining ecological cycles.

10 DAYS IN THE FOREST
Fungi Foundation

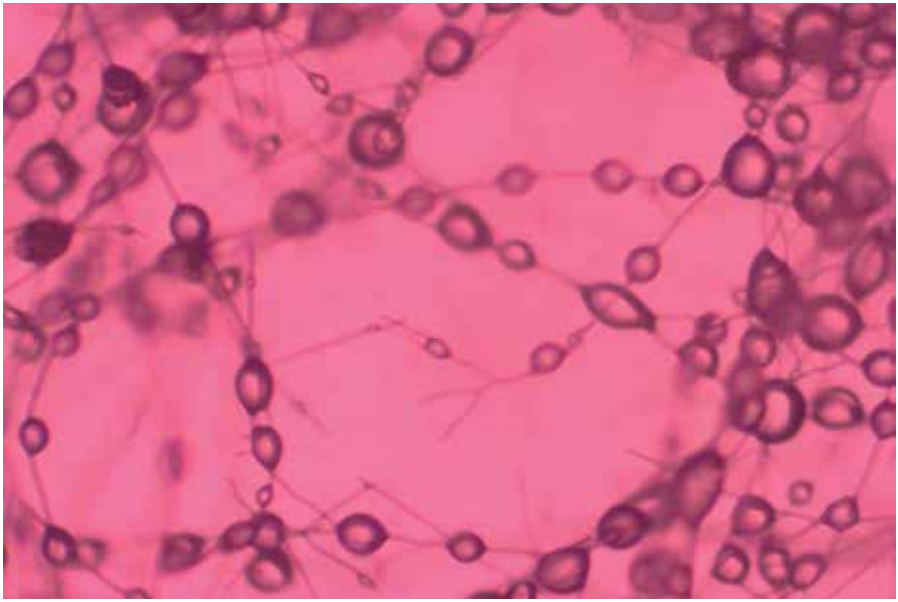
2023, HD-Video, 21:58 Min.
Writer and director: Mateo Barrenengoa; Production: Cristian Moreno; Music: Enrique Barrenengoa; Narration: Andy Thorstenson; Filmed in Melimoyu, Patagonien, Chile
Courtesy of the Fungi Foundation, www.ffungi.org, © Fungi Foundation
Fungi Foundation, conserving the world's fungi. We explore and document fungi to educate about their existence and promote public policies in order to protect them and their habitats.

This documentary film accompanies mycologist Giuliana Furci (* 1978) into a rain forest in Patagonia (Chile). Furci is a field mycologist, meaning she studies mushrooms and fungi not only from her desk, but also on expeditions. She has been involved in the discovery of three species to date (*Amanita galactica*, *Cortinarius chlorosplendidus* and *Psilocybe stametsii*). *Psilocybe stametsii* plays a role in the film: The camera is filming when Furci finds the species for the second time ever – a requirement for describing it scientifically. Here, the scientist explores the forest together with fellow mycologist Jean-Marc Moncalvo (* 1960), with whom she also discusses her fascination with fungi. In 2012 Furci founded the Fungi Foundation. The foundation is partially responsible for the call to officially list "funga" (the totality of fungi in a region) alongside flora and fauna. The goal is to raise awareness of fungi, which is also important for the protection of their habitats.

1st Floor

KAMINROTEN BLUTREGEN GIBT ES NICHT IN DER SONNE (p.12)
SONNENBRAND GIBT'S AUCH BEI PFLANZEN
Markus Huemer (* 1968)
2021, oil and pencil on canvas, from the series *Kryptogame*, 160 × 120 cm each
Courtesy of Galerie Artelier Contemporary, Graz (*Blutregen*), and courtesy of the artist (*Sonnenbrand*), © Markus Huemer, VG Bild-Kunst, Bonn, 2024, Photograph: Simon Vogel, Cologne

In 2021 Markus Huemer spent several months in West Cork, Ireland. The coastal landscape's moist climate offers ideal conditions for moss, lichens, ferns, and also fungi. Huemer was particularly interested in the inconspicuous plants Swedish biologist Carl von Linné (1707–1778) termed "cryptogams" in 1735. These include all flowerless plants that reproduce via spores, as well as fungi. From today's perspective, they do not form a systematic biological unit. The term is made up of the ancient Greek words for "conceal" and "marry," meaning "those who mate in hiding." Huemer's examination resulted in a 21-part series of artworks. His painting is on the borderline of abstraction. The reduced color palette and the play of planes, lines, and omissions mirror an experience of a landscape observed with a mixture of pointed and more contemplative attention. The work titles refer to seemingly strange but true natural phenomena.



THROUGH THE MYCELIUM FOREST

Rodrigo Arteaga (* 1988)
2022, video, 6:40 min.
Without image: *Mycelium Book*, 2023, mixed media; *Punto de vista*, 2022, mixed media
Courtesy of the artist © Rodrigo Arteaga in collaboration with the Centre for Print Research, UWE Bristol, UK, 2022

Podcast Art'n'Vielfalt
Marilena Berends in conversation with Rodrigo Arteaga (in English)

"I think it's important to shift the perception of decomposing matter as something to be afraid of, into making it almost sacred. . . . So, I have thought about making devices to observe and engage with this process." With videos, drawings, prints, and sculptures, Rodrigo Arteaga seeks to raise our awareness of fungi and their life forms. In the process he sometimes focuses on fungi in his thought and work and creates artworks with them. The inspiration for his *Mycelium Book* came about when he went into the forest in search of non-human drawings. He interpreted his discoveries using various printing techniques and compiled them in his book. Several pages from that volume are displayed here, while the video shows a journey through a "forest" of mycelia. Arteaga is also using our museum as "substrate," placing his miniature fungi and lichens (symbioses of fungi and algae or fungi and bacteria) at various sites throughout the building.

MUSHROOMS

Liu Yujia (* 1981)
2023, 4K video, 13:14 min.
Courtesy and © Liu Yujia

In 2022/23 Liu Yujia undertook four filmmaking trips to the Changbai Mountain National Nature Reserve on the border between China and North Korea and to the upper reaches of the Songhua River, which rises in the Changbai Mountains. She familiarized herself with the local ecosystem using 16-mm, digital, drone, and GoPro cameras. Her interest also extended to human activities in the area such as logging, hunting, ginseng harvesting, and fishing. During her journeys she made videos, including this one concentrating on mushrooms. In it Liu Yujia used a macro lens to capture the lighting beneath the forest canopy and the organisms living around the mushrooms. This enlarged the microecosystems nestled in the undergrowth into another kind of jungle, offering us insights into the symbiotic dance between fungi, mosses, and insects on the forest floor.

WASH BASIN

Mia Dudek (* 1989)

2023, wash basin, epoxy resin, fungal fruiting bodies, 70 × 60 cm
Courtesy and © Mia Dudek

For Mia Dudek, fungi symbolize and serve as convincing examples of dynamic, organic protagonists, capable of overcoming the thresholds, barriers, and restrictions that structure the physical world. The artist is particularly fascinated by the sudden appearance of the fruiting bodies. The timing of this event is determined by the fungi based on external conditions. Fruiting bodies are the result of a transformation originating in the mycelium. The bodies, however, do not last, but change and belong to the cycle of growth and decay. In *Wash Basin*, fruiting bodies seem to be growing beneath the water surface. The fungi appear to be quite close to the surface, yet remain blurry – as if they had been "born" out of the fluid element of water. Dudek has staged a moment of transition from a potential form to its visible one – as well as the irritating appearance of things out of place in a familiar setting.

How Do Fungi Live?

In terms of evolutionary biology, fungi are more closely related to animals (including us humans) than to plants. Nevertheless, their way of life seems astonishing to us, often unimaginable. Some fungi hunt insects, the mycelium can simultaneously search for food in several directions, and within a few hours fruiting bodies develop that mature and disperse their spores. Fungi are networkers, although it becomes clear on closer inspection that their existence entails not only symbiosis but also a constant battle for resources and survival. From a human perspective, some of their approaches to procuring food can cause health and agricultural damage. Certain fungi are dangerous or seem uncanny.

This short chapter brings together amazing and curious scenes from the life of fungi. They were primarily gathered in the sciences and those intermediate areas where art and science are closely intertwined. We invite you to explore the mysterious realm of fungi, where you will find everything from musical mushrooms to zombie insects, and have the chance to immerse yourself in worlds imperceptible to us humans with the naked eye.

TALAROMYCES MACROSPORUS

Wim van Egmond (* 1966)
2014, photograph, digital print, 80 × 120 cm

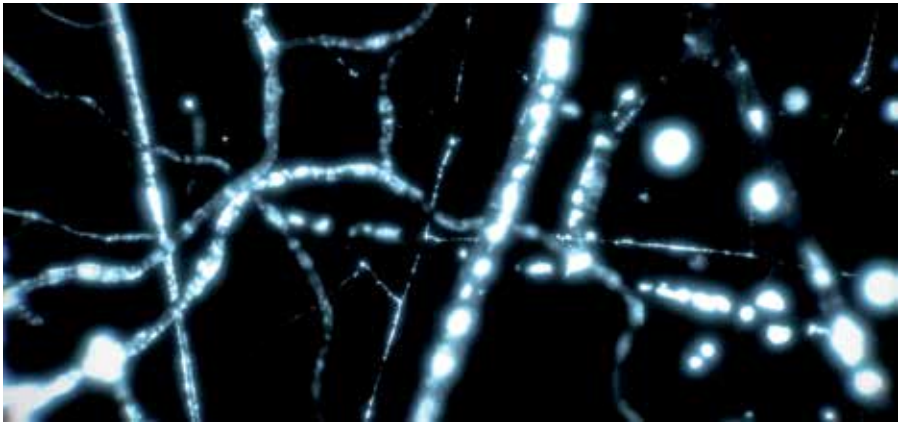
Wim van Egmond describes himself as a microphotographer who works in "the limbo between art and science." He studied painting and photography, but over time has specialized in making the tiniest creatures perceptible. His photographs reveal worlds hidden to the naked eye, including the cottony web of this fungus's hyphae. The red, orange, and yellow balls are the fruiting bodies of *Talaromyces macrosporus*. *Talaromyces* fungi can cause food to spoil after its pasteurization, which is why they are often isolated from fruit juices – with the most common being the *Talaromyces macrosporus*. In biotechnology this fungus also has a role to play in research into reducing environmental pollution because it is able to decompose organic compounds.

SPORE RELEASE

Patrick Hickey

2016, Spores of the fly agaric (*Amanita muscaria*), video, 1:02 min.
Courtesy and © Patrick Hickey

We inhale thirty to forty fungal spores with every breath we take. The microscopically small spores emitted by the fruiting bodies of fungi serve their propagation and dispersal. Fly agarics produce spores in the fruiting body's gills and disseminate them as white spore dust. Illuminating the fruiting body in the dark makes the spore release visible. As soon as the spores fall on a suitable culture medium, they germinate and new mycelia grow. Each type of fungus has unique spores, of which it can produce several million per hour. Whereas some fungi disperse their spores irrespective of time, others are able to control their discharge: Spores released at night can circulate for a few hours, while those dispensed during the day may continue to swirl around for days. They are spread by air currents, rain drops, surface vibrations, and animals.



CARBON FLOWING THROUGH MYCORRHIZAL FUNGI

Rachael Cargill and **Dr. Loreto Oyarte Galvez** (AMOLF, VU)
2023, video, 1:00 min.
Courtesy of SPUN © SPUN

The evolution of all life and the future of humans on earth depend on their success in storing the carbon dioxide released into the atmosphere over the centuries and becoming carbon neutral. A study in 2023 investigated how much carbon flows annually through mycorrhizal networks. Plants transform carbon dioxide into other forms of carbon through photosynthesis in order to grow. They send surplus carbon to their roots, where it is absorbed by their fungal partners and transferred to where it is needed. In return the fungi supply the plants with nutrients such as phosphorus. Complex processes of "trading," "selling," and sharing take place between plant roots and mycorrhizal fungi. The video shows the transport of carbon (bright dots). According to the 2023 study, approximately 13 billion tons of carbon flow annually through fungal mycelia. This corresponds to 36% of the emissions generated worldwide through the use of fossil fuels. The study refers to a "living system" within the soil that strongly influences "our collective climate history." It is "exciting to imagine how we can work with these organisms . . . or use them innovatively to achieve climate goals."

Publication on study: Hawkins HJ, Cargill RIM, Van Nuland ME, Hagen SC, Field KJ, Sheldrake M, Soudzilovskaia NA, Kiers ET: "Mycorrhizal mycelium as a global carbon pool," *Current Biology 33*, June 5 (2023): R560–R573.

PINK OYSTER MUSHROOM PLAYS TECHNO
MycoLyco

2020, video, sound, 4:28 min.
Courtesy and © MycoLyco

At this exhibit you hear a pink oyster mushroom playing a techno song together with MycoLyco, a musician who works with biodata sonification. He connects mushrooms to technical devices with electrodes to translate the electrical voltage in their cells into sounds. But why do mycelia emit electrical impulses? That remains unclear, but it is known that the generation, transmission, and processing of electrical impulses forms the basis for the functioning of animal nerve and muscle cells. Every individual cell has a membrane potential (resting voltage). Information is transmitted via the "message network" of the nervous system along the membranes by rapid changes in voltage known as an *action potential*. Plants also transmit signals from cell to cell by this means, although much more slowly than animals. Plants and animals process information from their environments using electrical impulses. *Action potentials* are triggered by events to which the organism finds a response: in animals, for example, by moving away, while plants may release substances or move parts, like the *mimosa pudica*, or touch-me-not. Which information might be transmitted through the mycelium?

HYPHA

Juan Ferrer (* 1991) and **Natalia Cabrera** (* 1988)

2024, video, 11:27 min. (based on the homonymous computer game, 2020)
Courtesy and © Juan Ferrer, Natalia Cabrera
Director: Natalia Cabrera; Co-Screenwriter: Juan Ferrer, Natalia Cabrera; Executive Producer: Selva González; Production Manager: Juan Ferrer; Art Director, Art Integration, Animation and VFX: Javier Garay; VR Developer: Pao G. Olea; Graphic Designer: Rosario Ureta; Sound Designer: Diego Aguilar; Music Composer: Daniel Maraboli; Voice Actress: Trinidad Piriz

This video is based on the computer game *Hypha*. We are transported into a fictional future in which the earth has become uninhabitable for humans. In the game we become fungal spores of the species *Stephanopus azureus*. With the aid of meteorites we land on the devastated earth, grow into a spreading mycelium, decompose toxins, establish mycorrhizal connections with plants, and ultimately also form fruiting bodies. The computer game invites you to immerse yourself in the world of fungi and to imagine how they interact with their environment and transform it in the process. The game was created at the Museo del hongo (Mushroom Museum), which aims to increase awareness of and knowledge about the fungal kingdom through transdisciplinary projects and exhibitions.

PREDATORY FUNGI

Hans-Börje Jansson, Birgit Nordbring-Hertz, Yvonne Persson

1993, video, 1:24 min. (excerpt)

Some species of fungi nourish themselves by hunting insects. This video shows the fungal species *Dactylaria brochopaga* and *Arthrobotrys dactyloides*, which hunt nematodes, tiny worms that live in the soil. Two methods have been observed so far: Some fungi form sticky sections of mycelium on which the worms get stuck. Others, as can be seen in the video, produce mycelial snares that function as traps. Nematodes seem attracted to these and push their way into the loops, at which point the fungus pulls them up. The worm is caught and the hunter obtains carbon, which it needs to survive.

WOOD WIDE WEBS – COOPERATION AND COMPETITION

Joseph Swan (1796–1872)

1825, *Monotropa uniflora*, botanical illustration (reproduction), from William Jackson Hooker, *Exotic Flora* Vol. II, Edinburgh: William Blackwood and Sons, 1825

This is not a fungus, but a plant. The completely white plant ("ghost plant" or "Indian pipe") of the *Monotropa* genus have lost the capacity to photosynthesize. So how do they obtain carbon? They acquire it from fungi they associate with in mycorrhizal networks. But where do the fungi get carbon if they are unable to produce it? The major finding of *Monotropa* research was that fungi "partner" with multiple plants. They give excess carbon to the white *Monotropa uniflora*, which live entirely from the fungal networks, without contributing anything themselves. In 1984 researchers proved in the laboratory that fungi sometimes also deliver carbon to green plants, which themselves are capable of photosynthesis. This and other research findings in the 1990s led to the concept of the "wood wide web" and to the idea that altruistic exchange processes occur in the forest. From a "fungal perspective," however, this is not selfless but advantageous. By providing their less productive plant partners with carbon at a time when it is flowing plentifully through the networks, they stabilize their supply chains. Collaboration involves cooperation as well as competition.

THE "ZOMBIE FUNGUS"

2014, Carpenter ant (*Camponotus*) killed by *Ophiocordyceps unilateralis* infestation, photograph © Oliver Thompson-Holmes / Alamy stock photo

The carpenter ant cadaver is covered with filaments of the *Ophiocordyceps unilateralis* fungus, which infests various insects. The parasitic fungus excretes substances that affect the host's muscles and central nervous system. The fungus can account for up to forty percent of the host's biomass. The ant actually lives on the ground, but the fungus forces it to behave in a way beneficial to its own reproduction. The ant climbs to a leaf at a height of 25 centimeters, where during midday it bites into a large leaf vein. The fruiting body of the fungus subsequently grows out of the ant, infecting other ants with its spores. This takeover of the ant's body and behavior has led to the name "zombie fungus."

Bodies being taken over by fungi was a theme featured in the 2013 video game *The Last of Us* and expanded on in 2023 in the homogeneous television series. In the latter case a fungus transforms people into ferocious creatures. Fortunately, the real zombie fungus is harmless to humans.

THE ERGOT FUNGUS

1945–1970, Paul Osterloh GmbH, anatomical model on stand, 42 × 17.5 × 13.5 cm
Courtesy and © Deutsches Hygiene-Museum Dresden

Many fungi are parasitic, with some also infesting plants of importance to humans. Ergot is the overwintering form of the *Claviceps purpura* mold. It develops in the florets of many grasses and cereals, especially rye. Instead of the grain kernel, a dark ergot forms that stands out from the ear. This model shows an ergot with six thread spores growing out of it. Ergot contains highly toxic alkaloids (organic compounds). Its name stems from its contraction-inducing effect. Until the early twentieth century, ergot was used to terminate pregnancies. During the early Middle Ages, infested grain consumed because of food shortages caused mass poisonings, known as St. Anthony's fire. Ergot still exists, but its occurrence is controlled by grain inspections. Another effect of ergot was discovered by chemist Albert Hofmann (1906–2008), who was seeking substances to stabilize the cardiovascular system. While researching ergot alkaloids in 1943, he accidently discovered one of the most potent psychoactive substances known: lysergic acid diethylamide, or LSD.

PILOBOLUS CRYSTALLINUS

Wim van Egmond (* 1966)
2015, photograph, digital print, 80 × 120 cm

“Dung cannon” or “hat thrower” are colloquial names applied to the *Pilobolus crystallinus* fungus. It can be found in the excrement of herbivores, and prefers living on horse manure. In order to propagate, however, it must be ingested by animals. But herbivores avoid manure when looking for food. The fungus therefore has to first transport its spores to fresh grass. This close-up photograph shows the fungus’s transparent, protruding hyphae. Each of these carries a black spore container (sporangium). To disperse its spores, the diminutive fungus employs a pressure mechanism with which it can propel the sporangia up to two and a half meters. During this flight the vessels can reach speeds of up to ninety kilometers per hour, lending the species its entertaining nickname. The spores adhere to grass, where they are ingested by animals and then excreted, allowing new fungi to grow.

FLY AMANITA

David Fenster (* 1977)
2010, HD video, 4:21 min.
Courtesy and © David Fenster

"Okay. My Latin name is *Amanita muscaria*. People call me fly agaric or fly amanita. . . . I'm part of a bigger organism that is mostly underground. Some of your people consider my kind to be sacred. I have this toxin in me that when you take me, it produces this really unique experience."
A talking fungus?! (Perhaps I shouldn't have eaten any of that red mushroom with the white dots . . .) We know the fungus as a silent presence. But in the work of American filmmaker David Fenster, it is given a voice and reports about the relationship between its genus and us humans. The fly amanita's psychoactive ingredients muscimol and ibotenic acid have gained it an enduring reputation as a hallucinogenic.
From being a speculative yet lasting part of the myth of the berserkers' battle frenzy to symbolizing good luck at New Year's – the fly amanita and humans share a fascinating, intertwined history, parts of which are recounted here.

Transformations

Fungi are not only great quick-change artists existing in various forms throughout their lives. Some of them can also alter substances, for instance, by decomposing organic materials, thus ensuring the functioning of nutrient cycles. Fungal decomposers are partners in finitude. They initiate in a new form of existence by growing into their food sources. In the forest, for example, dead trees would simply pile up without fungi. In our daily lives, we humans tend to have undesirable encounters with fungi's decomposing power in the form of mold. On the other hand, important pharmaceuticals are derived from mold fungi.

This chapter's perspectives on fungi show that death and destruction are essentially human concepts, because everything is actually in state of flux. Under these circumstances fungi are the pacemakers that create new conditions when the time is right.

30 FACES

Selin Balci (* 1980)

2024, Polaroid transfer, mold spores, epoxy resin, 15.2 × 15.2 cm each
Courtesy and © Selin Balci

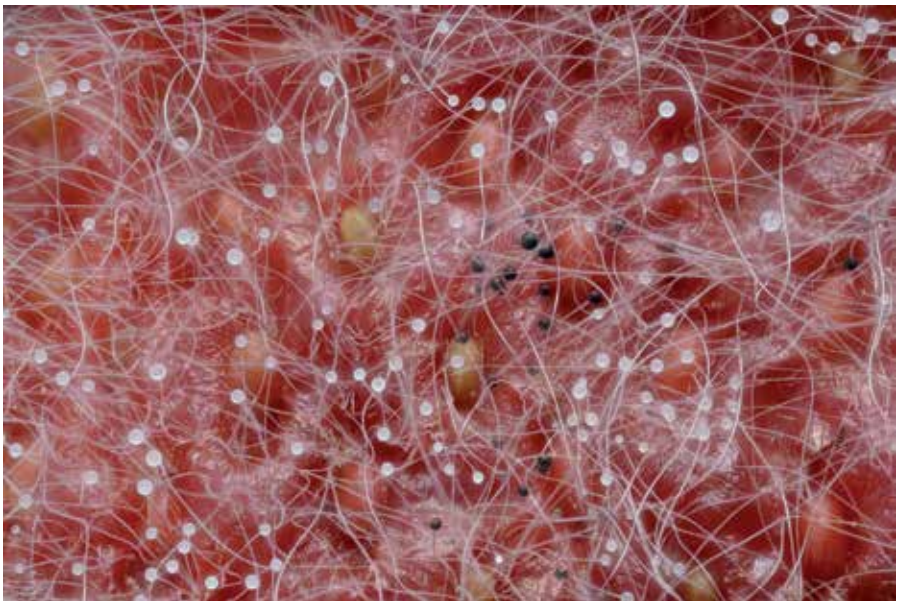
Mold spores accompany us wherever we go because they are in the air. Due to their omnipresence, we humans also carry them around with us at all times. Artist and biologist Selin Balci makes the imperceptible microorganisms visible. Using a Polaroid instant camera, she portrays individuals and also takes samples from their bodies and living spaces, for example, hair or skin swabs. She combines the two, coating the Polaroids with a culture medium on which the molds can grow. Fungal filaments spread over the photographs, giving each person a new look. The portraits all turn out very differently because each individual has a unique composition of microorganisms on and in their body (intestines, skin, mucous membranes, genitals, etc.) known as their "microbiome."

INFRASTRUCTURE

Silas Inoue (* 1981)

2020, acrylic, wood, plastic, mold, concrete, bronze, filter, 131 × 45 × 30 cm
Courtesy and © Silas Inoue, *Lower Lifeforms*, Horsens Art Museum, 2023, VG Bild-Kunst, Bonn, 2024, Photo: Jacob Friis Holm Nielsen

A *skybrud* (Danish for cloudburst) flooded Silas Inoue's basement in Copenhagen almost ten years ago – and the mold caused by the moisture destroyed a number of the Danish artist's works. Fascinated by the otherwise undesirable mold, Inoue began to explore the mysterious creativity of the decomposing fungi. He invited the microbes to augment the architectural shapes in his *Infrastructure* (2018–2020) series of works. Mold and numerous other types of fungi are classified as saprobionts (from the Greek: *sapros* = rotten, decaying). This is because they obtain the energy they need to live in a very unique way. They grow into their food, which includes organic materials such as wood, manure, and straw – as well as the fruit, vegetables, and bread in our pantries if we don't eat them in time.

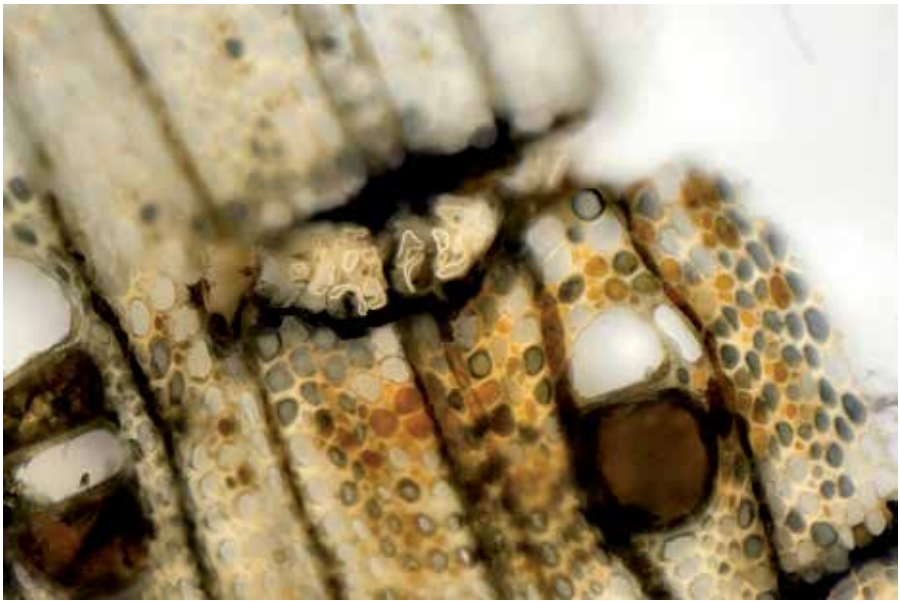


THE BEAUTY AND BENEFITS OF MOLDS

Wim van Egmond (* 1966)

Life on Bread, 2017, UHD video, 1:16 min.
Rhizopus on a strawberry, 2024, UHD video, 0:32 min.

Have you ever come across moldy bread in your lunch box? These close-up photographs transport you into the wonderful world of seemingly unremarkable everyday phenomena. The video *Life on Bread* begins with a tenfold enlargement of a mold, which corresponds to a subject size of 3.5 mm. In the following sequences the camera moves away from the subject, leading us out of the fascinating miniature forest and onto the banal slice of bread. Molds growing on bread often belong to the genera of *Aspergillus, Mucor, Rhizopus*, – and *Penicillium*. It was from *Penicillium notatum* that bacteriologist Alexander Fleming (1881–1955) developed the antibiotic penicillin. In 1928 he discovered by chance that the fungus killed off bacteria. Upon returning to his laboratory after a long absence, the scientist observed that green mold had formed on a bacterial culture and no bacteria were growing close to the fungi. Fleming extracted the mold substance and named it penicillin. The first person was treated with it in 1941. Mass production of the drug began as early as 1943 in the United States, where its value in caring for wounded soldiers was recognized. The second video shows mold spreading on a strawberry in time-lapse.



OUD

No date, Primavera, cosmetic for aroma care of the skin.
Ingredients: oud essential oil (5%), almond oil, alcohol (organic), aquilaria agallocha wood oil © C.Cerboncini/Forschungszentrum Jülich GmbH
You can smell the bottle or apply a drop on your skin.

Would you have thought you might come across fungi in a perfumery? Oud, one of the world's most expensive perfume raw materials, owes its existence to fungi. When eaglewood trees are injured and become infected by a fungus, they produce a dark resin as a defense mechanism. This substance is used to produce the fragrant oud oil, which has been highly prized since the 7th century, in ancient Egypt and Greece as well as in India, Arabia, and East Asia. Splinters of the wood are usually burned as incense in Asia and Arabia. The market value of high-quality, resinous pieces of the wood can reach 100,000 US dollars per kilogram.
Eaglewood is a collective name for some thirty species from the *Aquilaria* and *Gyrinops* genera, which are native to Southeast Asia. Illegal overexploitation has nearly wiped out the trees in the wild. The picture shows a microscope image of golden-brown resin droplets in the cell tissue of an eaglewood tree.

MALUS FUNGIPHILIA – THE (IN)VISIBLE GUEST

V. meer (* 1970)

Image: *Malus fungiphila – The (in)visible guest II*, 10 × 16 × 8 cm
Without image: *Malus fungiphila – The (in)visible guest IV*, 10 × 19 × 10 cm; *Malus fungiphila – The (in)visible guest V*, 7 × 14 × 9 cm
Courtesy of the artist, © Martin Weinhold

Art and science were not always distinct from one another. Leonardo da Vinci (1452–1519), for example, embodied a conjunction of the two spheres. Artist and biotechnologist Vera Meyer, aka V. meer, locates herself in this tradition. In her opinion, the scientific and the artistic viewpoints both draw on insight, play, and aesthetic experience. She combines materials gathered in the forest, including parts of fungi and plants, but also human-made found objects, such as pieces of metal, in unusual ways, sometimes embellishing them with gold or shellac. The sculptures displayed here tell of cycles: Apples ripen on a tree, which associates with mycorrhizal fungi and able to thrive with their support. Wasps feed on the apples, hollowing them out to their skins. Through her artistry and recontextualization, V. meer transforms the ephemeral into a symbol of interlocking ecosystems. The series title *Malus fungiphilia* refers to the scientific naming (binomial nomenclature) of living beings and imagines a new type of apple (*Malus*), one that loves fungi (*Malus fungiphila*).

TROOST

Dominik Einfalt (* 1996)

2021, urn (composite material of fungal mycelium and sawdust), 20 × 20 × 30 cm
Courtesy and © Dominik Einfalt

Earth to earth, ashes to ashes. Artist Dominik Einfalt makes urns out of fungal mycelium as an alternative to traditional forms of burial. Conventional inhumation is not very environmentally friendly due to its extensive use land and the emission of harmful substances such as mercury from clothing and coffins. People's growing need to find harmony with nature is reflected, for instance, in a trend to forest burials, which likewise inspired the artist to undertake his project. The origin of the *troos*t urn also lies in the forest, with its substrate of sawdust – an industrial and woodworking byproduct – being permeated by fungal mycelium. This lends the urn its durable form. After burial the mycelium grows out into the new surroundings, in the process transforming the remains of the deceased. Now, rather than being separated from their environment, they connect with the ecosystem, and new life emerges.

Fungi for the Future

Some researchers also go in search of fungi. But instead of eating their discoveries, they investigate how these could help solve a range of pressing problems. Since the beginning of human history, fungi have served as remedy, raw material, and helper, for instance, in the production of bread, beer, and cheese. Today antibiotics, enzymes, vaccines, and citric acid are extracted from fungi, and researchers see potential for a wide range of other applications. In the future, fungi could play an important role in ecologically sustainable lifestyles, for example, as a material for clothing and construction, as a meat substitute, and as a producer of medically significant substances.

The arts and sciences converge on the threshold of innovation. Both explore previously unthought-of ideas and lend them perceptible form. The sciences rely on empirical findings, while the arts are allowed to speculate. In this chapter you find the best of both worlds: Proposals for sustainable materials, derived from artistic-scientific collaborations with fungi.

FERMENTING FUTURES

Anna Dumitriu (* 1969) and **Alex May** (* 1972)

2021/24, mixed media, glass, 3D-printed and molded PLA plastic, silicon, yeast fungus, horse chestnut wood, 40 × 40 × 140 cm

Not shown: *The BioArcheology of Yeast*, 2021/24, mixed media casts, acrylic paint, black yeast, variable dimensions

Fermenting Futures

The bubbling liquid, the glass flask, and the tubes probably remind you of a laboratory. In *Fermenting Futures*, research results from the Institute of Microbiology and Microbial Biotechnology at the BOKU University Vienna have been artistically processed. Various research approaches to yeast in biotechnology have been combined here in order to consider proposed solutions in the face of climate change and pollution from plastics.

The liquid contains the *Pichia pastoris* yeast, which through modifications to its genome is able to bind carbon, produce lactic acid (not alcohol as with baker's yeast), and harden. It is the raw material for polylactide (PLA), a biodegradable synthetic that can be used in 3D-printers, packaging, and the medical field. Experiments were carried out with the substance to produce the forms mounted on the glass flask. Although the material is still not fully applicable, research on it continues to make it more versatile.

The BioArcheology of Yeastt

The shapes on the wall compose the work The *BioArcheology of Yeast*, which consists of castings based on 3D-scans of black yeast. These fungi are very robust and occur quite frequently, for instance, as black deposits in bathrooms. Dumitriu and May pick up here on the occurrence of black yeasts on antiquities and works of art and at cultural heritage sites. Usually the molds are wiped away, but the artists have focused on their aesthetic qualities, letting black molds grow in petri dishes, making 3D scans of the colonies, and casting copies of them. For this they used Roman cement, the fungi's preferred substrate. Dumitriu and May play with our notions of "culture" by co-creating artworks in collaboration with fungal cultures.

The use of yeasts to produce bread, beer, and wine probably contributed to the shift from nomadic to sedentary life. If we were to investigate the influence of non-human actors on the development of humanity more closely, we would probably have to rewrite our history – as one of collaboration.

MY-CO-X

The MY-CO-X collective, founded in 2020 by artist and biotechnologist Vera Meyer and architect Sven Pfeiffer, brings together artists, researchers, and architects. They investigate the potential of fungi and materials derived from them for designing an ecologically sustainable future. For the production of their walk-in sculpture MY-CO SPACE (images on the left, © Martin Weinhold), they first searched the forests of Brandenburg for fungal species suitable for their construction needs. Of 23 species found, the tinder fungus (*Fomes fomentarius*) was selected as having the most suitable characteristics. It has been used by humans for thousands of years, for example, to start fires and make leather. The panels were made from the fungus in a process explained using the materials on display. Vera Meyer speaking about her vision of the future: “In my utopia, fungal biotechnology is an integral part of a circular bioeconomy that not only produces food, medicines, detergent, enzymes, and biofuels from plant-based raw materials but also fashion and everyday objects. And even builds houses.”

Podcast Art’n’Vielfalt
Marilena Berends in conversation with Friederike Hoberg (MY-CO-X) (in German)

MY-CO-X
Vera Meyer, Sven Pfeiffer, 2023, video (GER/EN), 8:38 min.

LIVING WITH FUNGI

MY-CO SPACE, MODEL

2021, papier-mâché on cardboard and wood, 60 × 28 × 45 cm

MY-CO SPACE, INSTALLATION

Ongoing since 2021, roof panels made out of fungal-plant composites, various sizes
Courtesy of Vera Meyer and MY-CO-X

The habitable sculpture MY-CO SPACE is made out of wood and mycelium-based composites. It is intended to make life with fungi tangible and to allow people to engage artistically, scientifically, and sensorially with the (potential) societal significance of fungi for sustainable living and housing on our planet. Associated with this aim are questions about the challenges facing humanity today, including: How can biological-technical structures and fundamental functions of living be combined in the smallest possible space, in such a way that people can live and work unencumbered despite limited resources? In nature fungi enable a constant process of change by decomposing, transforming, and producing organic material. With MY-CO SPACE this resource cycle is translated into a utopian living space, triggering a journey of the mind into the microscopically small but macroscopically tangible world of fungi. This forms the starting point for an examination of organisms that collaborate across species, build networks, and can therefore function sustainably. MY-CO SPACE is thus a constructed reflection on the collaboration with biological systems. The structure allows people to understand, experience, and think over living and housing with and through fungi.

On display here is a 1:10 model of the sculpture MY-CO SPACE. The original can be viewed and walked through at the Berlinische Galerie (until October 14, 2024). The MY-CO-X collective has created an installation made out of roof panels similar to those on the sculpture for visitors to Museum Sinclair-Haus.

MY-CO SPACE | The Making of
2021, video (GER/EN), 15 min.
Vera Meyer, Martin Weinhold,
Friederike Hoberg, Saskia Hundt

BUILDING WITH FUNGI

Why build with fungi? The construction industry is one of the largest consumers of finite resources and a major producer of waste and climate-damaging greenhouse gases. Scrutiny of current practices is confronting it with unprecedented challenges. Against the backdrop of major, societally relevant issues, there is a fundamental need to develop new design and planning processes and structural methods to enable a completely different approach to materials in construction. The use of fungi-based building materials, for example, makes new sustainable solutions conceivable, not to mention novel technical and aesthetic ones. Fungi-based materials are promising alternatives to conventional substances, particularly in terms of thermal and acoustic properties, as well as fire safety. At their end of life, they can be separated and/or completely composted.

Four Steps to Fungal Composite Materials
MY-CO-X uses the tinder fungus (*Fomes fomentarius*) from the Berlin-Brandenburg region to produce the composite. The fungus grows on secondary materials from forestry and agriculture such as hemp shives and rapeseed straw, where it forms a mesh out of continually branching filaments: the mycelium. This three-dimensional fungal network consolidates the plant remnants into a hard composite that as a raw material can have different densities and therefore characteristics. The mycelium functions like a biological adhesive.

Step 1: Monoculture
Cultivation on agar plates serves to propagate fungal cultures and protect them from contamination by bacteria, yeasts, and molds. A monoculture consists of individual circular colonies.
Exhibit: Tinder fungus *Fomes fomentarius* in a petri dish

MY-CO Space | Designing for Co-Habitation
2021, video (GER/EN), 4:29 min.
Angely Angulo Meza, Christian Schmidts

Step 2: Starter Culture
Millet or rye grains that have been inoculated with a fungal monoculture and colonized by it are referred to as “spawn.” They ensure uniform inoculation of the substrate in the subsequent main culture.
Exhibit: Millet spawn in a petri dish

Step 3: Main Culture
Hemp shives are suitable as a substrate for the main culture. They are inoculated with millet spawn. Cultivation takes place in oxygen-permeable substrate bags. In about two weeks the fungus transforms the plant biomass into its own biomass. Its continuously growing mycelium binds the loose substrate particles into a fungal-plant composite. After just a few days, the whitish mycelium in the substrate bags is visible with the naked eye.
Exhibit: Substrate bag

Step 4: Mycelium-Based Composite Material
In the final step the fungal-plant composite is transferred to a three-dimensional mold of the desired object. The fungus, which continues to grow, compresses the mixture into a hard, very dense composite material that takes on the shape of the mold. The whitish mycelium can be seen on the surface. After about two weeks the cultivation is ended and the fungus deactivated by drying the composite objects for two days in an oven at 60°C.
Exhibit: Mycelium-based composite object made out of *Fomes fomentarius* and hemp shives

DYEING WITH FUNGI

Colors play an extremely important role in our daily lives. Whether it is clothing, cosmetics, or foodstuffs, we take them all for granted. The majority of industrially used dyes are synthetically produced. Although this ensures high color intensity and longevity, they are based on non-renewable petroleum products. These dyes are predominantly toxic and potentially carcinogenic, so their production and use pose a risk to human health. In addition, dyes and pigments often end up in the environment with industrial waste water, where they remain because of their persistence and can cause massive damage to ecosystems. Governmental bans and social rethinking have dramatically increased the demand for natural alternatives in recent years. It is in this context that microorganisms, particularly fungi, have become a focus of attention.
The MycoColors project aims to demonstrate the potential of dyes made from fungi. The hand-woven textiles naturally dyed with the fungal fruiting bodies or mycelium convey a lively, warm color impression. This is in contrast to the palette of the fast-paced and wasteful textile and fashion industries. MycoColors is intended both to spark an examination of the current use of dyes by fashion and textile companies and to allow visitors to discover fungi as a new, natural, and sustainable source of dyes.

Exhibit: Woven carpet made out of sheep's wool dyed with fungi

Interior – Houses with History
Pop-up exhibition in the museum lounge and online presentation on the building history as part of the INTERIOR collaboration (incl. the Opelvillen Rüsselsheim). interior-rheinmain.de

Guided Tour on Sunday
Sundays, 11:30 a.m.

1:1 – Art and Nature in Conversation
Fridays, 3:30–5 p.m.
Every first Friday of the month in English and German

Art Visit at Home
for seniors and people with disabilities
Dates upon request

Art Workshop for Children aged 6 to 12
Tuesdays, 10.9.24, 3.30–5 p.m. (trial session)
1.10.24–4.2.25, 3.30–5 p.m.

Mushroom Mishmash: Museum Day and Open-Air Studio
Saturday, 21.9.24
Open-Air Studio, 11 a.m.–3 p.m., Bad Homburg Market Square
Museum, 11 a.m.–4 p.m.; Ask Me: Q&A Station in the exhibition
Free admission

Mushroom Walk for Children (10 yrs. and older) and Adults
Saturday, 28.9.24, 3–5 p.m.
With mushroom expert Lisa Schäfer and artist Astrid Kemper

Walk: Interior – Houses with History
Sunday, 29.9.24, 3–4 p.m.
With architect Ruxandra-Maria Jotzu

Special Tour
Sunday, 6.10.24, 11.30 a.m.
With art historian Pascal Heß

Readings and Music: Mushrooms – Totally Networked!
Wednesday, 9.10.24, 7 p.m.
With Christoph Pütthoff (Schauspiel Frankfurt) and Susanne Kohnen (saxophone, oboe, loops)

Fall School Vacation Course: Mushrooms
Monday–Friday, 14.10.–24.18., 9 a.m.–3:30 p.m.
With Katja Aujesky, Anika Benkhardt, Puneh Henning

Philosophical Foray: Fungi – Networkers and Transformation Artists
Thursday, 17.10.24, 5–6 p.m.
With Dr. Stefan Scholz, Katholische Akademie Rabanus Maurus, Frankfurt a. M.

Bad Homburg Culture Night
Saturday, 26.10.24, 6–10 p.m.
Free admission

Art Course for Adults: Networking with Mushrooms

Thursdays, 31.10.–19.12.24 (7 evenings), 6–8:30 p.m.
With Astrid Kemper

Guided Tour for Families, Adults, and Children (6 yrs. and older)

Sundays, 3.11.24 and 2.2.25, 11.30 a.m.–12.30 p.m.
With art educator Kristina Becker

Sunday Studio for Young and Old

Sundays, 3.11.24 and 2.2.25, 12.30–4:30 p.m., no registration required

Writing workshop on the theme of forests

Wednesday, 13.11.2024, 7–9:30 p.m.
With author Saskia Hennig von Lange

Apéro & Art

Friday, 15.11.24, 6–8 p.m.
With art historian Pascal Heß, curator Moritz Ohlig, and Katrin Köster (talk-food-dish.org)

Philosophical Foray: Fungi – Graceful, Bizarre, Monstrous

Thursday, 21.11.24, 5–6 p.m.
With Dr. Stefan Scholz, Katholische Akademie Rabanus Maurus, Frankfurt a. M.

Special Tour

Sunday, 24.11.24, 11.30 a.m.
With curator Moritz Ohlig

Headstand! Art Evening with Students

Friday, 29.11.24, 7–9 p.m.
With art education students

Concert: Interior – Des morgens im Walde, im Jänner

Wednesday, 15.1.25, 7 p.m.
With Sophie-Justine Herr (cello), Vincent Kibildis (harp), Hanna Visser (violin)

Special Tour

Sunday, 19.1.25, 11.30 a.m.–12.30 p.m.
With museum director Kathrin Meyer

Concert: A Mycological Foray – Collecting Mushrooms with John Cage

Wednesday, 22.1.25, 7 p.m.
With Luisa Höfs (violin), Caroline Luy (viola), Malena Pflock (cello), Eva Unterweger (violin)

Apéro & Art

Friday, 31.1.25, 6–8 p.m.
With curator Moritz Ohlig and co-curator Sophie Olivotto

Tickets & Program:

Additional Information:

museum-sinclair-haus.de

Subject to change. Last updated: 08/2024

PODCAST Art'n'Vielfalt

Pilze – Verflochtene Welten (3-part series)
Conversations with Rodrigo Arteaga, Friederike Hoberg, and Moritz Schmid
On Spotify, Soundcloud, and Deezer
museum-sinclair-haus.de/podcast

Fungi
Interwoven Worlds

September 15, 2024 – February 9, 2025

Stiftung Kunst und Natur gGmbH Managing Director: Börries von Notz | Curatorial Team: Kathrin Meyer (Head /Director Museum Sinclair-Haus), Moritz Ohlig (Curator Museum Sinclair-Haus), Sophie Olivotto (Volunteer) | Press and Public Relations: Claudia Praml (Head), Laura Rühle (student trainee) | Art Mediation: Kristine Preuß (Head), Ann-Cathrin Agethen | Exhibition and Collection Management: Andrea Sietzy | Building Services: Sven Bücher, Andreas Giesa, Fabrizio Magnone (from 11/24) | Office Management and Controlling: Yvonne Schawe | Visitor Service: Heike Boss | Museum Team: Beate Böhm, Helmut Werres

Exhibition Texts Proofreading: Almut Otto, Berlin | Translation Exhibition Texts: James Bell, Berlin | Graphic Production: Brieke GmbH, Frankfurt am Main | Exhibition builers: Holger Neske, Schreinerei Hunkel, Neske & Voss. GmbH, Frankfurt am Main | Media Equipment: Markus Berger, satis&fy AG, Karben | Painting: Frank und Karl-Heinrich Battenfeld, Malermeisterbetrieb Frank Battenfeld, Ebsdorfergrund | Electrical Engineering: Lars Klenner, Klenner Elektrotechnik GmbH, Bad Homburg v. d. H. | The textile elements in the exhibition were designed by lfm2 & raumlaborberlin & Julia Lipinsky for the exhibition “Forests. From the Romantic Period to the Future” (2024).

Graphic design: gardeners, Frankfurt am Main | Printing: oeding print GmbH, Braunschweig | Paper: enviropolar, 100% recycled paper, Blue Angel certified; Cover: Gmund Colors Matt, FSC certified. Climate–neutral printing with 100% green electricity and vegan toners.

Museum Sinclair-Haus
Löwengasse 15, 61348 Bad Homburg v. d. H.
An Institution of Stiftung Kunst und Natur gGmbH

09/2024

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