

antennae

THE JOURNAL OF NATURE IN VISUAL CULTURE
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ecologies

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THE JOURNAL OF NATURE IN VISUAL CULTURE
edited by Giovanni Aloï

Antennae (founded in 2006) is an independent, hybrid, peer reviewed journal. We are free to the public, non-funded by institutions, and not supported by grants or philanthropists. The Journal's format and contents are informed by the concepts of 'knowledge transfer' and 'widening participation'. Independent publications share histories of originality, irreverence, and innovation and *Antennae* has certainly been an important contributor to what will be remembered as the non-human turn in the humanities. The first issue of *Antennae* coincided with the rise of human-animal studies; a field of academic inquiry now become mainstream. Our independent status has allowed us to give a voice to scholars and artists who were initially not taken seriously by mainstream presses. Through our creative approach, we have supported the careers of experimental practitioners and researchers across the world providing a unique space in which new academic fields like the environmental humanities and critical plant studies could also flourish. In January 2009, the establishment of *Antennae's* Senior Academic Board, Advisory Board, and Network of Global Contributors has affirmed the journal as an indispensable research tool for the subject of environmental studies and visual culture. Still today, no other journal provides artists and scholars with an opportunity to publish full color portfolios of their work or richly illustrated essays at no cost to them or to readers. A markedly transdisciplinary publication, *Antennae* encourages communication and crossover of knowledge among artists, scientists, scholars, activists, curators, and students. Contact Giovanni Aloï, the Editor in Chief at: antennaproject@gmail.com Visit our website for more info and past issues: www.antennae.org.uk

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microbial ecologies



Saša Spačal

MycoMythologies: Shiro's Carrier Bag, Forest. Photographic manipulation, 2021 © Saša Spačal

Shiro's carrier bag

Shiro's Carrier Bag is a speculative fiction following the multispecies journey of Shiro - a hybrid creature, part-human, part-fungi - who is called to the Underworld by chthonic forces. Set in the timespace of her late body's decomposition in a beech forest, Shiro's memories and stories are dispersed into networks and woven into new meanings through collaboration and interactions.

The story is composed of co-authored fungal ontologies, Facilitated by MycoMythologies: Storytelling Circle workshops. In these workshops, participants are guided to create their own speculative stories, based off of embodied mycological practices creating caring and inclusive storytelling practices for multispecies survival.

text and images: **Saša Spačal and Kaitlin Bryson**

Morning autumn forest. Through dappled light, bare feet stepped hastily across mosses, lichens, and crunching beech leaves. Long, braided iridescent hair entangled branches of pine trees as they passed. Deep, black eyes pierced through soil, skimming for mycelial networks. Hyphal threads emerged and danced on the palm of the hand, longing for connections.

Shiro ran swiftly. A short, hot pant in her chest as she passed through a curtain of dark pines, bark crumbling and falling into the hiss of warm wet duff underneath her feet. As she whispered quick apologies to the underbeings she stepped on, she felt white mycelium answer by tickling her toes. The beeches formed great behemoths trapping out light and shading the forest floor with sun-specked constellations of leaves, the occasional beam cutting through the canopy illuminating a patch of soil, orange lichen-crusting granite boulders, or a wandering mulberry shrub. The forest was a nest of fertility with endless carpets of dark green mosses punctured by tiny white flowers, blue elf cup mushrooms on fallen branches, and glowing trails of slow-moving snails across withered bark. This place held more wealth than she could bear.

Shiro heard voiceless whispers as she ran. It was not only that she knew and sensed the forest, the forest also sensed and guided her. Rushing frantically between beeches and ferns searching for the chthonic signals that had reached her a few hours before, well outside the forest canopy, while she negotiated with the eaters. The eaters, or humans as they called themselves, were those who took and consumed more than they returned. When the chthonic frequencies hit and knocked her to the floor, Shiro had been trying to explain to them, again, how every being is entangled with one another in the networks and the survival of one species always depends on survival of many - in the Upperworld as well as the Underworld. However, there was no time left to negotiate with eaters, the underbeings were eager to start the work that needed to be done. Their tectonic gesture in the signal was clear. It was time. She was called.

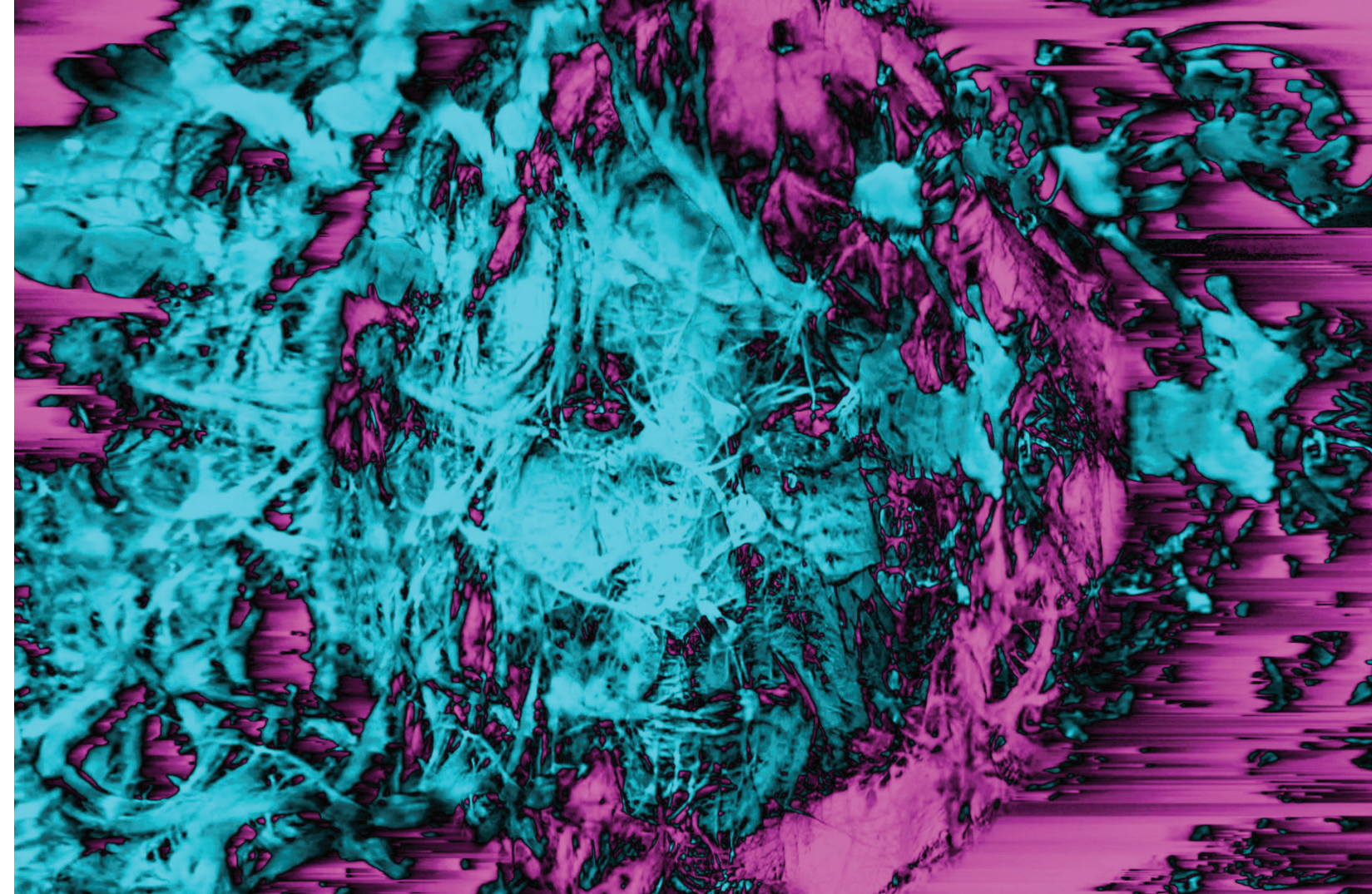
Stopping briskly in a waterfall of light cascading through an elder beech tree, she knew this was the place she had been guided to. Touching the moist ground, pressing her whole palm into the soft, cushy mosses confirmed this intuition. She slowed and expanded her breath. Signals trickled through the hair on her neck into the timelessness of her mind. It was time. Time to transform, time to let go.

Shiro slowly breathed in and breathed out, laying her exhausted body on the spongy, wet ground underneath the old beech tree whose branches sheltered her. Safety enveloped her emotional oscillations; finally, she surrendered to her arrival. Breathing deeply in and out, the smell of rich humus calmed her pulsating heart, which synchronized with the rhythms propelled by the underbeings. Bright blue light scattered delicately through green leaves as she directed her last gaze towards the sky. Submerged in the continuous breathing of the beating planet, she felt the abundance of life around and within her human shape.

Again, she slowly inhaled, paused, and exhaled, transitioning into the metamorphic phase known by the eaters as the end - as death. However, to Shiro, this phase was known as a release of the human body, as a generous welcoming into the multiplicity of beings. With meditating hums coming from the depths of her throat, each bodily organ was humbly thanked with the grounding frequencies her teacher Protota had taught her for this vulnerable time of passing. One by one the humming sounds enveloped all organs rocking them gently to cessation.

Lastly, Shiro thanked her heart, immersed in the gratitude for the timespaces they had felt through and the love she had given with its generous guidance. While she expanded her chest for the last time, she stopped the pulsating muscle, and the ritual of multiplication began.

Hyphal threads extended out of Shiro beginning the process of fungal fruiting of the human body. As mycelia grew across Shiro's human skin and slowly condensed inside her, it secreted enzymes to dissolve and digest the human molecules. As if a cocooned caterpillar, the form was gradually encased with



Saša Spačal and Kaitlin Bryson

MycoMythologies: Shiro's Carrier Bag, Forest. Photographic manipulation, 2021 © Saša Spačal and Kaitlin Bryson

white mycelial threads, enclosed by caring hyphae. Inside the growing sarcophagus, chemical entropy exploded. Molecules, whose bonds were tightly held by the formation of matter, became undone while exciting themselves into new constellations and new meanings. The mycelial enzymes opened potentials for transformation making molecules available to other underbeings while sending messages throughout the pedosphere with pheromones, signal molecules, and electrochemical pulses. Many underbeings pilgrimed through lumps of the ground to Shiro's ritual of decay under the beech tree. In this lively, transformative feast the underbeings along with the flora, fauna and fungi of the Underworld, lived through their metabolic eons. Earthworms wriggled through the dark matter while nematodes entangled and were sometimes strangled by hyphae to be consumed. Generations and generations of bacteria lived and died as day and night exchanged. With time, traveling mycorrhizal threads arrived from distant trees to establish connections and bonds of exchange to provide nutrients for their immobile, green allies reaching into the Upperworld. They brought stories with them of other thriving metabolic clusters forming around fallen trees, eater's compost piles or carcasses of deers. Some of the underbeings immersed and enchanted by their fables of decomposing feasts, hopped on the hyphae to slide along their mycelial threads through the muggy lumps of soil.

Under the beech branches, the smell transformed over time around Shiro's leaking body. At first a release of gasses, putrid and strong, then after



Saša Spačal and Tilen Sepič

MycoMythologies: Shiro's Carrier Bag, Forest. Photographic manipulation, 2021 © Tilen Sepič and Saša Spačal

the succession of underbeings the surroundings became sweet, earthy, and rich, like soggy tobacco, or rotting brassica plants. Transpiration of lives on the site was written in the air as humidity and moisture. In this place, the eaters could smell petrichor for longer than anywhere else in the hardwood forest. As Shiro became the multiplicity of underbeings the soil became her home in the Underworld while streaks of sunlight and gently fallen leaves covered the spot under the old beech tree.

The dense, dark, and opaque pedosphere was void of light and space. Crumbles and clumps of the Earth's history eroded, consumed, and expelled over eons made up the soil architecture. Particles of matter held together by the bodies and metabolites of the underbeings. Tunnels made by earthworms and insects opened possible travel routes for Underworld communities. Roots entangled in masses of fungal hyphae emitted chemical nutrients as messages to underbeings so they may make a temporary home nearby. The Underworld is a place and a flow of living and dying, thriving, and transforming, growing, and descending. A flow that supports the Upperworld in the ever-changing loop of giving and receiving.

Into the cycles of the ground, Shiro's cells - together with their stories - dispersed and percolated into the networks. As each passing connection to her body dissolved, so did the stories that formed them. At moments a story resurfaced in her mind as a memory or a spectral image. Shiro recognised some of them, but there were others flowing in the mycelial networks that



Katja Striedelmeyer and Saša Spačal

MycoMythologies: Shiro's Carrier Bag Passing on and Passing Away, 1. Photographic manipulation, 2021 © Katja Striedelmeyer and Saša Spačal

were not her own. In her mind's eye sequences reemerged for the last time before pouring into the tubes of mycelial growth where someday they might be heard again by hybrid ears or mycomythological machines able to tap into the underground flow to sample nutrients and the stories with which they were cultivated.

...

During one of the last impulses, Shiro's body twitched and pressed its hands to the ground. As important as her first breath in this world was this last touch of the ground, where she died. As the first breath connected her to the atmosphere, the world of the upperbeings, her last touch connected her to the ground, the world of the underbeings. For the last time, her hands revealed the hybridity of her palms, where her hyphal threads emerged from their center and through the tips of her tiny, pointy fingers. Through that gesture the memory of Protota filled Shiro's emotional field with centuries of long gratefulness. In her perceptual field, an image of her first entrance to the Hypersensing Laboratory emerged. This laboratory was a forest, a hyper-jungle, with exaggerated metabolic processes where, in the middle of a clearing, stood Prototaxites also known as Protota by the underbeings, Shiro's beloved shawoman teacher.

Protota was an ancient giant as tall and stable as a mountain, yet a mutable creature of microscopic, symbiotic multiplicities. Her hyphal trunk

grounded and grew her branching body high into the atmosphere as she reached for sunlight for her algal counterparts while her fungal symbionts carried minerals from the earth below. Protota learned the Earth's knowledge by metabolizing elements through her body in deep time, eons of transformations coded the ever-changing flow into her so she could effortlessly transform into one or multiple mycostates in the same spacetime. Through her innate mycofluidic capabilities she was able to travel through mycelia, to land again, and establish connections in a new environment. To her, mycofluidity was a light, exuberant dance she performed anytime the need arose.

Under the beech branches on the ground Shiro relived her hybridisation process with fungal ancestors during a ritualistic experiment by the scientists, awoken eaters, and shawomen in the Hypersensing Laboratory. In the Laboratory, she was inoculated with mycofluidic capabilities through a fungal nuclei blood transfusion. Mycofluidity directs fluids through fungal bodies by manipulating the mechanical and biological processes. Such processes direct how nutrients flow in the networks, also called intra-flux, which is managed and dispersed in fungi between their various habitats, allowing them to perform such tremendous morphological shifts like forming a mushroom. Mycofluidics enabled Shiro to undergo transmogrifications into a specter of fungal shapes from mycelial network to fruiting body and tiny spores. With mutation into these mycostates she was able to learn from direct experience about the chthonic signals and practices of the Underworld.

Through the mycofluidic inoculation, scientists and awoken eaters helped Shiro enter the vast world of attuned intuition multiplied into assemblages of sensory tools inside her. After the fungal hybridisation, the landscape of externalised interfaces with underground flow became her sensory experimentation playground. Her body and skin were equipped with pattern recognition trained to surface the innate knowledge of the fungal intra-flux, to intuitively identify the state of the flow. As her ears became hybrid she could hear polyphonic whispers, stories flowing to her from tiny tubes, when her hands touched the ground.

The code of the intra-flux was translated by image analysis algorithms from one-eyed vision of scientists, to expanded and enriched sensory impulses that allowed her to enter two-eyed sensing of the shawomen. Each inhalation was a new download, an influx of data from her skin and the tension of her muscles. Each breath contraction triggered skin analysis, with exhalations embedding the information into deeper layers of the body to the stomach, chest, and up the spine to the brain and finally to the eyes where she could see without looking. The deeper the breath, the more intense the experience, and the more was there to know about the data flow.

In the timelessness of Protota's teachings, Shiro cultivated three different mycostates and the vulnerable transformative processes to not spontaneously transform or, even more precarious, get stranded between states. Protota taught Shiro about the way of mycelium and guided her to hone and channel the flow through disciplined breath work, sensory attunement, and network expansion, obtained through highly specialized meditative states. Protota taught her how to use her breath to conjure chthonic signals, a practice maintained daily to develop and understand the nuances hidden in low frequencies. The breath was Shiro's most potent tool, her process, and constant witness, especially now lying in the moss with her body submerged in the ground. As she became multiplicities she let go of her human counterpart, waiting for her last inspiration and expiration.

In this precious moment, she felt the thick presence of Protota again whose words trickled into her consciousness somewhat like a memory, but more akin to a mantra embedded into her hybrid cells by the Mycelial Embodiment Protocol she learned in the green jungles of the Hypersensing Lab.

Through her body and into her bones the deep, slow, comforting voice of Protota traveled to her hybrid ears, networking and entangling her psyche into mycohybridity with a guided meditation:

Close your eyes. Slowly breathe in and breathe out. Allow your thoughts to be entangled with the breath. Imagine the air entering your lungs, consider the path it has taken to get to you, feel the breeze coming through your nostrils going through the nose, down your throat, and as you expand your chest muscles, it reaches your lungs. The molecules comprising our atmosphere get absorbed by your body, revive, and sustain you.

Slowly breathe in and breathe out. Call into existence a feeling of mycelium as a vast, dynamic process. Expand your awareness into knowing that it is a multidimensional matrix involving the lives of multiplicities, networks weaving through the dark matter of the soil, into the dense and thick structures of trees while thriving within the delicacy of leaves. Mycelium nests in what it consumes and scours for resources as it interlinks the forest ecology together, through its fluid, formless body.

Slowly breathe in and breathe out. Mycelium is a subterranean infrastructure with tiny tubular architecture stretching across lumps of soil, offering transportation to travelers in their tunnels as well as around the tubes as it forms highways for migrating underbeings. Vast and moist entangled forest infrastructure, where our queer multiplicities meet, touch, merge and flow, assembling hyphal bodies together through abundant sexual potentials, making uncountable possible life forms.

Swift breezes rattled through pine needles, which for a short moment, brought Shiro out of Protota's guiding voice to her soil bed covered with beech leaves. Winds resounded through branches and quickly upturned fallen needles into tiny tornados, causing chaos on the ground below, exposing the underbeings and uplifting their homes. As air moved briskly around her head Shiro realized that this would be ideal weather for releasing spores, then Protota's voice returned:

Slowly breathe in and breathe out. The spore's journey begins when a mushroom exhales - a puff out of the gills, a miniature explosion propelling billions of offspring into the wind. Spores travel easily in wind currents, water streams, or on animals to find a hospitable landing. Once it lands in a moist environment its structure opens and a hypha emerges. This starts a new network capable of multitudes of connections. Spores begin stories yet contain histories. Equipped with the knowledge of their many parents, spores are prepared for their complex and sometimes dangerous journey.

Slowly breathe in and breathe out. With every breath of air, you inhale spores come to greet you, explore you, fly around your head, and sometimes become part of you - embedded into your body or stuck in your nose - they might not always be welcome but know that even in your eater's body, they are mostly harmless.

Slowly breathe in and breathe out. The potential packed into the spores is carried by winds, traversing the air across borders and continents without passports or visas. As water evaporates from the land and raises to the sky, it condenses around these spore-filled dusts and transforms evaporation into precipitation bringing water, nutrients, and spores back to the earth in rains dripping down your face

and hair, into the waterways and pedosphere. Fungal spores contain the expansive history of the earth's knowledge in their DNA and when they fall on the ground to form networks, they share and quantify this ancient knowledge.

A temporary calm in the winds steadied a beam of sunlight passing through beech leaves, from sky to ground, illuminating dust particles drifting like feathers down onto Shiro's body. The focused light magnified the microscopic moment.

Slowly breathe in and breathe out. Like fungi, eaters also grow networks important for survival. The eaters' primary network is visceral and gives you access to the world around you, it is your neural network, which starts growing already on the sixteenth day after conception.

Slowly breathe in and breathe out. With each breath, a particular human nerve, the vagus nerve is stimulated. The longest nerve of the autonomic nervous system in the human body, which connects all major organs, all the way from brain to gut and back. Through your breath the vagus nerve sustains life beyond the neural network in your body. As you feel your body, your limbs, your breath, you feel your network. You are the network, and, in the network, there is no way out or in, you just are.

Slowly breathe in and breathe out. With neural networks you have always been networked, but not only with human cells. There are fungal networks also within you. Eaters are filled with fungi - especially yeasts. Fungi stimulate the gut with the vagus nerve. They nurture the human part of you with the food you eat and facilitate you with the mindset you keep. When you passed through your mother into this world, the special fungi and yeasts she contained protected and shielded you from harmful diseases.

Slowly breathe in and breathe out. Once the nerves reach the legs, you are equipped for walking, after a few months an eaters' child can walk into new networks, networks of roads, streets, meadows, subways. The world seems hectic and intense in these networks, the rush can be both exhilarating and tiring at once.

Slowly breathe in and breathe out. These very legs that carry your bodies across various landscapes with myriad means of transportation, can also stop you and ground your forces, connect you to the soils where fungal networks thrive. Touching the ground with your feet can feel reassuring in knowing that there is a support system beyond eaters.

Slowly breathe in and breathe out. As fungi so do eaters depend on connections, connections of care. Of course, we negotiate our survival but the connections with the right doses of care sustain us and make us thrive, grow, fruit, and materialize new, different kinds of realities.

...

As the meditative teachings faded, Shiro transitioned her thoughts back into her own decay under the beech tree, feeling her eater's body filling up and mingling with colonies of thriving underbeings. Potent creatures inhabiting one large body, living in its liquid or air pockets, dispersing through space from body to body, by wind, or moving water, now landing, and gathering while Shiro was letting go. As her black eyes shut down and she could not see anymore, Shiro's brain played final images, memories and stories with the last electrical signals sparking between her neural synapses. Suddenly trillions

of underbeings seeped into her eyes, making an opening for mycelial threads. As the fungal networks opened to her frontal cortex and shared their nutrients with stories, her perceptual field encountered a curious image: an old woman whose limbs were extended into threads and woven into a carrier bag.

"Ah, the precious net bag, my dear old sack", thought Shiro in her soil bed. "My ally in gathering memories as cherished objects that fed me and helped me tell stories. The sack faithfully stored traces of the paths I traveled and fragments of past encounters equipping me for future ones. My knitted container always full of flint stones, computer chips, lichens on twigs, amadou, coins, face masks, anise mazedgill, tiny chicken bones, disinfectant spray bottle, chestnuts, gloves, cat kibbles and other whatnots while I rambled across train tracks, under canopies of wild trees, in the tunnels of stinky cities and avoiding toxic wastelands".

While inspecting the threads being woven into the bag in her mind Shiro realized, "Through all the years the carrier bag was not just another useful thing, it was a continuous process. Each new object that entered the sack, changed it, evolved it into a new being. Now, with a new object in the sack, the bag had many different stories to tell. This bag's evolutions were also mine ... as its stories changed, so did mine. The bag was not foreign to my body, it was like an organ, helping me live, by carrying the histories I collected and deciding futures I would seek. My physical body moved because of the bag's stories and as I transitioned from mycostate to mycostate the stories would leak into the intra-flux, but somehow always came back into the bag once my eater's body was formed".

During Shiro's initiation in the Hypersensing Lab, the awoken eaters also inoculated Shiro's carrier bag, understanding that it was an essential part of Shiro's body. Therefore, all throughout Shiro's journeys into embodied states, human and fungal, her stories were never lost, dwelling in the bag and in the network with the objects she decided to keep.

Shiro surmised, the image of an old woman becoming a carrier bag had to come with the increase of intra-flux she was experiencing due to her decomposition. The image had to be a memory, a story of someone, who had leaked it into the networks of the Underworld. Suddenly another flash, a sequence of images flooded her mind: pencil leaving traces on paper that were gradually becoming words:

Passing On and Passing Away

My Grandma died this winter.

Some months before her death she gave me her favorite purple T-Shirt. When I look back, I think this is one of the moments that showed that she already had decided to die.

At that moment she had just recovered from a severe heart attack, which almost cost her life.

After this near-death experience she wasn't afraid of dying anymore.

With time her condition worsened again.

I visited my grandparents more often to spend time at my grandma's bedside. Death was present, also in our conversations.

She kept bringing up the subject in a gentle way.

She made it clear that she would be leaving soon.

Even though she will miss us, she can no longer stay.

One day she said goodbye to me.

With a warming, long hug and words full of affection.
I found it hard to believe that this was to be our last encounter.
But it was. She died on one of the next evenings.

The night before she died, I wore the purple Shirt for the first time.
I felt bad that I had worn it. Guilty. Since then,
I couldn't wear the T-Shirt again.
It was a coincidence, not a causality.
What wasn't was the fact that I wanted to feel close to her.

When I think of my grandma now, I still feel the loss.
Accepting the necessity of dying as a part of living does not
make the grief go away, but it soothes a little bit.
I admire her for her courage and honesty in opening up about the men-
tal processes of dying.
I am grateful that she has passed on to me her perspective on
death.

The pain of parting filled Shiro's body, emotional jerking transmitted
through underbeings thriving and decomposing her throat. Conveyed through
tubes of mycelium, the story of the grandmother poured into Shiro's thought
patterns consumed by the loss, immersed into the mental disperse of cher-
ished memories, gratitude for shared wisdom and support, ignited by ampli-
fication of being alive. Soon after, Shiro heard the granddaughter voicing her
insights out of grief while she wove her mourning into timeless wisdom:

At that moment I understood that I will inscribe memories of my grand-
mother with stitches in the band of the carrier bag. Memories of the
times we shared together and of shared experiences. In many places
on the band are seams, which play around each other and create a
strong connection of different layers that look light and cheerful and
effortless. They reminded me of the many moments when we had fun
and enjoyed each other's company. I remember many laughs. And how
in other places we have drawn closeness, trust, and stability from our
connection, like seams that embrace each other and form a stable fast-
ening of the fabric layers. What I also related to these parts are the
times of caring, mutual respect and gratitude.

Knotting and connecting the inscribed memories now with each
other and with the new, blank material reconciled me to the strong
feelings of grief and loss. I remember the anticipation of this bag ac-
companying me in the future. Today, I have taken this carrier bag for
walks and hikes several times. In it, I transported mushrooms, seed
pods, leaves, and other findings. Between the memories, there is space
for new discoveries and for new stories. Some of these I brought home,
others have fallen out of the bag and hopefully found a home at the
place they fell on. Others have entered into the material of the bag, just
as this story of passing on and passing away permeates the outside.

The process of reliving and experiencing the grief of loss reminded
Shiro how dying and letting go are transitions that have always revived her
desire to live. Now as her human body dissolved into communities of thriving
underbeings she became the intra-flux. As this happened, her desire for life
was shared through the mycelial networks with the vibrant multiplicities of
underbeing. Shiro recognised that the forever mutable force of the flow in the
Underworld was much like the carrier bag in the Upperworld in the sense that
it entangled beings together in the networks of exchange and support.

Katja Striedelmeyer and Saša Spačal

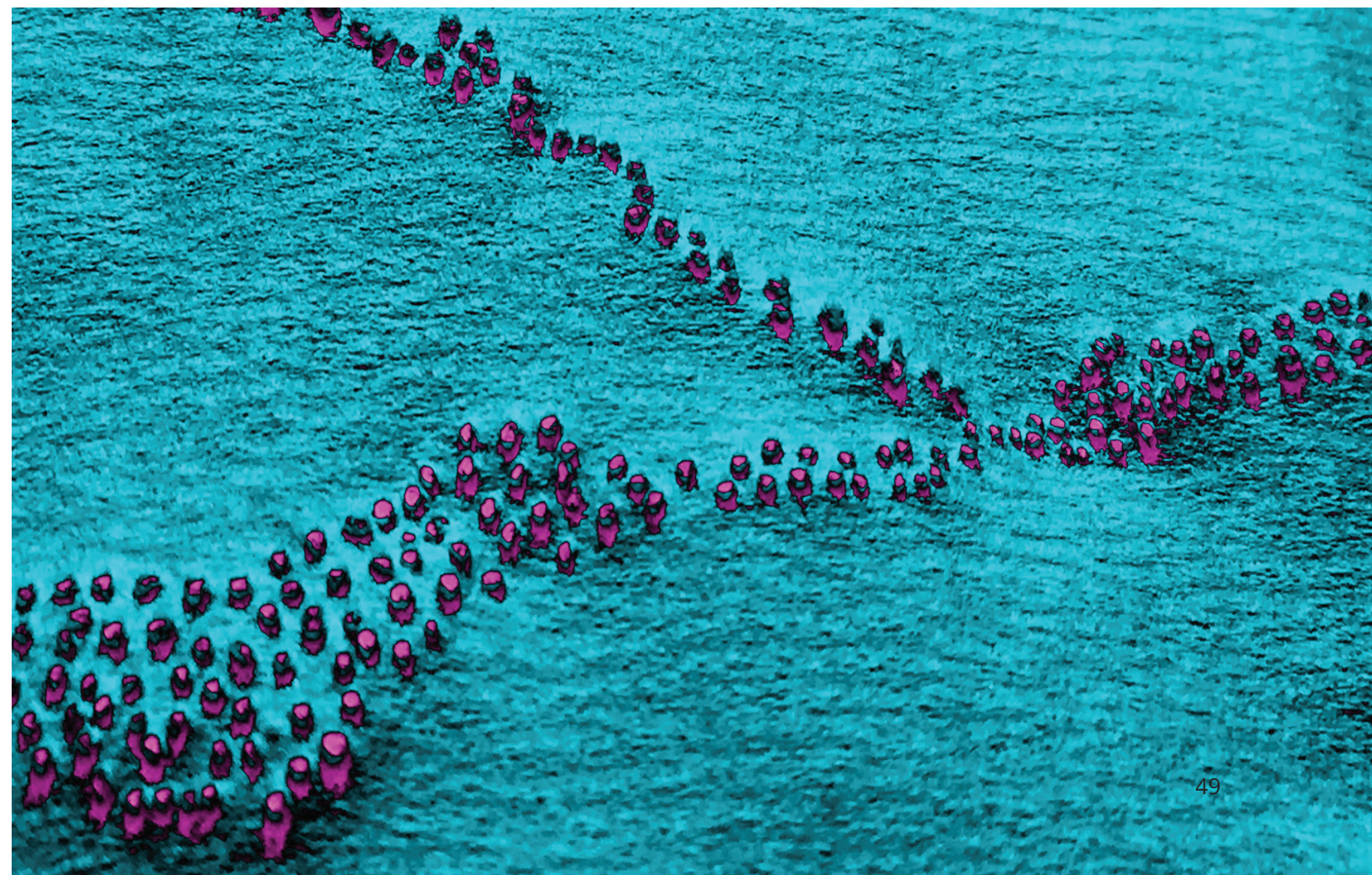
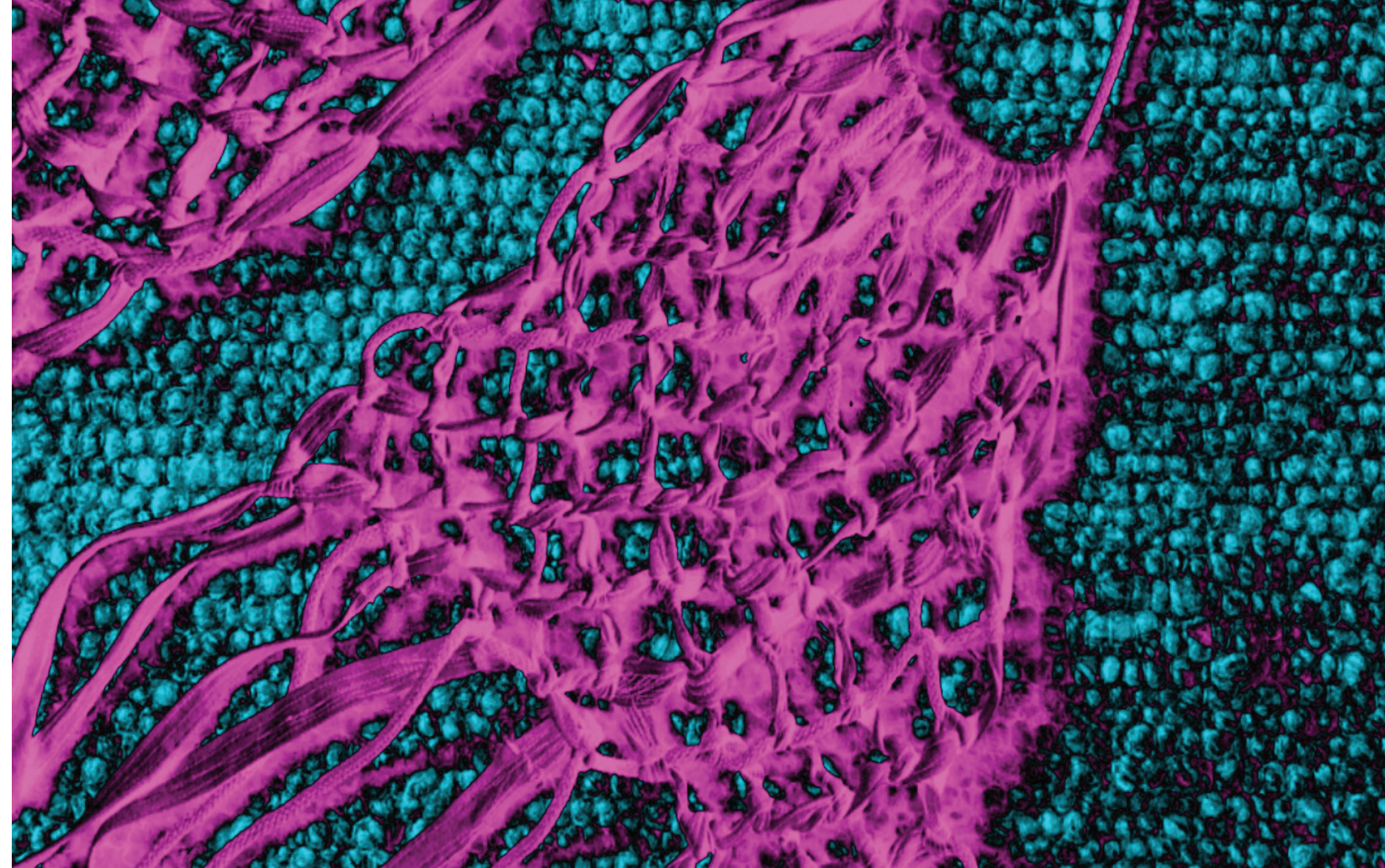
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Shiro's body began sliding deeper into the Underworld. As communities of underbeings transformed her cells into their time, she felt timelessness enfold her. Oscillations of emergence and disintegration repeated as quickly as a pattern of breathing. Shiro's consciousness considered time as a useless invention of the eaters. It seemed they invented it to merely ignore it, not sit with reverence within it, but rather to run around finding resources to consume. Time was another commodity to the eaters, there was never enough, and they were always trying to buy more. The multiplicities experienced time in the present and embodied with rhythmic impulses. Strangely, this was felt as timelessness. In this weightless awareness of passing moments, Shiro's jaw twitched. The sound of sand grinding between her teeth carried by the moist, silky skin of an earthworm as it navigated her cavities. This gave her shivers and a new wave of brain signals poured into the mycelial networks in the form of a memory.

Transported to a sun-soaked environment with an oppressive presence so bright at first, she could not see anything as she adjusted to the light. Allowing herself time to submerge, she eventually made out sparkles, what seemed like stars, emerging. It was sand. The micaceous minerals in the sand caught the light of the radiant sun and reflected its brilliance into the surroundings. Shiro finally gazed up and saw Protota, the most timeless being she knew. Protota, despite the aridity, stretched her three hyphal branches high into the air wriggling in constant metamorphosis, each branch embodying and transforming into a different mycostate. One branch condensed mycelium into mushrooms - spontaneously erupting in joyful bursts along the branch. Another grew a mycelial sheet that flowed hypnotically with the wind. While the third tirelessly puffed clouds of spores into the atmosphere. The sight of Protota in the sparkling desert was breathtaking, an ethereal, symbiotic underbeing transforming so lightly, so effortlessly, dancing the great metamorphic dance. With Shiro's gaze locked on her, Protota poured her wisdom into Shiro's mind:

Sometimes the experience of transience plunges the eaters into a state of chaotic flux. Many grip tightly to time, belongings - either other beings or objects - as this is what some believe will protect them. However, it is in this state of fear and loss that a great need for mapping the mutable arises. What might it feel like, dear Shiro, to expose cartography as an ever-changing process of life-making?

The sound of plump raindrops falling in the beech forest, bouncing, and tapping on dried leaves, awoke Shiro back into the transformation. The soaking soil held the rain like a sponge, a contrast to the desert dreams she had traveled from. Shiro felt her consciousness slip deeper into the mycelial networks inside, the rains welcomed her to leave her corpse and in her own time surrender to the network. Underbeings guided her to descend, completely, into the mycelial networks. Now Shiro recalled the notes she had scribbled that day in the desert, observations about Protota's map-making practice.

Tracing my path from the places I settled, the negative space representing the invisible 'other space'. I considered these gaps or broken aspects of paths as important places, sites of potential. The new sites where decay or erosion had happened are places to be played with, settled in, and grown from. There's so much that can emerge from what is lost. There's so much change just waiting to happen.

Sometimes toes become fingers, become mycelium, tracing a path feeling the way, while eyes and hands or hyphae do other things. 'Follow your nose', they say, but this navigation is so much more complex. However, there is nothing to it as you cannot arrive with expectation, presumption or you will not feel the wonder, see the new, the surge, the



**Kaitlin Bryson
and Saša Spačal**

*Mycology: Shiro's
Carrier Bag, Fruiting Hands.*
Photographic manipulation,
2021 © Saša Spačal
and Kaitlin Bryson

**Hanna Paniutsich
and Saša Spačal**

*Mycology: Shiro's
Carrier Bag, Belarusian
Mushroom Picker, 1.* Photo-
graphic manipulation,
2021
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Saša Spačal

flush. It is like a fleeting focus and a pulsating circuit; through the whole and through all.

“Feeling through the landscape of decay, through soil, was a precious teaching”, Shiro thought, once she transitioned into the bunches of mycelial strands, that gave her the name *Shiro*. As *Shiro*, the she-eater, became fungal multiplicities, her identity transformed to *mycothey*, since *Shiro* was no longer a single body or identity.

In their mycelial state, seeing the landscape was done by touching through movement. This was the only way to make their body grow in multitudinous directions. *Shiro*'s mycelial threads spread simultaneously into five, six, seven, eight, nine, or more directions at once, while their white tentacularity grew an embodied map as they expanded. The history of their movements and residues of their encounters materialized in fluffy strands. *Shiro* was now a multi-dimensional networked landscape of the decomposition island.

Without warning, electric bursts echoed throughout the networked bodies. *Shiro*'s mycelial networks were shaking and compressing energy, propelling the flow upward. Hyphal strands joined together in masses, swirling, and bursting with power. The rains had graced the autumn forest providing an environment filled with potential for fruiting. *Shiro*'s threads entangled with the others as they condensed together with massive force to sprout in elegance from the soggy decay, as a fruit, as a mushroom, as a corpse finder mushroom. *Shiro*'s hands were the first place where the little mushroom pins formed.

The mushrooms fruited one after another at the site of the late *Shiro*'s body. Their bounties of dark brown caps with tan gills and white stalks spawned in fluid clusters from the ground feeding on nitrogen deposits. Within this wealth of redistributed matter, spores multiplied in the billions and with this, so too did *Shiro*'s consciousness. No longer ascribed to a singular form, *Shiro* transitioned between mycostates with ease. From a polyphonic gathering of mycelial mass to fruiting figures proudly shining in the sunlight, then dispersed in spores encoded with memories and stories to tell new generations. A grazing doe wandered under the beech tree to munch on mushroom clusters. The doe's hooves crunched into the ground and her legs brushed against some of the mature mushrooms. Little spores embedded into her coarse pelt with her movement while some got knocked into the wind. Launched into the atmosphere, *Shiro* as a spore ascended. Higher and higher they flew, blissfully swirling into a condensing cloud, there they traveled for days. Until one day, water molecules bonded around them and then, a heavy downpour.

Landing with a splash, it took some time for *Shiro* to orient and discover where they were, strangely swinging in jolting motions. Willow branches were woven into walls forming a perforated enclosure that opened to a grey-blue sky above allowing more rainwater to drop in. Mushrooms all around, of all kinds and colors. *Shiro* jumped with an awakening that they were in a basket, a mushroom picker's basket, of all baskets! Only now noticing the top of the eater's back and hair up at the opening realizing that the movements were abounding from the foragers bipedal walking. Curious to know more, *Shiro* tuned into sound of the eater's memories arriving together with water drops to the bottom of the basket:

I didn't think I spent so much time in nature when I was a kid. How many times did we fall into nettles? It feels like some ritual of acceptance. Is it purification? We were driving in an old Lada hatchback, us kids are all in the boot with buckets, baskets, and knives. The most common place for my family to go mushroom picking was Panskaya daroha, also called Pan's Road. It is a stone paved road in the forest. Allegedly, it was used by Pan and his horse drawn carriage. Around this

area, which is northwest from Minsk, there are a few patches of radiation. Upon entering some forests, you can see signs that have been placed there warning people not to pick mushrooms. I guess if you come from the wrong side, you might not notice the signs at all. Some people unfortunately ignore these signs and still pick there, especially for selling. There is a veterinary station at every market and sometimes they check the radiation levels of the produce that is going to be sold. Especially mushrooms and berries from the forest.

After the explosion at the Chernobyl nuclear power plant in 1986, one of the elements that were released into the ecosphere was Iodine-131. Even though this element is the fastest to decay, it is still very dangerous. After the catastrophe, iodine supplements should have been introduced into the human's diet, so Iodine-131 wouldn't replace it. In the contaminated zone there were 3,678 towns and villages, where 2.2 million people lived. For the first few days after the catastrophe, they didn't make any official announcements but had already started to evacuate people.

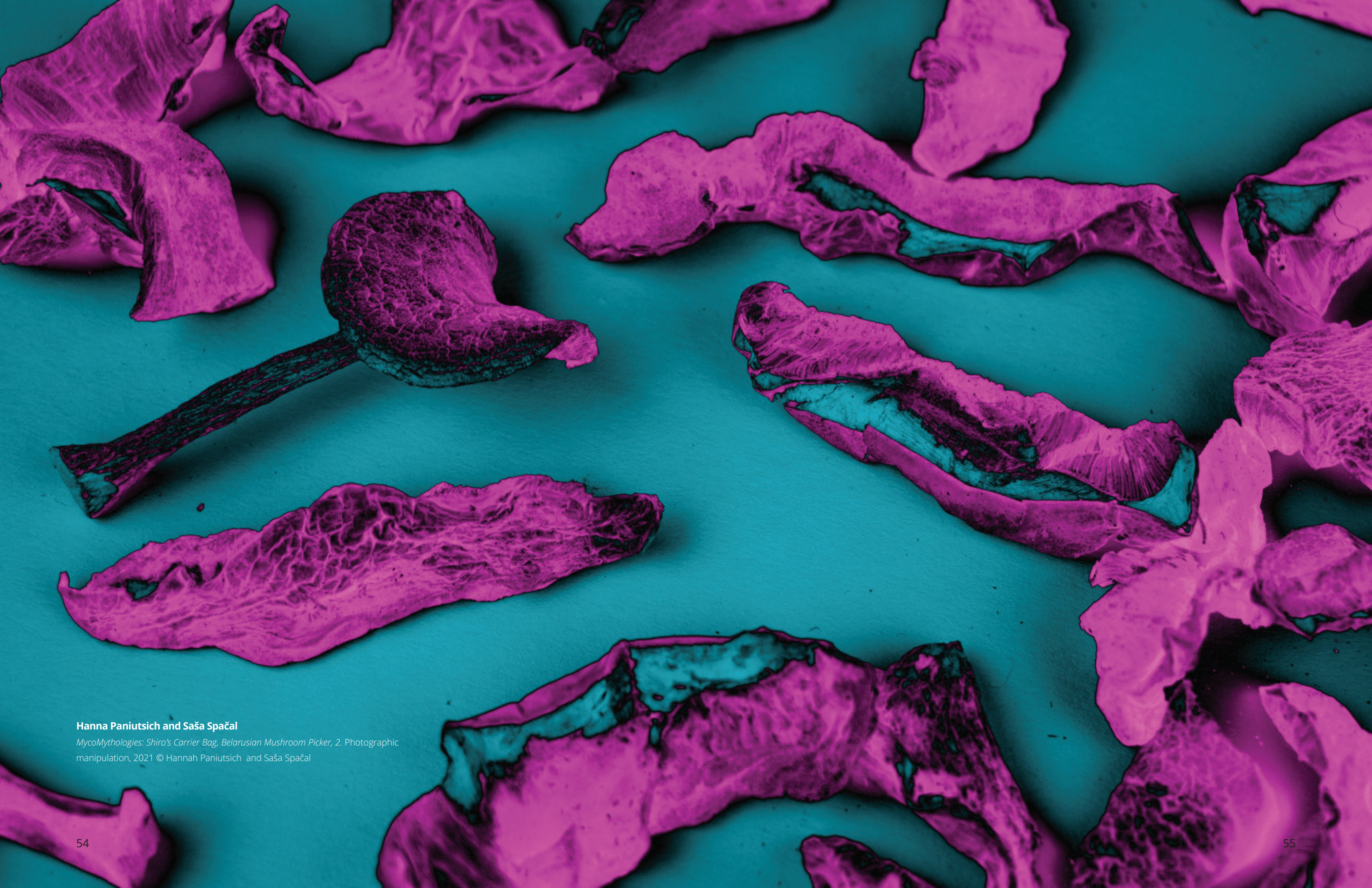
“The Upperworld here appears as if it was stunted in timespace”, *Shiro* observed, having never experienced anything like this. Though, they couldn't help perceiving the strange beauty of the place. *Shiro* sensed its frequencies so vividly, the flow was slowed, yet the underbeings were strong together. Perplexed, they wondered what had happened to this land. The forager brought a handful of boletes back to the basket, dropped them in, and continued with her explanation:

Once you have picked mushrooms you normally sort them by kind - baraviki (*Boletus edulis*), mahavik or polski hrib (*Xerocomus*), padasin-avik (*Leccinum aurantiacum*), lisički (*Cantharellus*), apienki (*Armillaria sp.*), syraežki (*Russula sp.*). After sorting the mushrooms, you need to put them in hot water to soak. It is now already a tradition that is passed from generation to generation, but I did not realise it was connected to radiation. I always thought we did this to help eliminate any poisonous mushrooms that may have been picked. Official advice calls for boiling mushrooms two or three times in salty water and draining it every time. After such manipulations the level of radionuclides should drop by 2-10 times.

In the 30 km zone around the Chernobyl reactor, is an exclusion zone. The part of the zone that lies in Belarus is also a nature reserve where the effects of radiation are studied. Because this place is human-free, other-than-human lives have taken power over the territory. For example, the wild animal population is now at the same level as it was before people started to inhabit these territories. Many species are adapting to the radiation, like various fungi that are found growing inside the reactor and which use radiosynthesis to produce energy.

In the basket, lively, polyphonic gathering between the billions of fungal spores was hard to follow, but *Shiro* was attuned to listen. The spores of the freshly picked mushrooms spoke of recent encounters with radioactivity and about how their ancestors learned to capture and transform it. *Shiro*'s curiosity peaked. Finding another *Russula* on the ground, the mushroom picker broke its chalky stalk and dropped it in the basket continuing her account:

I have never been to the exclusion zone, though it goes up 26 km into Belarus. I think it should have been bigger, but if so, it would include large cities like Gomel. During the May holidays - especially Radunica



Hanna Paniutsich and Saša Spačal

MycoMythologies: Shiro's Carrier Bag, Belarusian Mushroom Picker, 2. Photographic manipulation, 2021 © Hannah Paniutsich and Saša Spačal

- you are allowed to visit the exclusion zone to see the graves of your relatives there. My mom and other relatives sometimes take such trips to see the old village and graveyard. It is a small place called Niežychaŭ, situated 23km from Pripjat' and surrounded by canals to drain the water as it is basically a swamp. Closer to the forest there is fine white sand, which naturally drains the water, allowing trees and mushrooms to grow and people to live there.

After the Chernobyl catastrophe took place, a 10-square-km pine forest next to the station died because of the absorption of high levels of radiation. It was decided to cut the trees down and bury them under the ground. Because of that, a major contamination of the underground took place. For a while it was believed that radiation could penetrate only 10-15cm under the ground, until scientists discovered sinkholes where radiation can go as deep as 200m. Around 10% of the territory in the exclusion zone has this type of sinkholes.

In the forest around Niežychaŭ you could find a lot of maslyak (*Suillus*) mushrooms from the Boletus family. It was a young pine forest and there were so many of these mushrooms it was said you could use a scythe to gather them. Locals gathered the mushrooms into kašiel - it is a kind of basket that is strapped across the chest and rests on the back - like the one on my back. It was made from vyarba (*Salix alba*) and was around two buckets in size. Pickers could gather 3 kašiel of *Suillus* alone. Sometimes they would top it up with forest raspberries and hazelnuts.

It is expected that it will take 300 years for all the elements that were released during the catastrophe to decay. This estimate is based on the decay time of Caesium -137. Because of the radioactive fallout, Caesium-137 and other elements got released around Belarus. The analyses say that by 2046 that radiation in the Minsk region will not be more than 1 Ci/km², a measurement of background contamination levels. Mushrooms are known to accumulate radiation. Different mushrooms soak up radiation differently and for example mahavik (*Xerocomus sp.*) is not advised to be collected at levels higher than 0,2 Ci/km² whereas apienki (*Armillaria sp.*) can be collected at below 2 Ci/km².

Before, we would find a lot of *Suillus* in the forests, but now they are rarer. My family would go to the forest to gather only one type of mushroom at a time, getting buckets and buckets. At Panskaya daroha there were lots of mushrooms before, even when we were kids, but now sometimes you won't even find any. Some of the mushrooms that are disappearing are beliy grust (*Lactarius resimus*), rižiki (*Lactarius deliciosus*) and zyalionka (*Tricholoma flavovirens*). It is chiefly agaric mushrooms that seem to disappear more than other kinds such as bolete mushrooms.

After the explosion, it was very common to measure radiation every time you returned from the forest. But now, as people get used to it and some radioactive elements have reached half-life, the catastrophe sinks further back in memory and people do it very rarely...

As the forager rambled around the pine beech forest, spores fell from the basket one by one landing on the dark forest ground. Once resting on a decayed, fallen beech leaf Shiro transformed with the others. The spores broke open, unleashing their dormant hyphae which sprouted in multiple directions at once. The radiation was present and made them uneasy, but still, hyphae slithered out of the spore's membranes into the soil, meeting and touching other mycelial tips, merging with them, making new bonds.

One of Shiro's threads found another and began fusing. Their myce-

lia embraced and enfolded, braiding themselves into a new, queer, hyphal strand. Nuclei from both sides swam through their joined networks, fluid and free. Shiro became entangled with Clado, known by scientist and awoken eaters as *Cladosporium sphaerospermum*.

The knotted network of Clado and Shiro became radiotrophic Clashi, who could metabolize radioactivity into chemical potentials for sustenance. As they grew into the toxicity, their white mycelia gradually transformed into melanized, black hyphal threads. This transformation was their resistance - the black threads shielded them from the radioactive waves overwhelming and killing their delicate networked connections. The Underworld in Belarus was harsh and intense for Clashi, but their bond strangely let them thrive in the toxic land. Clashi's initial vulnerability was getting traces of resilience.

As Clashi grew in multiple directions, merging Clados's and Shiro's streams of nuclei and stories, they brimmed with each other's histories. In one of the last moments before complete immersion, the consciousness of Clado glimpsed in the intra-flux a majestic beech tree, underneath it, a curious sight of a woman eater's body holding a carrier bag dissolving into the networks of the underbeings. The fierce power of the transition was felt throughout Clashi's networks. As Clado's consciousness dispersed into Clashi they relieved the ritual of decay as their own story. The stories of Shiro's carrier bag flooded Clashi's networks, ready to be shared in future encounters.

Clashi's dark, melanized, mycelial tunnels branched across the radioactive Underland. Black threads multiplied and died through the lumps of contaminated soil as they entangled nematodes, enveloped roots, and merged freely with hyphae of other underbeings. An infinite imbrication of mycelial networks, embraced within multiplicities, to share stories and make mythologies.

Acknowledgments

The short stories included in this narrative were guided into existence through MycoMythologies: Storytelling Circle workshops facilitated by Kaitlin Bryson and Saša Spačal. These gatherings employed the following participatory methodologies: Spores and Networks Guided Meditation, Mycelial Storytelling Objects, How to be a Mushroom Hunter Soundwalk, Carrier Bag Weaving Tutorial and Mycelial Map-Making.

Shiro's Carrier Bag Storytelling Circle: Kaitlin Bryson, Saša Spačal, Vanya Lambrecht-Ward, Katja Striedelmeyer, Hanna Paniutsich.

Passing on and Passing Away: Katja Striedelmeyer
Traveler's Story: Vanya Lambrecht-Ward
Belarusian Mushroom Picker: Hanna Paniutsich

Shiro's Carrier Bag Images by Kaitlin Bryson, Saša Spačal, Vanya Ward-Lambrecht, Hanna Paniutsich, Katja Striedelmeyer were transformed in post-production by Saša Spačal.

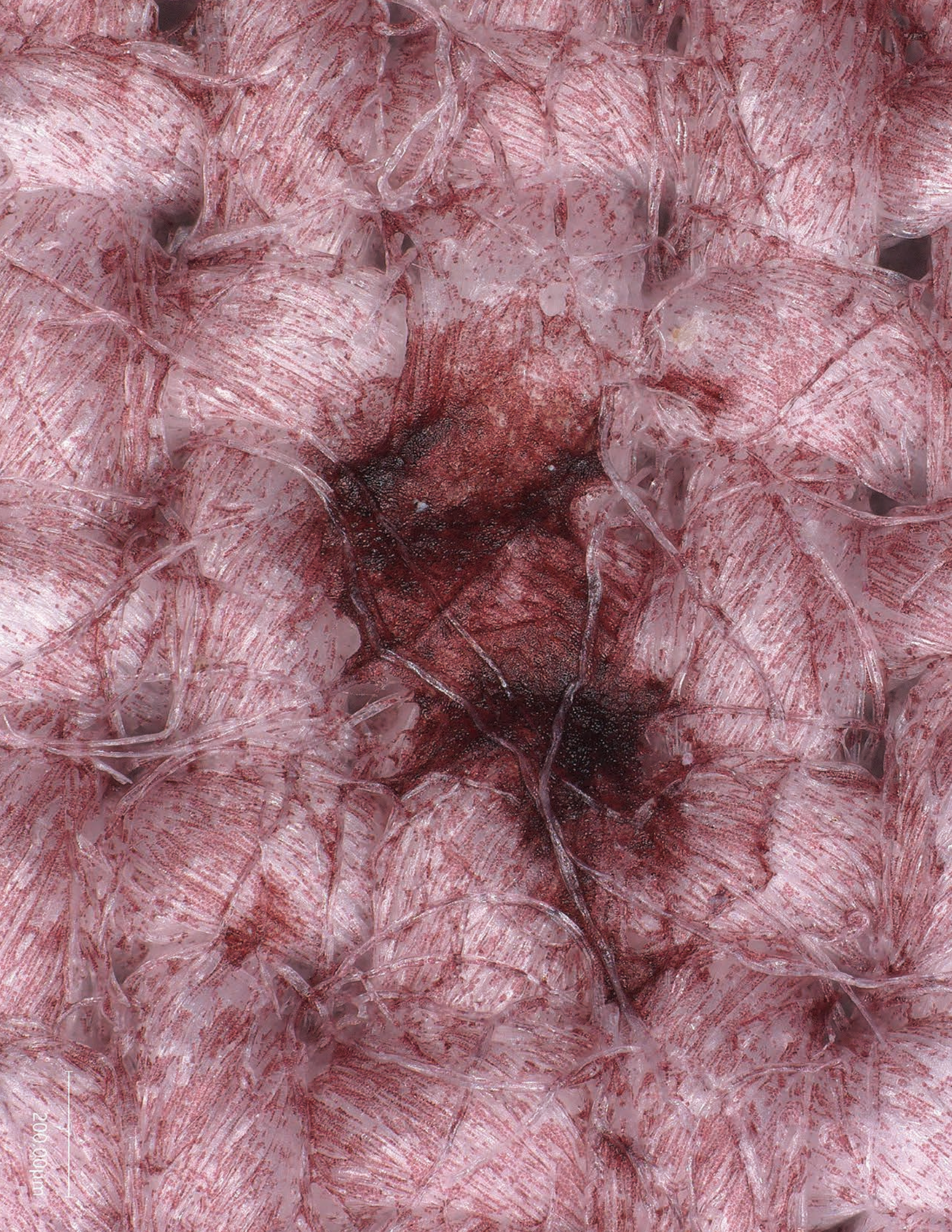
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Saša Spačal is a postmedia artist working at the intersection of living systems research and contemporary art. Focused on the posthuman environment-culture continuum and planetary metabolisms embedded in biopolitics and necropolitics, she develops interfaces and relations with soil agents which involve mechanical, digital and organic logic.

She exhibited at venues such as Ars Electronica Festival (AT), National Art Museum of China (CHN), New Tretyakov Gallery (RUS), Centre de Cultura Contemporània Barcelona (ES), Transmediale Festival (DE). Her works received awards and nominations at Prix Ars Electronica, Japan Media Art Award, Prix Cube, New Technology Art Award and New Aesthetica Prize.

Kaitlin Bryson is a queer, ecological artist concerned with environmental and social justice. She primarily works with fungi, plants, microbes, and biodegradable materials to engage more-than-human audiences, while also facilitating human communities through social practice and environmental stewardship. Her practice is research-based and most often collaborative, highlighting the potency of working like lichens to realize radical change and justice. She has received support from the Lannan and Andrew W. Mellon Foundation(s) to create ecologically remediative artworks nationally and internationally. She is a recipient of the 2022 Anonymous Was a Woman Environmental Arts Grant, 2022 Future Art Award: Ecosystem X from Mozaik Philanthropy, and has exhibited work internationally. In 2019, Bryson co-founded The Submergence Collective, an environmental arts collective focused on multidisciplinary projects that imagine more collaborative, creative, hopeful, and ecologically connected futures for our human species and rest of the living world.



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