

# THE SPORES OF LIFE AND DEATH

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ABSTRACT

Fungi are key players in ecosystems. They sustain life, affect the transformation of life forms, and are crucial actors in recycling carbon and minerals back into the common cycle. In addition to the author, three mushrooms are involved in the constellation of this article. In Western art history, self-portraits are intertwined with the theme of death in multiple ways. This posthumanist art-based study asks how mushrooms challenge our understanding of death. The study is located in the framework of queer death studies. Queering death by providing a basis for fungi to grow is a comforting thought.

## Introduction - coming together with mushrooms

The history of fungi covers more than a billion years on this planet (Sheldrake, 2020). The cultural history of fungi tells us about humankind's history alongside mushrooms. The written history goes back to 1675 when the first guide to edible mushrooms was published (Money, 2022). In Finland, the first guide was published 200 years later by Eduard Hisinger (1863). Ten years later, P. A. Karsten (1876) established the Finnish mushroom discipline through his *Mycologia Fennica*, including 1,662 different mushrooms, which was quite a few if compared to the around 7,600 currently known mushrooms in Finland (Salo et al., 2006). *Mycologia Fennica* was written in Latin, while Hisinger's book was published in Swedish and Finnish to share nutritional information with the common people. According to Turtiainen et al. (2012), there were western (Swedish-based) and eastern (Karelian) mushroom traditions in Finland. These traditions merged after the Second World War, when evacuated people from the eastern part of Finland (Karelia), which was handed over to the Soviet Union, settled all over the country (Turtiainen et al., 2012). The strong tradition of picking mushrooms in Finland is based on the so-called "everyone's right." That right means open access to all forests, and it includes the right to pick berries and mushrooms for free.

For me, mushrooms and fungi are a source of enthusiasm and I recognize that Anna Tsing's (2011) concept of fungi love is strong in me. Mushrooms are, for me, biological and ecological indicators. They tell me how the forest is doing. Nutritional and culinary aspects are meaningful for me, and health comes not only from eating certain mushrooms but from picking them up and wandering in the forest. The beauty and strangeness of mushrooms inspires me to take photos and share pictures on social media. Visuality is not the only sensation: tastes, smells, and aromas connect mushrooms strongly to the affective world (Massumi, 2002). I share the thrill of searching and the joy of finding mushrooms with my dog, Bruno. Bruno is a lagotto romagnolo, a dog breed specialized in finding mushrooms, including underground species like truffles.

## Queering death

Not all mushrooms everywhere are a source of joy from a human perspective (Money, 2022). When a fungal disease appears in a commercial forest, it is an unwelcome guest. The disease is thought to be life-threatening or an economic threat, and at its worst, the disease kills. A fungal disease is a perspective-based name. Disease and death are expressions that are quite often human-centered: humans' health or financial benefit appear as self-evident starting points. When some life form comes to its end, it might provide a platform for other life forms. There is rarely a question of total death. In most "deaths," death provides space for new lives. If we give up the human-centered horizon of interpretation, the question, in some cases, is no longer so much about death but about *becoming* something else.

While mushrooms offer nutritional benefits and culinary delights for humans, they are also some dangers. For those not familiar with mushrooms, there is the danger of poisoning. Even a picker who knows their stuff must be careful about what she collects and from where. In Finland, there are about 50 toxic mushroom species, but only a



Figure 1: Viggo Wallensköld. (2005). *Kärpässientä ja seitikkiä* (Some *Amanita* and *Cortinarius*, translation by the author) [painting on paper].  
Picture courtesy of the artist.

couple of them are fatal if eaten (Jämsä, 2020). According to Terhi Jämsä (2020) there were 23 serious human cases of mushroom poisoning and one death in Finland in 2000–2015. While the population of Finland is slightly over five million, this does not sound too bad, but a sad fact is that immigrants are overrepresented among the serious cases (Jämsä, 2020). The Facebook group of the Finnish Mycological Society is a group where professionals and hobbyists meet to learn more about mushrooms in Finland. It is clearly forbidden to make jokes about poisons and danger in that group. Humor is a difficult genre because it is culture- and context-bound. In the arts, humor is one strategy among others. The Finnish contemporary artist Viggo Wallensköld (2005, 2016, 2018, 2020) has written absurd fiction about mycology. In his stories, a character called Anatolij D. Mbdrinov is illuminated through several narrative voices. The books are complete works of art, where illustrations (see for example: Figure 1, above) and texts by Wallensköld form a whole. The humor of the novels is made up of many elements, and one of the central themes is the toxicity of mushrooms, with death becoming part of jokes. Black humor opens up for the reader who knows mushrooms. For example, in this Wallensköld's painting the two most toxic mushrooms from the Finnish forest are placed on a plate. If you ate the portion, it would probably be your last meal.

Western art and popular culture have tackled death endlessly, but mostly in a human-centered frame. The progression of illness or disease has been a theme in the self-portraits of artists in Western art history. For example, the Finnish artist Helene Schjerfbeck (1862–1946) painted many self-portraits in her last years. Her self-portraits have been interpreted from many perspectives, but one presented interpretation horizon has been to see her self-portraits as a narrative of the progress of a disease and an encounter with impending death (e.g., Jones, 2019). The last remaining self-portrait is from 1945 and was made with charcoal on paper. From a normative perspective, the written reviews of the self-portraits by Schjerfbeck see the closing of death as the end of the famous artist's life. *The last* marks both the end of human life and the end of her art production. A linear understanding of time creates dead ends.

These self-portraits could be interpreted in the context of death studies, which is a multidisciplinary field going back more than 50 years



Figure 2: Helene Schjerfbeck (1945). *Omakuva* (A self-portrait) [carbon on paper]. Villa Gyllenberg. Picture from (2001). *Pinx – maalaustaide Suomessa: Arki- ja pyhäpuvussa*, Weilin+Göös (p. 111).

(Radomska et al., 2019). The field has been normative in many ways, and queer death studies (QDS) challenge this normativity by asking who is dying, how, and what then? Radomska et al. (2019) define the new critical approach:

The emerging field of Queer Death Studies (QDS), . . . tries to overcome the problems of traditional Death Studies by addressing issues of death, dying, mourning and afterlife in a queering, relentlessly norm-critical mode, questioning ontologies, epistemologies and ethics, as well as bio- and necropolitical agendas, while affirmatively looking for alternatives. (p. 5)

In their definition, Radomska et al. (2019) share three themes in the field of QDS: 1) queer (necro) politics, 2) posthuman ethico-politics of death, and 3) queering death and mourning. The second theme is the basis for the approach in this article. This theme seeks to problematize and undermine human exceptionalism while exploring human and nonhuman relationalities in the context of death and dying (Radomska et al., 2019). While mourning, we tend to think consolation comes from another human, but other-than-humans have special roles in moments of loss. Domestic animals can play a crucial role. Long Litt Woon (2018) has proved with her book *The Way Through the Woods*, on

*Mushrooms and Mourning*, that mushrooms help us in our sorrow if we are open to them. In popular culture, one current example of queer death is horror movies and series. *The Last of Us* series (HBO) follows the zombie genre by putting a fungus in the role of the enemy. The dystopic scenario in that series is that predator fungi take over, and humans are in danger of disappearing as a species. In times of extinction caused by humans, this formulates extreme questions on death.

In posthuman discourses (Karkulehto et al., 2020; McNee, 2017) and posthuman art, humans are seen as a material and a place of fluid flow, like all other species. The idea materializes in the art project by Jae Rhim Lee, *Infinity Burial Project* (2008–). In the project, she presents the possibility of burying one's body after death in a full-body suit saturated with fungal mycelium and bacteria, which cleanses the body of toxins and returns it to circulation as a pure breeding ground. Salome Rodeck (2019) has written an article about *Infinity Burial Project* in the context of the Anthropocene and new materialistic (Bennett, 2020) approaches. She writes:

[Infinity Burial Project] . . . is better understood as a speculative design object, which raises issues of the connections between mortuary ritual and ecological harm and their relations to Western identities and ontologies. . . . Infinity Burial Project is best understood not as a market-changing product, but a poetic bio-techno-artwork which challenges cultural taboos surrounding death and decay, and the deliberate ignorance of the enmeshment of bodies with the polluted world designated as Anthropocene. (p. 65)

The inventor, architect, and designer Bob Hendriks has also created with his collaborators a coffin that is made of mycelium. In the summer of 2023, this coffin, called *Loop Living Cocoon*, was part of the *Climate & Art – Alternative Approaches* exhibition at Chappe Art House in Raasepori (Finland). This particular coffin was grown at Kääpä Biotech in Finland using local mycelium. The idea is that a human is buried after their death in the mycelium coffin. The Loop company (Loop Biotech, n.d.) describes on their website:

In nature, mycelium is the driving force behind the natural cycle of life, by continuously transforming dead organic matter into key nutrients for new seedlings to grow. This unique power enables the Loop Living Cocoon™ to rapidly become one with nature, transforming our human

nutrients into a source for new life to thrive. (Loop Living Cocoon, 100% Nature, para. 3)

Death is highly capitalized and controlled by laws. One can buy that kind of coffin with about a thousand euros from the Netherlands, but it is not yet a permitted method of burial in Finland.

I place my study in the same field as when flirting with death and exploring my surroundings through mushrooms and with a dog. When the process described in this article began, I did not have a clear research question. The essayistic approach of this article makes visible how walking with mushrooms and with a dog could open up a thematic landscape where life and death intertwine. The approach has a connection to Donna Haraway's (2016) way of working, the Chthulucene, in which collecting multispecies stories together is the way to make understanding.

## Method: Walking and queering

This posthumanist art-based (Trafi-Prats & Castro-Varela, 2022) study asks how death can be understood if detached from an unequivocal anthropocentrism (Haraway, 2016). According to Sundberg (2014), when we try to step out of our dualistic worldview (nature/culture, body/mind) we struggle with a worldview that is deeply rooted in a human perspective, which is not only a human perspective but the construction of a human with a Eurocentric supremacy perspective. Sundberg (2014) writes about *walking with* as a methodology:

I explore various dimensions of walking with as strategies to transform the spaces and subjects fashioned in and through knowledge production practices by fostering 'multiepistemic literacy' and political engagement. (p. 42)

Mushrooms do not walk, except for some slime fungi. Still, I claim I am *walking with* the mushrooms or *walking to* them.

Stephanie Springgay and Sarah E. Truman (2018) have formulated walking methodologies in a more-than-human world consisting of eight themes: place, sensory inquiry, embodiment, rhythm, land and geos, affect, transmaterial, and movement. Their ethical approach challenges conventional ontology and is called *walking queerly*. I think *walking queerly* is current when I follow a dog in the forest to find mushrooms: I release my control

of the route and count on a dog. It is also current when in the university campus area, mushroom picking breaks the conventional and normative pedestrian routes. In both cases, in the campus area and the forest, sensory inquiry, embodiment, and affects are especially relevant themes. According to Springgay and Truman (2019), *queer temporalities* is a concept to challenge linear and progressive understandings of time. I relate to queer temporalities with my study in a variety of ways. Mushroom picking in the campus area makes time pockets in a hectic and goal-oriented academic life. To find a mushroom is not a goal but rather a wish. That wish is active in me while walking in the forest with a dog or exploring sideways in the campus area. When I think: *Here were chanterelles last autumn*, I mix time layers. I think that in a way wishing for mushrooms collects time from my memory in certain spots. The most important time-queering in my study is to critically ask how death is there. A linear and human-centric understanding of life is stuck on the idea that life happens between birth and death (Haraway, 2013).

In the last seven years, my mushroom walks have been most of the time shared with the dog, Bruno. *Walking with Bruno* is to observe the world through the dog's senses and interests. Our shared interests in mushrooms do not always go together: when I pick up *Cortinarius sanguineus* to give to my friend who dyes yarn, Bruno sniffs the mushroom and expresses his doubts by barking: These smell like death! We do share a desire for chanterelles, and that is useful for me, because Bruno's nose is more sensitive than mine.

For me, Bruno is a feeling subject: the relationship between me as a human and Bruno as a dog can be problematized in many ways, although I would call our family a posthuman family (Charles, 2014; Mustola, 2019). It is a weird, capitalized setting that I bought Bruno to have company and to have a good nose for mushroom walks. The power structure is strange, even if it is based on caring. Critical questions connected to these issues are not at the core of this article. I just want to highlight that Bruno is often present when I collect or observe mushrooms. When I wrote this article in my home office, I had privileged conditions. Bruno was less than five meters away from me during the whole process. When sentences were stuck, petting the dog was relaxing. Long reading and writing sessions have energizing breaks when the dog asks to go for a walk from time to time.

To encounter mushrooms, one ought to walk. My gatherer lifestyle is partially imaginary, or at least it could be called technology-based and dog-assisted. Because it gets dark in the North early in the evening, I often use a headlamp. I avoid using a compass or digital maps to keep my relationship with the environment as sensory-based as possible when I am in the forest. Still, I read maps beforehand and follow mushroom groups on social media to learn and to know where and when to go. Navigating in the forest is for me experience- and sensory-based. Finding new mushroom sites requires getting lost. Getting lost is for me getting to know new places. To keep getting lost safe, I figure out before my trips the areas where there are water and forest roads or other borders of my walking area. Step by step the forest becomes familiar for me: this is the boulder, here flows a familiar stream, that is the figure of a tree I have met before. And between these rocks there were chanterelles last autumn. A person who is looking for mushrooms reads the environment carefully: which tree species and what kind of soil there is. Ecosystems and interdependences come closer through a mushroom survey.

*Walking with mushrooms* has changed my experience of my home university's campus area. Stepping aside from walkways between buildings has been stepping aside from the normative way of being and walking in the campus area. I have felt strange gazes on my skin while picking mushrooms in the campus area. Discovering mushroom spots has changed the meaning of the campus area, and it has become more important to me. Actually, when I ate mushrooms picked from the campus area, I became one with the campus area – or understood more clearly how I and mushrooms are part of the same flow. We share a *pluriverse* (Silova, 2020; Sundberg, 2014), different worlds which are entangled. Silova (2020) writes:

Located at the intersection of different worlds—connecting rather than differentiating, ranking, and hierarchizing them—education could be a space to learn how to anticipate and meaningfully engage with both human and more-than-human worlds in all of their multiplicity and diversity. (p. 148)

The arts-based research setting in this study does not have research material or data in a traditional way. Mushrooms are understood as both material and collaborators. I *walk with mushrooms* and I *walk with Bruno*. The starting point for the study and its outcome intertwine. The speculative



*Figure 3: Pleurotus pulmonarius (Koivuvinokas in Finnish)  
[spore engraving]. Image from the author.*

approach asks the reader to follow one way and then get lost with the author. Finding a way, trying to figure out questions behind questions, avoids clear answers. Spores flow in the higher stratosphere (Tsing, 2020) and are also on the surface, where I document them with a mobile phone or digital camera. Distances and locations, questions, and answers are rhizomized like the mycelium (Deleuze et al., 1992).

## Material or collaborators

Silova's definition follows Donna Haraway's (2016) suggestion to collaborate with other species (see also: Ylirisku, 2021). Haraway's concept of "odd-kin" describes becoming-with each-other and keeps collective life possible. This perception relates to Deleuze and Guattari's theories of aesthetic realism. Jan jagodzinski (2017) wrote in the introduction to the book *What is Art Education? After Deleuze and Guattari*:

No separation exists between sign and meaning, and hence there is no separation between the world and the meaning Attributed to the world. Arting as event becomes a site and a moment when change happens, a modulation takes place from one way of being to another. (p. 6)

Becoming and ongoing processes could help us out of deadly signs which are lost in the distance (jagodzinski, 2017). On a planetary scale, humans are not a very significant species. A posthuman concept of the cosmic artisan (jagodzinski, 2017) may open perspectives for art and other species. In this article I ask how mushrooms challenge our understanding of death.

Autumn 2022 was a poor mushroom season in Southern Finland. Because there were very few edible mushrooms to pick, I got to know many new species just out of interest. I carried samples home from the forest so that I could compare my findings with data sources and make species determinations. One night I forgot *Pleurotus pulmonarius* on the wood stove, the cover of which is cast iron. A surprise awaited me the next morning: *Pleurotus pulmonarius* had blown its pale spores onto the dark stovetop.

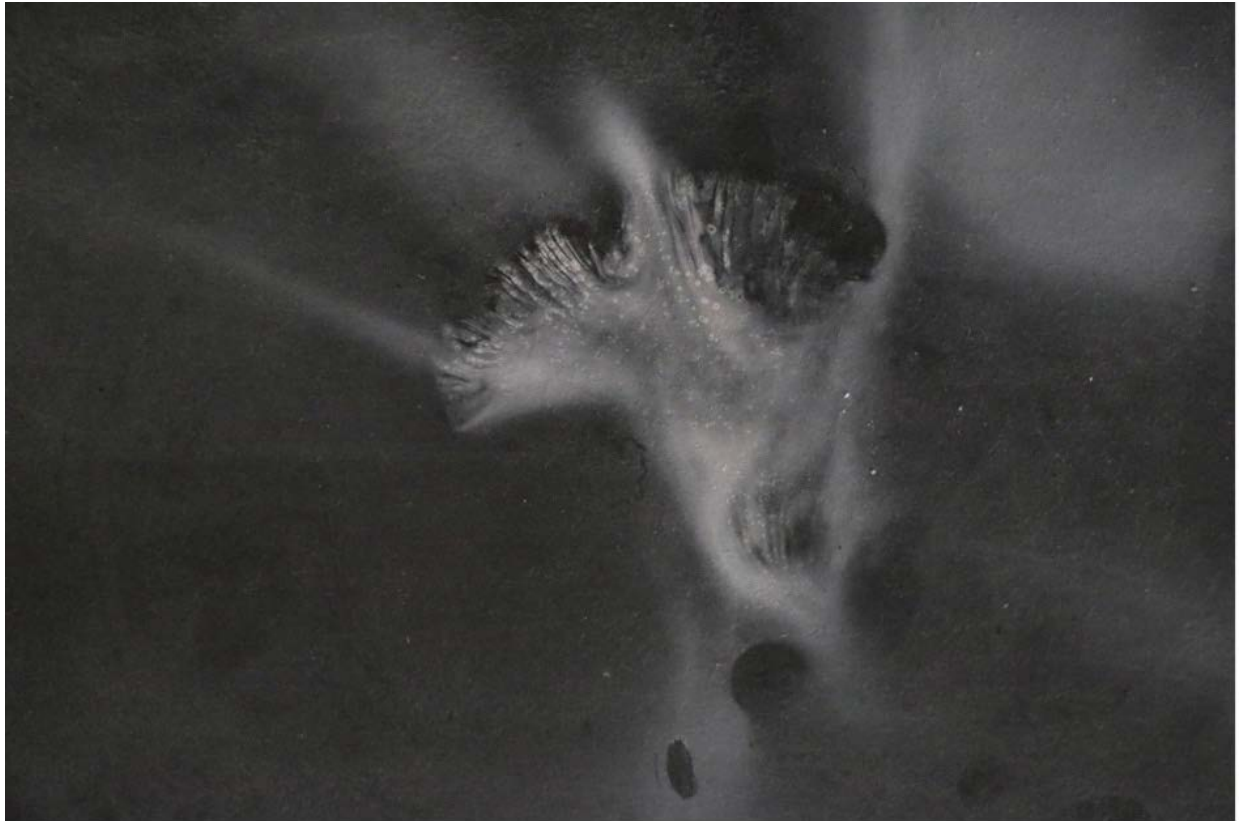
I admired the wonderful trail it had created. I documented the trail with a digital camera so that I could return to it even after the spores had been wiped up with a kitchen towel. As a hobbyist, I had thought

that spores just drip, maybe float with the wind. Based on the picture, it looked like the mushroom had had some kind of ejaculation. I wondered if the metal base could somehow be magnetic, causing the spores to spray away from the mushroom. Did shrinkage caused by de-hydration make a movement that blew the spores around the mushroom? Was it still alive? When does a mushroom die? Does it die at the time of picking, unearthing, when a fruit body is detached from the mycelium? How does a mushroom live? How can one determine if it is alive or dead? My thoughts were filled with an endless series of questions. I might have gotten an answer to some of these questions by consulting a mushroom researcher, for example, learning more about the basidia, which is part of the reproductive organ and makes spores "fly" (Tsing, 2011). However, I already had questions in my mind related to my own field, art, and art education research. What is this picture of spores? Sometimes those are called spore prints (Money, 2022), but could one define it as an artwork? If yes, who is the artist? To discover these answers, I needed more pictures. *Mushroom Autumn 2022* turned into a collaboration project with the mushrooms. My role turned out to be a documenter. As an author of this article, I somehow step into the foreground again.

The mushrooms I collaborated with for this text are: *Coprinus comatus*, *Pleurotus pulmonarius* and *Psathyrella candolleana*. They are from different sites. *Pleurotus pulmonarius* is from Southern Porvoo, while *Coprinus comatus* and *Psathyrella candolleana* are from the Otaniemi campus area (Finland). These three collaborators let their spores on the surfaces (stove and paper). I photographed them, and then I called these photos "spore engravings." I started to wonder if these pictures could be considered self-portraits of fungi.

## Stepping into an animistic trap

For me, the last self-portrait by artist Helene Schjerfbeck (Figure 2) asks me to look more closely at one spore engraving, picture of/by *Coprinus comatus*. These two pictures talk to me in the same tone. In some strange way, they resemble each other. But do I see closing death as the end of everything in these two pictures? No, I don't. I rather see two species, human and mushroom, inviting me to look. The self-portrait by Schjerfbeck is made with charcoal. The carbon in that artwork is in the form of charcoal. Carbon is a material whose role in life and death and in



*Figure 4: Psathyrella candolleana (Kalvashaprakas in Finnish)  
[spore engraving]. Image from the author.*





*Figure 5: Coprinus comatus (Suomumustesieni in Finnish)  
[spore engraving]. Image from the author.*

the whole ecosystem of the Earth is crucial. *Coprinus comatus* can grow through asphalt (Sheldrake, 2020, p. 7). One can make “ink” from *Coprinus comatus*. If one leaves a fruit body of *Coprinus comatus* on a table, it will soon melt down into a form of “ink.” Actually, the picture by *Coprinus comatus* is made of both spores and ink. The self-portrait by Schjerfbeck and the spore engraving by *Coprinus comatus* both depend on carbon. The paper as a surface and the black stuff of the picture that becomes visible to the human eye are both carbon-based materials. If art is sometimes named eternal or everlasting, these kinds of art pictures exist because of the eternal flow of carbon. Here carbon is just for a while, in the form of something that we humans can call art. But how does material turn into art; how is material loaded with meanings?

In some contemporary art, the material has meaning as such. The Finnish contemporary artist Minna Suoniemi made in 2019 a series she named *Series of Chemigrams*. These *Exposures of a Middle-aged Body* are made with analogical photography methods enhanced with medical and beauty chemicals.

Suoniemi applied the cream to her skin and then pressed her skin against the photographic paper. In the darkroom, these prints became chemigrams, which can be interpreted as a kind of self-portrait. These self-portraits by Suoniemi are different from the self-portraits by Schjerfbeck, whose self-portraits are representations that are often “read” as self-expression. Suoniemi’s way of working is closer to the spore engravings by *Coprinus comatus*, *Pleurotus pulmonarius* and *Psathyrella candolleana*. These self-portraits are signs: my body was here. The momentum which is on the paper is somehow less representative than the self-portraits by Schjerfbeck. Those are primarily material. The material here is *the meaning* and gives a basis for other meanings. There is no need for metaphorical interpretations or guesses about what kind of artist’s self-expression the artwork is—it just exists in material form and asks us to attend to the material and respect it.

In fiction, personification is a strategy, a way in which stories can be told (Karkulehto et al., 2020). In fiction, animals can think and talk like humans, mushrooms can imagine and dream, and stones wish to be somewhere else. If this way of thinking strays outside of fiction, we easily create confusion. Sometimes, posthuman discourses



Figure 6: Minna Suoniemi. (2019). *Exposures of a Middle-aged Body*, a *Series of Chemigrams* [framed, EstroGel Estradiol 0.6 mg/g, Black]. Image courtesy of the artist.

suffer from a kind of unintentional animism and personification. This was a delusion that I myself made.

I think that in naming traces by mushrooms self-portraits and reflecting those pictures too much with human-centered art, we personify mushrooms. The problem I see here is that people project their own ways of thinking onto other beings. Metaphorical expressions are not the problem, but those approaches in which human intentions, perspectives, and ways of thinking and behaving reach into all others. For example, empathy is really needed in the current world, but when humans set their own thinking and behavior patterns as a base for everything, I think we are going the wrong way. According to animism, everything that exists and all creatures have a soul. Maybe, we could release thinking about souls and which species might have souls. If our wish to spread animistic soul-thinking does not take up so much space, we could concentrate on the material and respect that. Releasing concerns about my own soul helps me to give up the fear of death.

## Conclusion

Sometimes academic life and working at a university is not easy and takes a lot of energy. There have been days and weeks when I have left the campus feeling I have given my everything and a bit more. Of course, the campus and university have nourished me in many ways. But the way it fed me when I made food from those mushrooms I collected from the campus area was something different. I got an idea of the entanglements of different life forms in the campus area.

Without knowledge, the mushrooms someone picks may offer a shortcut to death. In contrast, a well-chosen mushroom is a nourishing gift from the soil (Kuokkanen, 2007) and may postpone one's own death. In the era of extinctions, the death of a human is trivial on the planetary scale. For each person, their own life and the lives of close ones are still meaningful. When a person dies, the mycelium may process the waste and make room for other life forms. Mushrooms can also offer consolation for those who have lost something important or a loved one. In the summer of 2023, I lost a close friend of mine. After the funeral, I walked with Bruno in the familiar forest. I found mushrooms new to me and more mushrooms than ever. Were my senses more open because grief had changed me? Or was there a more mystical source for the amazing mushroom catch?

*Coprinus comatus*, *Pleurotus pulmonarius* and *Psathyrella candolleana* taught me how the material is meaningful as such. With them, I understand a bit more how I am not extraordinary because I am a human being. What is extraordinary is how carbon is constructed in me with other materials. That particularity is present in every species on this planet. I am comforted by the thought that after my death, I will offer life to another species: my material and carbon will continue their cycle.

So, what are these pictures I have called spore engravings and self-portraits by mushrooms? They are probably not art, but rather visually meaningful forms of material, traces made by mushrooms and documented by me. Those pictures have some shared features with traditional art and some with contemporary art. Spores transmit the mystery of life and death with them. Each spore is a possibility for a new mycelium. They move in the landscape and atmosphere like prayers or spells, almost invisible, unless they land on paper as a dense

self-portrait to tell: I was here and something else will be. To wear *An Infinity Burial Suit* or settle down on the *Loop Living Cocoon* is to become something else. Queering death by providing a basis for fungi to grow is a releasing and comforting thought.

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