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Ecologies and Collaborations in Participatory Design

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Published in:
PDC '22

DOI:
[10.1145/3537797.3537801](https://doi.org/10.1145/3537797.3537801)

Publication date:
2022

Document Version
Publisher's PDF, also known as Version of record

Citation for published version (APA):

Haldrup, M., Samson, K., & Laurien, T. (2022). Designing for Multispecies Commons: Ecologies and Collaborations in Participatory Design. In V. Vlachokyriakos, J. Yee, C. Frauenberger, M. D. Hurtado, N. Hansen, A. Strohmayer, I. Van Zyl, A. Dearden, R. Talhouk, C. Gatehouse, D. Leishman, S. Agid, M. Sciannamblo, J. Taylor, A. Botero, C. Del Gaudio, Y. Akama, R. Clarke, & J. Vines (Eds.), *PDC '22: Proceedings of the Participatory Design Conference 2022* (Vol. 2, pp. 14-19). Association for Computing Machinery. ACM International Conference Proceeding Series <https://doi.org/10.1145/3537797.3537801>

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Designing for Multispecies Commons

Ecologies and Collaborations in Participatory Design

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ABSTRACT

Participatory design has traditionally foregrounded humans as agents and stakeholders in design processes. While the notion of ‘design ecologies’ have gained prominence as an understanding of the particular entanglements, processes of design are part of, the role of nature and other species remains an under investigated area. In the light of increasing states of planetary crisis, and its ubiquitous effects on design and planning we ask how designers may take more-than human rights into consideration and connect with more than human interests and agencies for participation. In doing this, we foreground questions on how other species may emerge as co-creators of experiences and knowledge and collaborators in making livable environments. Drawing on two cases of spatial design (Amager commons, Copenhagen, Denmark and river Viskan, Borås, Sweden) we explore how we may rethink urban commons and their use as cases that call for attention to multispecies collaboration and design.

KEYWORDS

more-than-human, collaborative design, commoning, planetarity, urban planning, citizenship

ACM Reference Format:

Michael Haldrup, Kristine Samson, and Thomas Laurien. 2022. Designing for Multispecies Commons: Ecologies and Collaborations in Participatory Design. In *Participatory Design Conference 2022: Volume 2 (PDC 2022 Vol. 2)*, August 19–September 01, 2022, Newcastle upon Tyne, United Kingdom. ACM, New York, NY, USA, 6 pages. <https://doi.org/10.1145/3537797.3537801>

1 INTRODUCTION: DESIGNING WITH OTHER SPECIES?

In recent years participatory designers drawing on environmental humanities and feminist theory, have increasingly reflected on how to expand the notion of participation in participatory design also to include the voices and interests of more-than-human actors and concerns in design processes [16], [12], [1]. Departing from participatory designs’ traditional foregrounding of humans as the privileged agents and stakeholders in design processes, a focus that

developed within the context of social democratic modernist welfare states, such contributions can be read as responding to more general calls to de-center anthropocentric notions of local-global agencies and ecologies and for re-imagining ourselves as planetary subjects rather than global agents [3], p 72 and [21], [22]. In this paper we want to further these contributions. Drawing on the planetary turn we will use the planetary and ecological crises we stand in as an opportunity for creating new forms of imagination and stories, participation and creativity, and shift attention to “not what life is or how it is managed in the interest of power but rather what makes a planet friendly to the continuous existence of complex life.” [4], p 20. Decentering humans like this also raises the question of how we can start to imagine participatory design beyond human exceptionalism. Not only do we want to ask what rights we ascribe to more-than-human stakeholders and agents. Rather we want to consider how designers connect with more-than-human agencies and approach other species as co-creators of experiences and knowledge. That is, in what sense can we explore and collaborate with other species in making livable environments. How can we work with them; participate with rather than work against them in pursuing exclusively human-centred design interests. The emergence of multispecies studies and the notion of more-than-human commons have with their call for cultivating acts of noticing and attentiveness to other species [6], [2] [20], [23] in significant ways contributed to also reimagine and reposition the role of designers in relation to other species. In the following we will, firstly, reflect on these contributions, and secondly, relate them to ongoing research collaborations on multispecies commons and urban design from Copenhagen, Denmark and Borås, Sweden. In doing this we, thirdly, explore how designing with other species can take part in processes of commoning and co-existence as a way also of democratising soils and commons.

2 MULTISPECIES COMMONS

In their contribution to the recent Venice Architecture Biennale (2021), *Future Assembly*, Icelandic artist, Olafur Eliasson and *Studio Other Spaces* [8], reflect on the long standing debate of delegating rights to nature. Since its declaration by the UN (1972) such rights have been increasingly propagated by global NGOs [13] and implemented in national legislation, most famously perhaps in the granting of legal personhood to rivers in New Zealand, Australia, and India [17]. Yet, Eliasson contends, to accomplish incorporating the rights and interests of more-than-human in our future democratic assemblies we have to forge “a collective space to explore sustainable, more-than-human futures”. We need stories, affections and practices that connect humans with the natural world and



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PDC 2022 Vol. 2, August 19–September 01, 2022, Newcastle upon Tyne, United Kingdom
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ACM ISBN 978-1-4503-9681-3/22/08.
<https://doi.org/10.1145/3537797.3537801>

other species, rather than separating them. Hence, to be able to imagine urban commons as a *multispecies* commons. The concrete contribution to the biennale consisted of a gathering or repository of texts, objects, design and art works relating to the theme of future more-than-human assembly, hence illustrating how artists may explore the 'speculative dimensions of multispecies worlds' by "facilitating other ways of speaking about how our own survival is contingent on entanglements within multispecies assemblages." [6], p 9. It also pointed to the potentials for re-imagining our planetary commons beyond the separation of natural and social worlds as a potential space, not only for resistance against dominating modes of planning and production, but for producing new and *shared* worlds [2] through processes of, 're-enchanting' the earth [11], p 188. Examples of practices of re-enchantment have been particularly influential (also within design literature) through the mobilisation of descriptions and knowledge on examples from indigenous cultures [5, [14], [24], [9], [10], emphasising how everyday actions and performances foster or reinforce affective relations and interdependencies between land, soil, vegetation, animals and people. Such performances can be viewed as entangled processes of "becoming-with" or "co-becoming" [20] positioning also humans as partners in the process in the role of becoming and being commoners bringing "one another into being through entangled relations that include, but always also exceed, dynamics of predator and prey, parasite and host, researcher and researched, symbiotic partner, or indifferent neighbor." [6], p 3.

While much of the inspiration for such approaches have come from studies of cosmologies and practices of indigenous cultures, we contend that they also imply a shift in the role of planners and designers working within the context of social democratic modernist welfare states. As practitioners and theoreticians of participatory design, we need to address this potential in including more-than-humans in our thinking and designs. This is urgent in times where our nature commons, rivers, watersheds, urban nature resorts are increasingly enclosed. In this regard, multispecies co-design can be an important pathway to "re-enchant" the commons [11], but also a way for designers and activists to pose environmental justice claims on behalf of those species that do not have a voice or representation in our communities and political assemblies. In other words: we have to embrace and enact cosmologies that allow for new planetary, alliances between land, plants, people, animals etc to come into being and re-imagine the role of designers as commoners (stewards, herds, gatherers) of multispecies commons. In this contribution we want to elaborate further on how more-than-human actors can emerge and take part in design processes. In that sense multispecies ethnography is not only a new genre of writing and mode of research, but a shift in analytical perspective to creatures previously appearing on the margins of anthropology (and design), and a passionate sensitivity towards them [15].

Employing a multispecies approach shifts the gaze towards other species and new commitments to observation and fieldwork—what Tsing [23] calls "arts of noticing" - stressing attentiveness and sensuous involvement with landscapes and commons and ultimately to approach these as "an informal experimental space" (in which) "not just one party (the scientists) decides what the interesting questions are and imposes them on the research subjects. Instead, these are filtered through to researchers through numerous representations,

aestheizations and enactments in which everyday practices such as distribution on social media, activism and artistic practice also play their part" [6], p 4. In this our designerly attention is directed to the many "multispecies knots" that connect humans to other species, habitats and "patterns [that] nurture the flows that sustain the present and work for the future" [18], p 136. Following Rose [18], we will attend to the habitats of particular species as gateways for approaching the spaces of Amager Commons, Copenhagen and River Viskan, Borås, as experimental spaces in which we explore how participatory design might collaborate with other species in processes of commoning and co-becoming. Our two cases come from a Scandinavian context of participatory design but also open up the field of design into broader socio-cultural practices of design-ing. Drawing on multispecies studies we argue that methodological experiments with bodies, senses and sense making are central to understanding other species' habitats and how our lives are connected. Hence, our approach will draw from sensing, observing and doing as we attune our attention to great newts and river fish, their habitats and living conditions. Through walk-along interviews, in which designing-with and listening to other species are at the center of our attention, we collaborate with and learn from knowledgeable practitioners engaged and entangled in the field i. e. activist and anglers as well as from encounters with other species and their habitats. Through this we hope to be able to contrast dominant modernist, extractivist and anthropocentric approaches to urban design, with multiple entanglements between land, soil, plants and people to emerge, and allow for *other* cosmologies, commonings and processes of co-becoming to emerge.

3 ENCOUNTERS WITH THE MORE-THAN-HUMAN COMMONS

3.1 The Great Newt and the Reenchantment of Amager Commons

We walk along the creek running through Amager Commons - this thriving ecosystem less than 4 km from the city centre of Copenhagen. Formerly it has been used as a commons for pasture, a garbage dump for the expanding city, a shooting ground for the military. The commons can be understood as a nature-culture entanglement over time in which humans, nature and multiple species have joined forces so as to create a thriving ecosystem which has become the habitat for multiple species such as the great newt, the skylark, deers as well as humans. As such it serves as a contemporary commons for cohabitation, and as a space for affective encounters and commoning between species.

Amager Common is however, currently also an entanglement of conflicting interests between the social, ecological, economic, biological, and recreational interests. Its closeness to the city center and an increasingly neoliberal and accelerated urbanisation has made the commons into a desired place for urban development. Whereas the landscape holds a unique history of being taken, eaten, developed, designed, left and forgotten by humans, it is now subject to real estate development and the construction of a new Fælledby, The Commons City, taking place in the habitats of the skylark and the great newt. In the eyes of some planners and politicians these habitats are still just a 'garbage dump' or an "empty lot" - thereby manifesting a modernist *tabula rasa*, human-first conception of

space that foregrounds some human livelihoods over other species. For some humans it might be difficult to imagine other lives unfold so close to our own urban lives. However, walking at the commons gives you another perspective. We walk with Frej from the Embassy of the Species - an activist group protecting and claiming the rights of other species. Frej is ambassador for the great newt, and while we walk he points and explains where and how the newt lives, and how the development of Fælledby will cause severe damage not only to the exact habitats of the newt, but also interrupt and disturb the thriving ecologies: “It is important to protect sites where species can breed and expand their living conditions, and not only survive. Amager Commons is such a place, and that is what we are fighting for – that it will remain a thriving and expanding ecosystem. Here the great newt plays a key role as an ambassador species, and it is not only us saying that, the great newt is appointed an ambassador species in the European Habitats Directive”, he explains. The great newt is not threatened as a species in Denmark (but is so elsewhere in Europe) but is both an ambassador species and an indicator of the thriving of other species in the local ecosystem. It was in the capacity of the latter that the great newt for a moment caused legal authorities to halt the construction work before resuming it again half a year later. The imperative of constant growth and paying off debts from other urban development projects such as the metro and the neighbouring new city, Ørestad, has made urbanisation paradigmatic for intensive exploitation and colonisation of other species habitats, and this is, according to the Embassy of the Species, why we must address other species’ rights to the city, and understand how we are connected as living creatures. After walking for a while, Frej points into the bushes and makes us aware of the puddles in the meadow. We stop and gaze into the waters - wedges and various plants, entanglements of nature that are not easily penetrable for the human eye but hold a richness of life. Here the great newt lives and breeds. Less than 100 metres behind the trees, we can see the fence to the construction site of “Fælledby”, Common City, a territory defined by clear demarcations and the practice of building from bare field.

Another way of pointing to the rights of other species is, according to Frej, to give them a face we as humans can recognize and mirror ourselves in. Aesthetics and sensory ways of encountering other species, he explains, is important to make humans understand the lives of others, and how we are connected. Walking and exploring the habitats of the newt, the skylark and many other species is one way of initiating an interspecies commoning. Another approach to enact other species rights is through aesthetic representation - showcasing and representing what we cannot see. Frej, being a photographer himself, uses media design and activist performances as means to address the existence and valuable lives of other species. Frej mentions how he in his photos portrays the great newt with an almost human face looking into the lens and addressing us with an affectionate gaze.

Creating interspecies awareness and connectedness can be done by aesthetic means but also lies in the way we name things. While some politicians and planners have labelled the building site a “garbage dump” activist groups like Embassy of the Species and Friends of Amager commons have persistently given the site names pointing to the sites as the thriving habitats of other species. Hence, “Lærkesletten”, The Skylark Plain, points to the nesting ground



Figure 1: Walking on Amager Commons is a practice of commoning with other species, and with experts such as Frej Schmedes, the Great Newt Ambassador. In front, the habitat of the newt, in the background existing urban development in Ørestaden, and behind the trees the construction site for the future city, Fælledby. Photo ©Kristine Samson

of the skylark, while “Strandengen”, the Salt Meadow, points to the geomorphological history of the site before being dammed by humans. In this sense, activists re-enchant the commons from a multispecies and environmental perspective. As such, the Embassy of the Species works with how words and names come to matter, and the performativity not only of words and fictionings but also of aesthetic and sensory expressivity. While these aesthetic media and activist designs matter as specific affective forms of producing collective subjectivities beyond human exceptionalism, they also work on a political scale addressing representation and more than human citizenship.

3.2 Towards the Liberation of Co-citizens trapped between Walls

The river Viskan, who has given human beings the necessary conditions to build dwellings along its banks - today the city of Borås - has not been given much good in return. On the contrary, over the centuries, just like many if not most rivers, it has been highly manipulated and even at times lethally poisoned. One of the big



Figure 2: The great newt with human-like features. One of the media tactics of the Embassy of the Species is to work aesthetically with human representations of species so as to evoke empathy and care among their fellow human citizens. Photo by the Newt Ambassador, Frej Schmedes, ©Frej Schmedes

problems that still remains is the abundance of dam walls that hinders free flow of water, and necessary movement for migratory water creatures like eel and brown trout. In the city centre of Borås there are two walls named the “Berlin Walls” by the local anglers. Trapped between these walls, a distance of 4,2 km, the fish communities live in constant stress due to e.g. sudden human-caused alterations of the water level (as part of urban flood management) and poor reproduction possibilities in general.

A grand park project that the city has decided to develop in the coming decades has acutely made visible the differences in how most human beings seem to treat life on land versus life below the water surface. The official vision of the park is that of a green corridor that crosses the city, and that at some places aligns with its blue twin. A counter mapping project is now taking shape that will build on both human and more-than-human participants’ input, activities and agencies. In an early interview and planning meeting, a local influential angler was asked: “can you give examples of concrete encounters with water and fish where you think that they have contributed in active ways, thus teaching you something



Figure 3: “The Southern Berlin Wall”. Although this so-called wall doesn’t look like a wall the way we humans may imagine a wall - and many human beings would probably even experience it as beautiful and mesmerising - it still acts as a definite and brutal wall for individuals in the local fish communities. Photo ©Thomas Laurien

about their lives, conditions and needs?” Framed differently both the angler, the water and the fish can here be understood as participants in a participatory design activity (later labelled as this by a designer and the author of this case text). The stories and the connected sites that the Angler recalled were marked on a conventional map, and together with more stories by his angler friends, they will result in a counter map that can be used for public eye-opening “from-wall-to-wall-walks”, as well as a tool for shedding light on the uneven conditions for the “twins”, in the public debate. The ultimate goal of course being the removal of the walls, or at least the creation of functioning fish passages, and strengthened and fair relations between different kin(d)s of citizens.

Why collaborate with an angler and not a biologist/limnologist one may ask? Although many anglers of course want to catch fish, it is also part of the contemporary angler culture to release the caught fish in as good and respectful a way as possible. Anglers want to fish, i.e. there need to *be* fish in the first place, hence they want fish to thrive. It then comes as no surprise that many angler associations today actively work with e.g. river restoration projects. Paradoxically or not, the hook and the care come as a pair. Many anglers spend a huge amount of their time in proximity with water and fish, and interact with both schools of fish and fish individuals, as well as the mood of the water. As a result, they often become very knowledgeable about the *ethos* of different species - i.e. distinctive embodied ways of being in the world. Local and situated anglers “pay attention to what makes life forms unique” [19] p 122, and may respond to those differences by legally or illegally redesigning the (damaged) environment. In the between-the-walls context studied here three examples of past or future redesign of the environment can be mentioned. Firstly, when anglers started to notice that the pike community lacked youngsters, they identified a suitable area

where they, under the radar of the authorities, created better conditions for pikes to reproduce and a safe zone for the youngsters to spend their early days in. This is a seasonal wet shallow milieu; neither river nor land it seems to be an unwanted in-between form, not yet sufficiently recognized as an important urban architectural and city planning typology crucial for some citizens. The task for the anglers is now to maintain this zone in unnoticeable ways, or else it may risk being fixed back to its dry state. The second example is a story about a meeting between two individuals, one human being and one brown trout being. Today brown trout has become really rare between the walls. One negative factor is the lack of possibilities to migrate to lakes or vivid brooks. Another crucial factor is the lack of good clear gravel beds under streaming water, needed for their nests. One day, when strolling along the river, the angler noticed a shadow in the water. Just like bird watchers become experts on bird silhouettes in the sky, anglers become experts on dark shadows below the water surface. This was definitely not the shadow of a pike or a rainbow trout (the implanted transatlantic distant relative of the brown trout). The shadow stood still on a certain spot, and suddenly the angler realised that with relatively small improvements this spot could become an oasis for the suffering brown trout community that is now trying to survive in the poor environment between the walls. For the angler this event now stands out as an experience of a brown trout trying to tell him something important.

The final example in this short resumé of different fish ethos concerns perch. Anglers know that perch individuals like to hang out close to vertical elements in the water, like bridge pillars. In urban cleaned waterways the pillars probably function as a substitute for big rocks and fallen tree trunks. Many parts of the river between the walls can best be described as just sterile channels for the water to pass. These passages are devoid of water plants, clean gravels, or any kind of structures that are crucial for a good life below the water surface. In these desert-like passages architects, designers, and fine artists could be commissioned to design large wood constructions to be placed in the water - for the joy and necessity of both human and perch citizens.

4 CONCLUSION: THE DESIGNER AS COMMONER

The two cases discussed here question the role of design and designers. Both engage with how designers can sustain existing ecologies and repair the damage done by the current practices of for instance urban design and planning. In doing this the cases point to the values that can be gained for designers from teaming up with knowledgeable and passionate people from non-designerly positions - environmental activists and anglers - and how we as designers can use our platforms to amplify their experiences and voices. What we have seen in the two design cases is how participatory design practices can work with an earthly commoning in-between humans and other species. As Escobar points out, “Earth thinking” is expressed not primarily through new theoretical understandings, but rather “through art (weavings), myth, place-centric economic and cultural practices and struggles for territory” [21], p 34. How can we understand the role of the designer in the above described case?



Figure 4: The brown trout stood still in the streaming water, and the Angler who paid attention to this realised the spot’s potential as a future oasis for the brown trout community. Photo ©Thomas Laurien

Clearly she/he is not the spider in the web, like in conventional participatory design practice. Rather he/she becomes a *co-commoner* in working with committed and engaged others. In the case of Assembly of the Species, speculative and artistic uses of media and technology become conversation starters for prompting dialogues, expressions of citizenship that give voice to the ones that hide in the mud and are not represented in the current human centred and economically driven urban design practice. But it also weaves into political and democratic processes where citizens in Copenhagen have become aware of other species living in the commons. As such we can see the work of the Embassy of the Species as co-designing with and between species engaging with myth-making and cultural practices weaving together the natural habitats of other species’ worlds into the cultural and socio-political worlds of humans, planners and politicians. In the case of anglers and the river Viskan the direct multi species interaction happens between the fish and the Angler. The Angler, again speaking with Bird Rose and van Dooren, is practicing “the arts of becoming-witness, which include both attention to others and expression of that experience” [19], p 125. What the designer can do is to help transform the expression

into stories that “may give rise to proximity and ethical entanglement, care and concern” [7] p 89. The designer can also mediate the stories in situated and engaging ways. In the context of the river Viskan in Borås, we - fish citizens, anglers and a designer - will together explore if a counter map can be a stepping stone towards a change of attitudes about co-citizens trapped between walls. This is ultimately storytelling about the rights for both fish and the water to move freely - to exist, thrive, and develop according to their respective ethos (see [13], Article 2). Both cases illustrate how designers as future-makers can learn to listen differently by expanding perceptions and practices into multispecies worlds, hence working for re-imagining and repositioning the various entanglements with lives and rights of the fish, the newt, the skylark and multiple others into human consciousness and public debate. In that sense, participatory design, - whether it is in the form of media design and representation or river restoration as a commoning practice - may become a powerful tool for reclaiming control over our connected lives, and over the conditions of our reproduction. In doing this we may think of the role of the design as that of a *commoning*; democratising urban landscapes as multispecies commons, through political and designerly acts insisting on the relevance of a planetary conception of citizenship rights and claims decentred from human exceptionalism.

ACKNOWLEDGMENTS

The case of Amager Common draws on ongoing collaborations between Assembly of the Species and other environmental activists in the Greater Copenhagen Area and researchers Kristine Samson and Michael Haldrup, and this paper in particular a lengthy walk-along conversation with the Ambassador of the Great Newt, Frej Schmedes. The case of River Viskan draws on an ongoing collaboration between researcher Thomas Laurien and anglers in and around Borås.

REFERENCES

- [1] Yoko Akama, Ann Light, A. & Takahito Kamihira. 2020. ‘Expanding Participation to Design with More Than-Human Concerns’. PDC ’20: Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Vol. 1 pp. 1–1.
- [2] Patrick Bresnihan, 2015. ‘The more-than-human commons: From commons to commoning’. In: Kirwan, S., Dawney, L. & Brigstocke, J. (eds.). *Space, Power and the Commons*. London: Routledge pp 105-24.
- [3] Dipesh Chakrabarty, D. 2016. ‘Whose Anthropocene. A Response’. In: Emmett, R. & Lekan, T. (eds.). *Whose Anthropocene? Revisiting Dipesh Chakrabarty’s ‘Four Theses’*. RCC Perspectives: Transformations in Environment and Society (2) pp 103-13.
- [4] Dipesh Chakrabarty 2019. ‘The Planet: An Emergent Humanist category’. In: *Critical Inquiry* 46. Pp 1-31.
- [5] Marisol de la Cadena 2015. *Earth Beings. Ecologies of Practice across Andean Worlds*. Durham: Duke University Press.
- [6] Thom van Dooren, Eben Kirksey & Ursula Münster, T. 2016. ‘Multispecies Studies. Cultivating Arts of Attentiveness’. In: *Environmental Humanities* 8:1 pp 1-20.
- [7] Thom van Dooren & Deborah Bird Rose 2016. ‘Lively Ethnography: Storying Animist Worlds’. In: *Environmental Humanities* 8:1 pp 77–94.
- [8] Olafur Eliasson, O. and Studio Other Spaces 2021. ‘Future Assembly’. Contribution to *How will we live together? The Venice Biennale Architettura*. <https://studiootherspaces.net/futureassembly/> retrieved february 1st 2021
- [9] Arturo Escobar 2016. ‘Thinking-feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South’. in: *Revista de Antropología Iberoamericana* 11 (1). Pp 11-32.
- [10] Arturo Escobar 2021. *Pluriversal Politics*. Durham: Duke University Press.
- [11] Silvia Federici, 2019. *Re-Enchanting the World. Feminism and the Politics of the Common*. Toronto: PM Press.
- [12] Emmy Laura Perez Fjalland & Kristine Samson 2019. ‘Reparative Practices: Invitations from Mundane Urban Ecologies’. Paper for *NORDES - Who Cares?*, Helsinki: Nordic Design Conference 8 <https://nordes2019.aalto.fi/>.
- [13] GARN: Global Alliance for the Rights of Nature. <https://www.garn.org/universal-declaration/>. Accessed 20 January 2022.
- [14] Robin W. Kimmerer 2013. *Braiding Sweetgrass*. London: Penguin Books.
- [15] S. Eben Kirksey & Stefan Helmreich, S 2010. ‘The Emergence of Multispecies Ethnography’. In: *Cultural Anthropology* 25 (4) pp 545-76.
- [16] Kristina Lindström & Åsa Ståhl 2019, ‘Caring Design Experiments in the Aftermath’. Paper for *NORDES - Who Cares?*, Helsinki: Nordic Design Conference 8. <https://archive.nordes.org/index.php/n13/article/view/495>.
- [17] Erin L. O’Donnell & Julia Talbot-Jones 2018. ‘Creating legal rights for rivers: lessons from Australia, New Zealand, and India’. In: *Ecology and Society* 23 (1).
- [18] Deborah Bird Rose 2012. ‘Multispecies Knots of Ethical Time’. In: *Environmental Philosophy* 9 (1) pp 127-40.
- [19] Deborah Bird Rose & Thom van Dooren T. 2017. ‘Encountering a More-than-Human World - Ethos and the arts of witness’. In: Ursula Heise, Jon Kristensen & Michelle Niemann (eds.). *The Routledge Companion to the Environmental Humanities*. London: Routledge. Pp 120-128.
- [20] Neera Singh 2017. ‘Becoming a commoner: The commons as sites for affective socio-nature encounters and co-becomings’. In *Ephemera: Theory and Politics in Organization* 17 (4) pp 751-76.
- [21] Gayatri Spivak 1999. *Imperatives to Re-Imagine the Planet*. Vienna: Passagen Verlag.
- [22] Gayatri Spivak 2013. *An Aesthetic Education in the Era of Globalization*. Cambridge, Mass.: Harvard University Press.
- [23] Anna Tsing 2015. *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*. Princeton: Princeton University Press.
- [24] Alexander R. D. Zahara, A. R. D. and Myra J. Hird 2016. ‘Raven, Dog, Human: Inhuman Colonialism and Unsettling Cosmologies’. *Environmental Humanities* 7 (1) pp 169-90.