

# CARING DESIGN EXPERIMENTS IN THE AFTERMATH

KRISTINA LINDSTRÖM  
MALMÖ UNIVERSITY  
KRISTINA.LINDSTROM@MAU.SE

ÅSA STÅHL  
LINNÆUS UNIVERSITY  
ASA.STAHL@LNU.SE

## ABSTRACT

We live in the aftermath of industrial design, which primarily has been guided by a focus on making the new. Through the project Un/Making Soil Communities, carried out where glass production has left pollution in the soil, the authors propose caring design experiments which aim to foster maintenance and repair for livable worlds. In this articulation, the authors draw on democratic design experiments (Binder et al 2015), but propose a shift from gathering around matters-of-concern (Latour 2005) to matters-of-care (Puig de la Bellacasa 2017). Furthermore, caring design experiments also entail engaging with big enough stories (Haraway 2016) through going visiting and continuously crafting invitations.

## INTRODUCTION

Design as a practice and a discipline is future-oriented and primarily concerned with transforming the future into a preferred one, through making new things. This focus on what is made, rather than what is replaced, left behind and becoming waste, has and will continue to contribute to urgent environmental concerns. We are thus reminded that the past matters, and at this particular time we see several calls and attempts to turn towards and engage with the past, and perhaps more importantly how different pasts come to matter (Rosner 2018, Stengers 2015, Tsing et al 2017). One concept that have brought attention to the great environmental impact of previous human actions is the Anthropocene, which

suggests that we have entered into a new geological epoch (Crutzen and Stoermer 2000).

How can we as designers and design researchers respond to this grand story of a new geological epoch? Haraway proposes that there are two common responses. One is to declare game over, as in being in doubt that anything can be done to avoid the inevitable apocalypse. Another one is to propose so called techno-fixes. In this second response, which is perhaps more common within design, problems are expected to be solved through improved or new technologies.

As an alternative to these polarized responses, we will in this paper suggest a turn towards care, which can be understood as an invitation to attend to continuous work of maintenance and repair of liveable worlds, in the aftermath. Thus, care offers a more hopeful response than declaring game over, at the same time as it disrupts the dominant future orientation of design which involves making new things. In our explorations of ways of caring for livable worlds, we will turn to the designerly tradition of participatory design or more specifically democratic design experiments, that acknowledges that design is always made somewhere, rather than aiming for generating universal stories, theories or design. The combination of care and the legacy of Scandinavian participatory design brings us to caring design experiments.

Through the project Un/Making Soil Communities situated in the Kingdom of Crystal, a landscape marked by previous makings in the glass industry, we will discuss potentials and challenges of setting up caring design experiments.

## MATTERS THAT EMERGE IN THE AFTERMATH

Trying to understand and describe our contemporary times, Jackson reminds us that “... like every generation before, we live in the aftermath” (2014, p. 239). The particular conditions of our times, is that we are living in the aftermath of industrialised design<sup>1</sup>, that has been developed within a modernist framework, guided by anthropocentric and progressivist imaginaries. In other

---

<sup>1</sup> When we are using the term aftermath in relation to industrialised design, we do not suggest that it has passed. Rather, while it is in

some ways still ongoing we are also already living in the aftermath of previous making.

words, the focus of design has been, and is still predominantly, on making people's lives easier and better, and enabling continuous progress.

These anthropocentric and progressivist imaginaries have for example been enacted through the use of plastics. When plastics first started to be used within industrialised design, it offered a cheaper alternative to materials such as wood, glass, stone and metal. It became an enactment of human mastery over nature, and seemed to offer endless possibilities. Since plastics is often used in disposable products, it has also enabled a supposedly carefree living, where things are thrown away after single use.

In the aftermath of this way of thinking and making we are reminded that pasts matter. On a rather concrete level pasts come to matter as plastics accumulates (Gabrys et al 2013), for example it has been found in sea salt (Yang et al 2015). Plastics, which at one point was associated with human mastery and continuous progress, has turned out to have unexpected and often unwanted effects.

As a response to these matters that have emerged in the aftermath of previous making there are several calls to rethink and rework the ways in which designers work, and to break with these modernist imaginaries. Moore points out that: "The philosophies, concepts, and stories we use to make sense of an increasingly explosive and uncertain global present are - nearly always - ideas inherited from a different time and place. The kind of thinking that created today's global turbulence is unlikely to help us solve it" (Moore 2016, p. 1). In other words, to respond to matters that emerge in the aftermath does not only involve attending to materialities such as plastics accumulated in the ocean or bodies, but also to rework and rethink inherited imaginaries, concepts and figures that we think through and with.

This kind of work is for example done by Tsing et al (2017) who propose two figures - ghost and monster - that invite to transdisciplinary work that in different ways break with a modernist heritage. More particularly, ghosts and monsters are described as "... two points of departure for characters, agencies, and stories that challenges the double conceit of modern Man. Against the fable of Progress, ghosts guide us through haunted lives and landscapes. Against the conceit of the Individual, the monsters highlight symbiosis, the enfolding of bodies within bodies in every ecological niche" (Tsing et al 2017, p. M2-3). In other words, these two figures invite us to notice temporal, material and conceptual entanglements, rather than discrete entities and temporalities.

While the main guiding concept in this work is care, ghosts and monster have been fruitful for us in the work of setting up the project Un/Making Soil Communities, especially for rethinking and reworking what we care for and how.

The ghost, which reminds us that it is not possible to make a clear break with the past, has been a guiding figure when we visited and invited to engage with ongoing past of The Kingdom of Crystal. The region used to have a bustling glass industry where artefacts ranging from everyday use items to glass art were produced and successfully sold both nationally and internationally. Nowadays there are at least 50 closed-down glass factories. Those that are active work in small scale or have moved most of their production to other parts of the world. They also have to follow stricter regulations of what the glass contains and how to handle leftovers. Still, these landscapes of forests, lakes and stones are marked and haunted by previous production of glass. Since leftover materials that contained metals often were dumped nearby the factories, the soil in the Kingdom of Crystal is polluted by for example lead, arsenic and cadmium. On a national, regional and municipal level there is an awareness of this concern and measurements have been taken, maps of polluted areas produced and, in some locations, land is sealed off and even moved to controlled landfills. At the same time, there are many areas that are marked as polluted on the maps that are accessible and in use by local residents as well as tourists.



Figure 1: Seed bags.

The figure of the monster, which invites to think in terms of entanglements across and between more than human actors, has been generative when crafting the invitation to take part in Un/Making Soil Communities. The invitation involved picking a place in need of care and one or several seeds that we had gathered in a seed box. The seeds (Sunflower, Soybean, Alfalfa, White Lupin, Indian Mustard) were chosen because of their capacity to accumulate metals, and thereby potentially remediate the soil. But, as we have written in the invitation, the seeds can also do other things. Depending on where they are planted they carry the potential of becoming a protein resource for humans, bird food or act as an invasive species. In other words, the plants can become different kinds of monsters depending on their specific entanglements and relations. This is a paradox of risk and potential that is shared with other phytoremediators, which in short refers to the process of

remediating soil through plants (Kennen and Kirkwood 2015).

While the aftermath of the glass industry is well known it is not given how and to whom this aftermath matters, as well as how to care for it. This is why we turn towards caring design experiments. Our articulation of caring design experiments draws on democratic design experiments (Binder et al 2015) that aims to gather heterogeneous actors around matters-of-concern. *Un/Making Soil Communities* bares several similarities with democratic design experiments but focuses on how caring relationships can emerge and be sustained around matters-of-care. Furthermore, the aim is to generate, engage with and give form to big enough stories.

### ENGAGING WITH MATTERS-OF-CARE

Our engagement with *Un/Making Soil Communities* and our proposal for caring design experiment can be seen as part of a recent shift within participatory design which involves a move from working with well-established communities of practice, to engage with heterogeneous actors and the formation of publics (see for example, DiSalvo et al 2012, Lenskjold Ulv et al 2015, Lindström and Ståhl 2014, Binder et al 2011). Binder et al have articulated this move as "... a shift from a focus on users and representation towards citizens and publics, including not only human, but also non-human participants" (Binder et al 2015, p. 152). Influenced by Actor Network Theory (ANT) and its concern with how things are made public, Binder et al have proposed this rearticulating and repositioning of participatory design, as democratic design experiments (Binder et al 2015). In this articulation Binder et al specifically build on Latour's (2005) work on 'how to make things public', where he draws attention to ways in which objects such as climate change are represented. Rather than treating these matters as facts, Latour argues for making them public as matters-of-concern. Furthermore, he calls for gathering in Things, that brings together, human and non-human actors, in a process of negotiations and deliberation. Bringing these thoughts into a design context, Binder et al makes a programmatic call for democratic design experiment, which could be understood as a call for designing things, i.e. to design gatherings and socio-material assemblies where design is negotiated, rather than designing discrete and stable objects.

Caring design experiments bare similarities with this articulation of democratic design experiment in that it puts focus on formation of publics rather than working with well-established communities of practice. Thereby it is not always pre-given what is at stake and who has something at stake. A central challenge within democratic and caring design experiments is thus to make "...issues experientially available to such an extent that 'the possible' becomes tangible, formable, and within reach of engaged yet diverse citizens" (Binder et al 2015, p. 163).

Drawing on Lury and Wakeford (2012), and their work on inventive methods, we also acknowledge the need to adjust methods to the matter at hand. When gathering around matters that have emerged in the aftermath of industrial making, such as metals in the soil from glass production, the challenge is to explore alternative imaginaries to making the new. We propose care as one such alternative imaginary, which includes the exploration of ways of repairing and maintaining liveable worlds.

Our proposal to move from democratic design experiment to caring design experiment should not be understood as a radical break, but rather a thickening of a designerly repertoire of design experiments and a move from matters-of-concerns to matters-of-care (Puig de la Bellacasa 2017). We can think of it as generating differences within.

Puig de la Bellacasa makes a similar move when she draws on and builds on Latour's (2005) matters-of-concern in her articulation of matters-of-care. She describes similarities and overlaps between the words concern and care, but suggests that care has a stronger sense of commitment and attachment to something. Furthermore, she points out that the word care is more easily turned into a verb – to care – which points towards care as a practical doing, with affective and ethical implications. Thus, to her, care spans across three dimensions – labour, affect, ethics – which inevitably involves unresolved tensions and contradictions.

With the notion of-matters-of-care, we are invited to attend to and give account of neglected things, and the ongoing work of care "... to maintain, continue, and repair our 'world' so that we can live in it as well as possible (Fischer and Tronto 1990)". Puig de la Bellacasa builds on Fischers' and Tronto's generic definition of care, but extends the "we" to more-than-human others. This extension or rearticulation of the "we" can be understood as an attempt to "decentre anthropocentric ethics" (Puig de la Bellacasa 2017, p. 217), without disregarding human vulnerabilities and response-abilities (Haraway 2016). The argument here, is that anthropocentrism has generated harmful and exploitative relations. A turn towards an ethics that includes more than humans builds on a recognition of interdependence between actors. With this move into more-than-human worlds, we are for example invited to think of 'soil communities' as including not only microorganisms and worms, but also humans. Humans thereby become members of soil communities, which includes obligations as well as vulnerabilities.

For Puig de la Bellacasa, matters-of-care should be understood as a commitment to caring relationships that can emerge through the ways in which we tell stories. A turn towards matters-of-care does in other words not just entail giving account of ongoing work of care, but to attend to the performative aspects of stories and how they can participate in making difference. As we have

mentioned earlier, grand narratives of the Anthropocene tend to generate polarised responses. To move beyond these responses, and to cultivate caring relationships towards matters that have emerged in the aftermath of industrialised design, we have started off in concrete and partial situations and locations. Through these concrete material engagements and reconfigurations our aim has been to engage with and craft big enough stories (Haraway 2016) – i.e. stories that avoid universalising claims but are big enough to care for and can generate care.

## ENGAGING WITH BIG ENOUGH STORIES

Along with Haraway and Puig de la Bellacasa we think that the possibility to act is connected to how stories are told. Caring design experiments aim at telling and be part of making big enough stories, that “... gather up the complexities and keep the edges open and greedy for surprising new and old connections” (Haraway 2016, p. 101). In other words, big enough stories and making function like string figures that are passed on between actors, making connections between partial and situated accounts and stories. In our work with Un/Making Soli Communities this has been done by going visiting and crafting invitations.

## GOING VISITING

As with any visits, it is a visit to somewhere particular. Going to the Kingdom of Crystal was in part to come back since we had been working in this area before. Still, we are not currently living there and were thus visitors. In the initial stages of Un/Making Soil Communities we were influenced by Haraway’s articulation of ‘a curious practice’, which involves to ‘go visiting’ (Arendt 1982) and to do so ‘politely’ (Despret 2005). The practice of going visiting is challenging since it “...demands the ability to find other actively interesting, even or especially others who most people already claim to know all too completely, to ask questions that one’s interlocutors truly find interesting, to cultivate the wild virtue of curiosity to retune one’s ability to sense and respond - and to do all this politely!” (Haraway 2016, p. 127). We take this to mean a commitment of openness in the meeting between researcher and the researched, not trying to know in advance what will happen, but to be prepared for surprises. To go visiting is not without risk, for example, it means letting go of some security in terms of predefined problems, methods and forms. As shown by Hald (2018) and Juul Søndergaard (2018) the practice of going visiting as part of design research, can also be valuable, as it interrupts taken for granted assumptions and allow for “... other ways of doing what would perhaps be ‘better’” (Haraway 2016, p. 131). For Juul Søndergaard (2018), for example, going visiting a person living with electromagnetic hypersensitivity acted as a critical and generative interference with her practice on technology and intimacy.

While Haraway suggests that we cultivate a curiosity towards things we think we already know, Tsing et al argue for cultivating the arts of noticing “... the strange and wonderful as well as the terrible and terrifying” (Tsing et al 2017, p. M7) in order to make worlds that have been ignored in favour of progress visible. The figures of the monsters and ghosts, can be helpful when cultivating the art of noticing, as they direct our attention towards the scary and beautiful parts of the aftermath of industrial production which involves entanglements between temporalities as well as bodies.

For caring design experiments, we thus find it generative to combine going visiting with arts of noticing.

## CRAFTING INVITATIONS

A central aspect of setting up design experiment is to craft invitations. This is partly done in order to gather stakeholders which contributes to an epistemological width and to set an initial frame or direction of the project. We have crafted the invitation to collectively practice the arts of noticing neglected things such as places in need of care as well as already ongoing and emerging work of care in this particular place. The invitation also involves potential ways of intervening into these landscapes haunted by the past and ongoing ways of caring. More specifically, the invitation suggested to care through more than human communities - including humans, plants and more. Crafting invitations is however not innocent since it involves articulating an issue and how to engage with it (Lindström and Ståhl 2016). In Un/Making Soil Communities the invitation pointed to the aftermath of the glass industry as an issue to care for through the use of phytoremediation. Drawing on Haraway’s articulation of going visiting we have also tried to stay open for the unexpected and to allow for assumptions embedded in the invitation to be challenged and rearticulated. This tension between making propositions that generates curiosity and staying open for the influence from the participants is also emphasised by Binder et al in their articulation of invitations to democratic design experiments: “Crafting an invitation to participate in a democratic design experiment is an active and delicate matter of proposing alternative possibilities just clearly enough to intrigue and prompt curiosity, and, on the other hand, to leave enough ambiguity and open-endedness to prompt the participants’ desire to influence the particular articulation of the issue” (Binder et al 2015). Crafting invitations in caring design experiments involves opening up for issues to be articulated as matter-of-care which in turn involves exploring what it means to care in the particular situation at hand. This openness also involves uncertainties in terms of what it is that participants are invited to. As a consequence, the ones inviting need to continuously re-articulate the invitation and acknowledge that participants make cuts in their caring engagement.

As we will show in the concluding discussion, we have also moved from the field into the gallery (Koskinen et al 2008), which in our case also involved re-articulating and extending the invitation.

### UN/MAKING SOIL COMMUNITIES

Packed with printed invitations, the seed box with seed bags, maps and notebooks we went visiting the Kingdom of Crystal, starting in the season when the last berries hang on the branches of bushes, leaves change colours, lakes can get an icy surface during nights, hunters gather and it is too cold and dark to gather outdoors in the evenings. Since we have been working in this area before, we knew we could expect to experience a beautiful landscape. However, we also knew that it was too late to put the seeds we had brought into the soil. Our idea was to turn it into a time of noticing, gathering, and planning.

### GOING VISITING AND CRAFTING INVITATIONS: PRACTICING THE ART OF NOTICING

As a support for the first question of the invitation, which involved picking a place in need of care, we had brought a map where polluted areas in the region were marked. Although the map helped out noticing neglected things, it still was not always easy to choose a place. Some of the locations were chosen because they were marked on the map as polluted areas. In other words, these were places where we knew that there would be traces from the glass industry, such as an old dump in the forest. Other locations, such as gardens, the smoking area outside of a workplace, and an abandoned train station now used as a recreational area seemed to be selected based on other criteria. These were places that the participants had strong relationships to and that are part of their everyday living. If there would be traces from the glass industry, or other forms of pollutions, in these locations, was not a given. Rather, these locations seemed to be suffering from other forms of neglect, such as lack of maintenance.



Figure 2: Map of polluted areas.

Once we went out in the field, we could in some cases start to notice material traces from the previous glass industry. In one location we were shown a tree that had fallen over during a storm revealing its roots that were

intertwined with multiple pieces of glass in different colours. When we visited gardens in the area we could also see how some of the participants had collected large pieces of leftovers from the glass production, and used it for decorations. In other situations, it was more difficult to practice the arts of noticing. Even when we had managed to locate an old dump in the forest on the map, it was not so easy to find it once we were there. Despite the help of the map and instructions from one of the participant's mother, who used to pick mushrooms in the area, we did not actually manage to find the dump. However, we did find several broken pieces of glass as well as an intact bottle stamped with the year of 1961 in the bottom. We were later told, that they had found the old dump themselves just a bit further away from where we had been looking.



Figure 3: Uprooted tree.



Figure 4: Collected pieces of glass used as decoration.



Figure 5: Found glass bottle marked with the year of 1961.

Trying to choose locations to care for and noticing lingering materialities from the glass industry generated curiosity, wonder and worry. One participant compared our visits with trips that he had made to a nearby car graveyard as well as the rewilded nuclear disaster site in Chernobyl where, as he expressed it, nature had started taking over again. The invitation to pick a place to care for also seemed to generate a sense of unease. For example, when we visited one participants' garden, we could not notice any visible traces of glass production. Still, she expressed worry, and started to question what kind of greens she and her neighbours could grow. This unease sparked a conversation on the possibility of testing the soil for metals.

We did not only notice traces in the ground, but also past (and in some cases still ongoing) ways of living in these landscapes. Several participants recalled how they used to play next to dumps when they were younger, and collect pieces of glass as treasured objects. Several participants also recalled how trash was handled differently before municipal waste management handling became more established. For example, one of the participants recalled that where he grew up, they had a dump where they would throw away everything that could not be burnt or fed to the animals. Another participant told us that her husband, many decades ago when single use diapers were new and their children were young, burnt the diapers in a remodelled oil barrel in their garden.



Figure 6: Old dump next to recycling station.

Along with major changes in society, there is today a recycling system and glass production in the region is now done according to new regulations. This shift was particularly visible in one site we visited, where a recycling station is placed next to a former dump. Concerns have thus been raised and acted upon, on an institutional level as well as by individuals. In one location the land owner had put up signs and fences around potentially polluted areas. Outside the local grocery store in one of the communities there are box pallets with packaged soil for sale. Neither of these are attempts at solving anything, but handling circumstances.

Slowly we started to notice and taking note of how the past comes to matters in the present, past and present ways of living. Through our invitation to pick a seed, we also started to speculate on alternative ways of caring, and potential risks associated with such engagement. For example, one man suggested that he would return to the dump he and his family used when he was growing up, and plant seeds there. Others suggested that they would dig up soil from polluted areas, keep it in a container of some kind in their garden and to try to remediate with the help of the seed we had brought. One participant also suggested to make this kind of arrangement in a public area, as a way of introducing the problem through beauty. Our invitation also created a friction in relation to known ways of caring. When a self-organised garden circle started to speculate on planting the seeds in their gardens, it became an interference with, what to them had been guiding principles such as, circularity. It was obvious that not everything should circulate, and be put in the compost.

Trying to figure ways of caring through phytoremediation also brought up risks, uncertainties, and difficulties with this specific proposal. The White Lupin that we had brought was recognised by several participants as an invasive species, which calls for hesitation on how and where it could be planted. Another risk that was mentioned was related to the fact that all the plants that we had brought were also edible, by humans as well as other animals. How could we make sure that no one would eat them by mistake? What about greens already growing in gardens? Yet another concern was related to harvesting the plants when they had accumulated metals in the soil. Who would care for them, and how? Was there any infrastructure in place? Was there a readiness for the monsters and ghosts that might emerge?

Taken together, our invitation sparked curiosity as well as worries. The speculative proposals for ways of caring for the aftermath also opened up for potentialities as well as risks, and at this point we have not yet planted any seeds in the field. This is partly related to the fact that our visit took place during the autumn, which is the season for harvest rather than planting. But this is not the only reason. The multiple uncertainties and risks that emerged during our visits also called for hesitation. The maps, talks with scientists, civil servants and those living in the area, helped us notice places in need of care. However, taken together the gathered data was not good (or big) enough as a basis to know where to plant what remediating plant. Furthermore, we did not have any infrastructures in place for caring for the plants and harvests.

In other words, the proposal to care for the polluted soil through phytoremediation did not emerge as a simple technofix, but as a proposal full of risks and uncertainties. At times these uncertainties and lack of knowledge became overwhelming and made us feel like declaring game over. To move beyond these polarised

responses, we decided to share the work while still in-the-making and full of risks and uncertainties, with a broader public. We can think of it as an attempt to craft stories that are big enough to care about. Selected stories, concerns, and speculations made in response to the invitation were brought together in a topical exhibition at a regional art gallery. Setting up the exhibition thereby became a way of making a temporary conclusion of Un/Making Soil Communities, which involved re-articulating the invitation and opening up for future possible engagements and care. We will use the exhibition as a designerly way of concluding this paper.

## CONCLUDING DISCUSSION

Engaging in the aftermath of industrialised design through a turn towards care include many challenges. In this paper we suggest that caring design experiments involve: engaging with matters-of-care and engaging with big enough stories. As a way of concluding our discussion on how it can be done, we will yet again turn to a concretization through Un/Making Soil Communities. More specifically, we will show how the caring is an ongoing process not only for those living with the aftermath, but also for those who go visiting and craft invitations. In addition, we will here focus on a move from the field to the gallery (Koskinen et al 2008), which meant to renew our attention to invitations in order to continue the slow work of building extended caring relations.

### EXHIBITING: EXTENDING AND REARTICULATING THE INVITATION

For the exhibition we have worked with how to give account of how the aftermath comes to matter. We have drafted a text, where we introduce main concepts such as soil communities and have zoomed-in on instances that we noticed during our visits. To draw attention to the aftermath of industrialisation the text starts off visually with an ethnographic photograph of an uprooted tree (see figure 3). The tree stood in an area where there was active glass production in the 1920's. When the tree fell over in a storm in 2005 there were small pieces of glass entangled in its root system which showed how the glass industry had practiced dumping leftovers and wastage in its vicinity, right next to a lake and a stream. We suggest that this photograph is an entry point into a story of disrupting linearity, or clean break with the past.

The seeds that we had brought during our visits, that have roots with another kind of capacity, also point to ways in which we can intervene into the ways in which pasts come to matter. However, this potential intervention, and way of caring, is not without risks and uncertainties. To invite into contemplation on limitations and multiple risks and uncertainties associated with this particular enactment of more-than-human care, the plants were brought into the exhibition space with caution. The seeds were planted in

transparent glass pots, hanging from the ceiling, away from curious hands as well as other risky relationships.



Figure 7: Glass pots.

To open up for, and point towards further engagements, as well as commitments and obligations that emerge through the work of care, the exhibition also included a calendar with different phases of Un/Making Soil Communities. More specifically, the phases involved some of what we have already given account of such as noticing, but also what we had ahead of us such as preparing, cultivating, caring and harvesting.

The exhibition was itself set during the phase of preparing, which put focus on gathering more knowledge and to make plans for spring, when we would enter into the phase of cultivating. Among other things this involved inviting the people we had already met to take soil samples, in places they care about. In addition we have taken some soil samples during our visits. Those were exhibited. At the exhibition space it was also made possible for visitors to borrow a tool for gathering soils samples, and to bring their samples to a scanning session, where the above mentioned variety of soil samples would be analysed by environmental scientists.

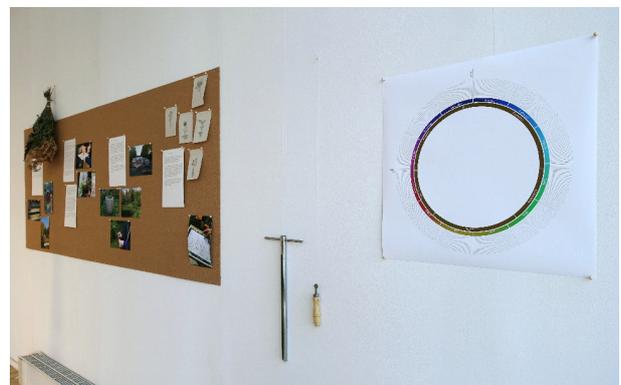


Figure 8: Wall with notes and images, soilsampler and calendar.

What further activities that the different phases would potentially involve was however left open to be determined in future encounters in the exhibition as well

as elsewhere. While most of the calendar was left blank, the sheer presence of it was meant to suggest a long-term engagement. If you enter into caring relationships, in a caring design experiment, commitments and obligations will emerge. For example, if you plant a seed the roots and plants can do caring work through accumulating metals. However, it is not enough to plant it. In order to actively avoid that for example birds are ingesting metals through eating off the seeds and stems and so on, continuous care is needed.

As the exhibition continued, the plants in the glass pots grew and with that another invitation was articulated: to join a harvest feast. The exhibition thereby became a rapid version of a longer process: planting, growing, caring and harvesting within less than two months. Those plants will be sent off for analysis of what they have accumulated from the soil.



Figure 9: Soil scanning workshop.

At the time of concluding this paper, spring and the phase of potential cultivation in the field, with all its entanglements, is getting closer. In collaborations with local residents and environmental scientist we have crafted yet another invitation to scan soil samples on location. At its best the different parts of the exhibition and the workshop on location can participate in making and generating big enough stories that contribute to forming a soil community, which consists not only of humans but also of more-than-humans, including ghosts and monsters. However, it should also be acknowledged that the most caring response might be to refrain from planting any seeds, since there are too many uncertainties and risks in terms of what aftermath they would become part of.

## ACKNOWLEDGEMENTS

This research has been made possible by The Swedish Research Council. We also want to thank Växjö Art Gallery for the possibilities that have arisen through the participation in the Multispecies storytelling exhibition. We want to thank Louise Mazet for going visiting with us, with curiosity and care. Credits go to her for figure 2, 3, 4 and 5. Thanks also to Alicia Smedberg for illustrations.

## REFERENCES

- Arendt, H. (1982). *Lectures on Kant's Political Philosophy*. Brighton, UK: Harvester Press.
- Binder, T., Brandt, E., Ehn, P. & Halse J. 2015. Democratic design experiments: between parliament and laboratory. *CoDesign: International Journal of CoCreation in Design and the Arts*, 11, (3-4). 152-165.
- Crutzen, P.J. & Stoermer, E.F. (2000). The "Anthropocene". *Global Change Newsletter*, 41, 17.
- Despret, V. (2005). Sheep do have opinions. In: Latour, B. and Weibel, P. (eds.), *Making Things Public. Atmospheres of Democracy*, Cambridge: M.I.T. Press, pp. 360-370.
- DiSalvo, C., Louw, M., Holstius, D., Nourbakhsh, I. & Akin, A. (2012). Toward a Public Rhetoric Through Participatory Design: Critical Engagements and Creative Expression in the Neighborhood Networks Project. *Design Issues*. 28, 3, pp. 48-61.
- Fisher, B. & Tronto, J.C. (1990). Toward a Feminist Theory of Care. In: Abel, E.K. and Nelson, M. K. (eds.). *Circles of Care: Work and Identity in Women's Lives*. State University of New York Press, 1990.
- Gabrys, J., Hawkins G., & Michael, M. (2013). *Accumulation: The Material Politics of Plastic*. New York: Routledge.
- Hald, L. (2018) *Photographic Design Anthropology. Becoming through diffractive image-making and entangled visions in Copenhagen immigrant youth context*. The Royal Danish Academy of Fine Arts, School of Design.
- Haraway, D. (2016). *Staying with the trouble. Making kin in the Chthulucene*. Durham: Duke University Press.
- Jackson, S. (2014). Rethinking repair. In: Gillespie, T., Boczkowski, P. and Foot, K. (eds). *Media Technologies: Essays on Communication, Materiality and Society*. Cambridge: MIT Press.
- Juul Søndergaard, M. L. (2018). *Staying with the Trouble through Design. Critical-feminist Design of Intimate Technology*. Ph.D. thesis, School of Communication and Culture. Aarhus.
- Kennen, K. & Kirkwood, N. (2015). *Phyto: Principles and Resources for Site Remediation and Landscape Design*. First edition. New York: Routledge.
- Koskinen, I., Binder, T. and Redström, J., 2008. Lab, field, gallery, and beyond. *Artifact*, 2 (1), 46-57.
- Latour, B. (2005). From Realpolitik to Dingpolitik or

- How to Make Things Public. In: B. Latour, & P. Weibel (eds.), *Making Things Public: atmospheres of democracy* (pp.14–41). Cambridge: MIT Press.
- Lenskjold Ulv, T., Olander, S. & Halse, J. (2015). Minor Design Activism: Prompting Change from Within. *Design Issues*, 31, 4, 67-78.
- Lindström, K. & Ståhl, Å. (2016). Politics of Inviting: Co-Articulating Issues in Designerly Public Engagement”. In: R. C. Smith, T. Otto, K. T. Vangkilde, J. Halse, T. Binder, M. G. Kjaersgaard (eds). *Design Anthropological Futures*. London: Bloomsbury. 183-197.
- Lindström, K. & Ståhl, Å. (2014). Patchworking Publics-in-the-Making: Design, Media and Public Engagement. Ph.D. thesis, Malmö University.
- Lury, C. & Wakeford, N. (2012). Introduction. A perpetual inventory. In: C. Lury & N. Wakeford (eds.), *Inventive Methods. The happening of the social* (pp.1–24). New York: Routledge.
- Moore, W. J. (2016) *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. Oakland: PM Press.
- Puig de la Bellacasa, M. (2017). *Matters of Care: Speculative Ethics in More Than Human Worlds*. Minneapolis: University of Minnesota Press.
- Rosner, D. K. (2018). *Critical Fabulations: Reworking the Methods and Margins of Design*. Cambridge: MIT Press.
- Stengers, I. (2015) *In Catastrophic Times: Resisting the Coming Barbarism*. Lüneburg: Open Humanities Press in collaboration with Meson Press.
- Tsing, A., Swanson, H, Gan, E, & Bubandt, N. (2017). *Arts of Living on a Damaged Planet*. Minneapolis: University of Minnesota Press.
- Yang, D. *et al.* (2015). Microplastic pollution in table salts from China. *Environ Sci Technol* 49, 13622–13627.