



Reorientations: Practicing Grief and Hope in Post-Carbon Futures

Kristina Lindström
Malmö University, School of Arts and
Communication
kristina.lindstrom@mau.se

Li Jönsson
Malmö University, School of Arts and
Communication
li.jonsson@mau.se

Per-Anders Hillgren
Malmö University, School of Arts and
Communication
per-anders.hillgren@mau.se

ABSTRACT

In response to a modernist optimistic path that has typically colonised narratives of addressing climate change, this paper explores and proposes a prototypical pedagogy that aims to unlearn privileges and restore a sense of commitment and involvement in the unfolding future among the public. In our articulations of this prototypical pedagogy, we trace and reappropriate pedagogies of collective learning within participatory design in combination with contemporary discourses around the affective dimensions of climate change. The prototypical pedagogy is explored through a designerly study circle in future orienteering that was designed to situate the transition to post-carbon futures within specific locations, environments, and lived experiences. To support reorientations and explorations of alternatives to the familiar modernist path, a guiding principle was to foreground objects, values, and imaginaries that are often overlooked in current accounts of climate change and to activate grief and hope as both practical and conceptual orienteering devices.

CCS CONCEPTS

• **Human-centered computing** → Participatory design.

KEYWORDS

reorientation, grief, hope, study circle, transition

ACM Reference Format:

Kristina Lindström, Li Jönsson, and Per-Anders Hillgren. 2024. Reorientations: Practicing Grief and Hope in Post-Carbon Futures. In *Participatory Design Conference 2024 (PDC '24 Vol. 1)*, August 11–16, 2024, Sibul, Malaysia. ACM, New York, NY, USA, 10 pages. <https://doi.org/10.1145/3666094.3666104>

1 INTRODUCTION

Attempting to act on anthropogenic climate change, the Swedish government has decided that the nation will be fossil-free by 2045. To support this transition, national roadmaps [11] have been launched. However, as these are only directed towards the industry, there is a built-in assumption that the transition does not concern ordinary citizens. Rather, it is assumed that everyday life will continue more or less as usual. In the project *Grief and Hope in Transition*, we begin with the notion that undoing our entanglement with fossil energy will require the involvement of the public and

that the transition will have a profound impact. Depending on how the transition unfolds, it also involves different kinds of losses.

A central challenge in this context is thus concerned with how to make the potential consequences of such a profound and important decision experientially available for the citizens who will be affected in ways that can restore a sense of responsibility and commitment towards futures. As argued by Haraway, both techno-optimist approaches (as manifested in the national roadmaps) and more dystopian narratives risk making people ignorant and less engaged [17]. Therefore, we need to find another way forward that can potentially mobilise citizens' engagement. With its commitment to participation, public engagement, and citizen involvement [33], we are convinced that participatory design (PD) can play a central role in addressing this challenge. However, in doing so, there is also a need to expand and adjust the repertoire of methods and approaches within PD.

In this paper, we propose a designerly pedagogy for collective learning and unlearning that seeks to explore the roles of grief and hope. This proposal supports a reorientation away from the familiar modernist path to create commitments and engagements in the transition to post-carbon futures. In our articulations of this prototypical pedagogy, we draw on the work of Freire [14, 15], which heavily influenced early Scandinavian PD and its objective to situate mutual learning in lived experiences, in combination with more contemporary discourses around the affective dimensions of climate change and how to address it [18]. Although learning has always been central to PD, especially the notion of mutual learning, learning to reorient ourselves differs in many respects, both regarding what to learn and how to do it. PD is well equipped with methods and approaches for engaging with marginalised groups, empowerment, and emancipation; however, it is less equipped to confront potential losses of privileges among more advantaged groups. Although the notion of hope is somewhat more familiar in PD, not least through the impact of Freire's work, the notions of grief, anxiety, and trauma have only recently gained some interest within the PD community [7].

In this paper, we demonstrate and discuss the proposed designerly pedagogy through a study circle in future orienteering that we hosted in spring 2022 in rural southern Sweden.

2 FINDING DIRECTION IN ECOLOGICAL INSTABILITY: GRIEF AND HOPE

Along with a growing awareness of multiple environmental crises, there is an emerging body of work concerning the affective dimension of climate change and how such dynamics play a role in how futures are imagined and acted upon [35].

As argued by Head [18], current accounts of addressing climate change often require optimism that inscribes a sense of certainty that things will work out. For the global north modern self, the



This work is licensed under a Creative Commons Attribution International 4.0 License.

PDC '24 Vol. 1, August 11–16, 2024, Sibul, Malaysia
© 2024 Copyright held by the owner/author(s).
ACM ISBN 979-8-4007-0808-4/24/08
<https://doi.org/10.1145/3666094.3666104>

future is rendered as a place of possibilities and a promise of a better life, or at least an unchanged life where the aeroplanes keep flying, the mines keep expanding, and the heating sector provides reliable heating [11]. This shows how current debate and investments in which new technological innovations, or ‘tech-fixes’ are highlighted as hopeful solutions for maintaining current ways of living.

In contrast to such visions of the future, there is a growing recognition that the transition to post-carbon futures will require a more radical transformation of societies. This future does not only involve the loss of resource-intensive lifestyles that have been enabled by fossil energies but will also require, according to Head [18], a fundamental break with core modernist concepts and identities. Facing the loss of an affluent, taken-for-granted, hopeful future will set several combating emotions at play, not least grief. However, grieving modernity is not something that we can move beyond but rather something that must “become part of our lives and politics” (p. 33). Grief, in this context, is thus less about overcoming losses and more about allowing oneself to be moved and recognising the effects of such losses.

Although grief is a central dimension of the transition, grief alone is not enough to orient ourselves towards alternative futures. For it to be transformative, it also needs to be accompanied by hope. If grief is important in that it can support the undoing or disruption of existing orders, hope is important in that it can provide a belief in change for the better. However, to avoid ignorance and blind faith in optimism, Head [18] calls for an understanding of hope without guarantees. Rather than relying on positive emotions to serve as the basis of hope, a “gritty, keeping-going kind of hope” (p. 11) emerges through practice and lived experience. Through PD’s strong focus on practice, situated local democratisation and hands-on reflection-in-action, we see a potential for PD to align well with this call for situating the transition in lived experiences.

3 FOLK ENLIGHTENMENT, COLLECTIVE LEARNING, AND DEMOCRACY IN THE SMALL

PD’s long engagement with collective learning might offer insight into how to set action and reflection in a process to support the coming transformation into fossil-free societies. Broadly, the concept of mutual and collective learning [2] is framed around establishing a respectful relationship between designers, researchers, and users, including learning about each other’s fields or domains. However, confronted by the pedagogic task of unlearning the traits of modern optimism and practising how to live with uncertainty, we found insight into prototyping pedagogic practices in Salazar and Huybrechts’ [28] archaeological exercise of tracing, which revisits the historical ties between Scandinavian PD and the pedagogies of Freire.

Early Scandinavian PD was heavily influenced by the thinking of Freire and his work in *Pedagogy of the Oppressed* [15]. Although rooted in the concrete social, economic, and cultural reality of 1960s Latin America marked by poverty and oppression, the strong focus of his philosophy on lived experience rather than abstract decontextualised knowledge also makes him very relevant today. Of particular note is how he brings attention to pedagogic practices

that stimulate alternative ways of seeing, listening, being, and seeking change—practices that come in handy when we are overloaded with abstract accounts of devastating climate change and biodiversity loss causing both eco-anxiety and ambivalence. Freire also stressed that pedagogical practices constantly need to be reinvented when they enter into new contexts [12]. To recreate—rather than import—as Freire himself requested, we specifically aimed to set his thoughts in motion to open ourselves to worlds of more difficult sensibilities connected to grief, worries, and fears.

Participatory educational formats aimed at supporting people to become active and engaged citizens have occurred in many places. In Nordic countries, the tradition of organising cooperation between participants has a specific history connected to liberal adult pedagogy called folk enlightenment. This form of educational enlightenment project has its roots in the modernisation of Sweden and is connected to participatory action research [19]. By extension, it is closely linked to Latin American forms of social research. From the beginning, this form of organisation was a strong democratic project founded in the labour movement, aimed at raising the level of knowledge of citizens. Today, it is an educational format recognised by the vast majority of people in Sweden as a study circle. A foundational aspect of a study circle is that you gain knowledge and experience in dialogue and a belief in democracy.

Educational formats for gatherings, such as research and study circles, can be outlined as democracy ‘in the small’ [8], where democracy occurs through local actions, environments, and commonplace encounters. Here, the role of design as an experimental practice is to find forms for decision-making beyond the representative parliament, where being a democratic citizen in current days might also include recognising the value of liveable environments for humans and nature. In relation to futures, such a practice might not save us from catastrophe, but it may help us identify more ways of living with the longstanding impacts of climate change through means that support the practical, ideological, and emotional.

3.1 From marginalised groups to the privileged: Unlearning optimism

In recent years, there has been a regained interest in study circles among design researchers, especially as a format to explicitly address the kinds of knowledge needed to address current ecological damage in Scandinavia. In contrast to much of the early work within PD and the pedagogy of Freire, which was oriented towards marginalised and oppressed groups, these circles are directed towards more advantaged groups with privilege. Gottschalk [32] explores study circles as a method for middle class residents’ involvement in thick sustainable urban planning. In the study circle *Flow Feelers – applied ecofeminism for men*, the participants were invited not because they were oppressed but because all had higher positions in society that could “spread posthumanist and ecofeminist concepts among human men with strong voices in the local human community” [24] (p.15).

Having privilege means having an advantage one may not even notice until you educate yourself about its existence. In light of climate change, such blind privilege can be seen in many examples, from high consumption manifesting itself in the unequal distribution of ecological footprints [27], to being able to look away from

places from which the consumed resources are extracted to provide resources for others elsewhere. Potentially, to support a better ecological balance is not only to learn about others' inequalities but also to unlearn one's privilege [26]. Further, Van Oers et al. [26] bring forward the relevance of unlearning within processes of transformative social change but point to the limitations of current recommendations that focus on *what* to unlearn rather than clarifying *how* it might occur.

The main objective in our work to reinvent Freire is not to position those who are typically seen as oppressed and in the margins at the centre. Instead, we attempt to position dominating optimist worldviews as oppressors from which we need to be liberated. If, as Head [18] argues, optimism functions as a shield that allows us to collectively avoid confronting our environmental challenges, then we need to question how to unlearn the collective optimism embedded in modernist accounts of addressing the climate problem.

3.2 Disorientation and reorientation through grief and hope

According to Ahmed [3], orientations affect how subjects and objects materialise or come into shape in the way they do. To orient ourselves, we follow lines that give us clear directions and stay with them because doing so makes us feel comfortable. To be oriented is also to be turned towards certain objects—those that help us to find our way. In our fossil-dependent era, such foregrounded objects are, for example, aeroplanes, cars, and radiators.

In our work, to develop a designerly pedagogical format for unlearning optimism and finding new directions, we have been highly influenced by the figure of orienteering. Compared to the national roadmap in which the journey and goal are already staked out, we have found the figure of orienteering to be useful in that it concerns getting to know uncertain terrains, finding alternative reference points for navigation, and starting to make multiple paths towards the future. Importantly, it also concerns leaving the straight and familiar road guided by optimism, which leaves few possibilities for things to be imagined differently. Entering uncertain terrains not only involves being oriented, it also requires us to allow ourselves to be disoriented and reoriented.

To find new meanings and expand the notion of normativity, Ahmed [3] argues that we need to be disorientated from normative lines and objects at times. However, being disorientated can be highly uncomfortable, and when it happens, we immediately try to find our way back to the normal and recognisable. Ahmed also points out that such moments are vital, since the disruption allows us to encounter the world differently. It allows us to follow something other than the lines already laid down. Moments of disorientation lay the ground for the potential to reorient and navigate on new and other less-known paths.

As such, becoming reoriented involves acknowledging losses that come with leaving the familiar lines that we might have invested a lot in as well as keeping hope in alternative paths. To support this reorientation from the familiar lines of optimism, we have thus tried to activate grief and hope as affective pedagogic (re)orientation devices that draw attention to and foreground objects, values, and reference points to navigate with, which otherwise

often end up in the background. Bringing the concept of reorientation into the context of participatory design thus becomes less about avoiding unsettling and uncomfortable feelings but instead creates safe places “that can hold space for discomfort” [22] (p.12).

4 GRIEF AND HOPE IN TRANSITION

The overarching aims of the three-year project *Grief and Hope in Transition* were to engage diverse publics in imagining and performing fossil-free futures that encompass loss as well as hope and to develop methods for how these futures can be discussed and debated among heterogeneous publics. Throughout the first two years of the project, we explored a selection of different formats that focused on how the transition could be understood and discussed, such as through walks, painting workshops [25] and clay workshops [20]. Of the many themes and concerns that emerged through these engagements, the most mentioned issues were expressed through worries about the changing local landscapes due to climate change and via the introduction of wind power, energy forests, new crops for biofuel, and vanadium mines. To further explore these concerns, we designed a format for a designerly study circle in future orienteering. In the following section, we detail the designerly pedagogy that emerged in response to our objective of restoring a sense of attachment and commitment to the future and becoming better at orienting ourselves with the help of grief and hope.

4.1 Study circles in future orienteering: An emerging pedagogy

Influenced by the figure of orienteering and previous participants' concern [25] for how climate change and the transition might affect landscapes, we decided that each circle would be located in places in transition. To guide the process of designing the circles, we set up the following learning goals for the circles: (1) familiarise ourselves with emerging futures, (2) collectively create a more nuanced understanding of grief and hope in transition, and (3) develop, discuss, and practise knowledge that can help us transition.

To support the goals, we formulated a pedagogy that guided the more detailed planning of the circles, with a focus on foregrounding things that often come in the background in narratives of climate change. The initial planning involved deciding places, dates, invited specialists, and themes. The more detailed planning was done along the way and in-between the circles, where we made many enquiries to get to know the subsequent places in terms of their pasts, nows, and futures (Section 4.1.2) and to develop material explorations (Section 4.1.3) that would allow us to give shape to and express grief and hope in relation to the places visited. Below, we detail the pedagogy that guided the more detailed planning of the circles. Below, we detail the pedagogy that guided the more detailed planning of the circles.

4.1.1 Visiting places where different futures can be sensed. In addressing the first learning goal, we were confronted by the challenge of how to make emerging and potential futures knowable. While the future is inherently uncertain, it is also made present through different images of the future. As mentioned earlier, one version of a fossil-free future is made present through roadmaps that aim to provide direction to a predefined, desired future. The future can

also be made present through models and scenarios that attempt to predict the future, which are used to guide actions in the present. However, a problem with these kinds of images of the future is that they envision the future as singular and limit the imagining of different kinds of futures [10]. To account for the uncertainties of the future and to approach futures as multiple, including probable, plausible, and preferable, various attempts have been made within and beyond design research that make different kinds of futures tangible and negotiable among publics [10, 23].

Although these kinds of narratives, scenarios, and images of the future can be valuable in preparing for and relating to the future, they tend to become abstract and detached from present lives, which can make them hard to relate to [16]. Drawing on Adam and Groves [1], we have tried to understand and approach the future as living within the present. Rather than imagining the future as something abstract and distant, lived futures refers to “the way humans and other living entities experience their world as something in the process of being made, anticipate its changing form and participate in its production” [1] (p.198). Lived futures are thus situated in specific locations, environments, and experiences and can be seen as “future narratives around a multiplicity of lived experiences of place and community, interpreting potential futures through histories told at various levels” [1] (p.35).

To situate the study circle as part of lived futures, along with Freire’s thoughts on concrete local lived learning and experience, each gathering took place in nearby terrain where different futures (and pasts) could be sensed. The locations were selected to match the concerns raised in the previously mentioned workshops. More specifically, we visited a beach suffering from erosion, a proposed vanadium mining area, an energy forest, and a closed-down countryside food store.

4.1.2 Narrating pasts, nows, and futures. To further expand our understanding of these places and their potential futures beyond the continuation of a narrow understanding of the present, the circle meetings were narrated through stories by revisiting the history of each place and reviewing up-to-date climate research. Thus, we attempted to situate these places as part of what Haraway describes as thick presents: “a thick ongoing now, the now that collects up inheritances and makes ongoing possible. The kainos of times that are not reducible to an instantaneous present, that is always disappearing into the past” [36]. Thick presents force us to figure out how to expand the now to include troubling stories, such as different sorts of repressions and neglects that stretch back in time, as well as still-possible futures.

Thus, we invited an external specialist with experience and knowledge within the particular contextual subject theme of climate change, mining, forestry, and food culture. Their presentations typically included historical contextualisation and reflections on future scenarios and visions that had implications for these locations. Members of the research groups also presented historical accounts of the different locations and theoretical concepts of how to understand the relationship between pasts, nows, and futures.

4.1.3 Material explorations and forms of grief and hope. To support more concrete and material explorations of matters at stake in the locations, each circle also involved various activities, such as making prints and paintings and taking cuttings from trees. In our

attempt to cultivate and make other alternatives visible, we were informed by collective learning processes such as tacit knowledges [9], Dewey’s pragmatist arguments for learning by doing, and feminist knowledge politics to foster haptic abilities [29] for perceiving less noticeable politics.

These material explorations were also performed to support participants in articulating and sharing experiences, emotions, and commitments that emerged in the study circle. In line with Campbell [6], we believe that emotions are relational, which means that “we form our feelings through acts of expression and, in doing so, attempt to make clear to others, or even just to ourselves, the personal significance of some occasion or set of occasions in our lives” (p. 131). Drawing on the idea that knowledge grows from concrete learning through practical engagement, the various designerly activities that took place during the study circles were carefully considered in relation to local materials to support and experientially encompass expressions of grief and hope.

4.2 Invitation and participation

Participants in the study circle were partly recruited by contacting people and organisations that had previously been involved in the project. The study circle was also advertised on various social media platforms. We did not target participants who possessed particularly marginalised or privileged positions. However, the participants who joined can be seen as privileged in that they live in a part of the world that has a high carbon footprint. On each occasion, there was an average of 10 participants, in addition to invited experts and the research group. The participants’ ages ranged from 20–70 years of age. Some participants joined the study circle because they had a strong connection with the specific places we visited. Others participated because they were concerned with issues of climate change or had an interest in creative practices. Some participants joined all four occasions, while others only joined one or two occasions. Some of the invited experts joined more than one circle. Each circle lasted for two to three hours and ended with a shared reflection that was recorded.

5 FUTURE ORIENTEERING IN PRACTICE

In the following sections, we present accounts of how the circles unfolded, with a focus on moments of both disorientation and potential reorientation. Moreover, we show how these reorientations can be seen as part of a process of unlearning optimism. The analysis is based on observations and notes taken during the study circles and transcripts of recordings made at the end of each circle when we shared our experiences, primarily based on the material explorations in which the participants were invited to make potential losses and emerging hope more tangible. It is often difficult to tell the difference between analysis and design in participatory design [5]. For example, prototypes can act as tools for analysis in which a deeper understanding emerges step by step. This was also the case here, where each local intervention provided a space for collaborative analysis concerning how to understand the difficult questions that accompany a transition.



Figure 1: Preserving falling trees by making vegetative propagations on the beach.

5.1 The eroding beach

The first gathering took place at a beloved beach that was suffering from erosion. The introduction incorporated scenarios of anticipated raised sea levels for this particular beach based on shared socioeconomic pathways [30]. This was juxtaposed with a historic account concerning a forgotten storm flood *Backafloeden* that swept over this beach with fatal destruction back in 1872. Raised sea levels and erosion might often be foregrounded in terms of climate change. However, as the invited climate adaptation specialist pointed out, erosion is a natural phenomenon at this beach, and the slow rise of the sea should be less of a concern compared to extreme events, such as storm floods. As erratic weather is expected to become more common, she pointed out that we might be able to learn from history and local phenomena, such as *Backafloeden*. To make these narratives more tangible, we brought three different orange sticks indicating past and potential future water level rises.

For practical engagement with the local materials at stake, the participants selected trees that were about to fall down on the beach. By taking a small cutting, a copy of the falling tree was created, which opened up the possibility of preserving the tree (Fig. 1, left). This invitation was further contextualised through an anecdote about a fallen oak previously shared by one of the landowners. Since the oak was an important landmark for him to notice the erosion, he expressed a great sense of loss and disorientation when it fell during a recent storm (Fig. 1, right).

5.1.1 Exercises in future orienteering: Living with changes. After having gathered and listened to the narration focused on grief, hope, pasts, nows, and futures, the group started to spread out to look for trees that were about to fall and took cuttings from trees that had fallen but still had leaves. When walking down the beach, we saw how landowners tried to stop the erosion by placing large stones, which only made the erosion worse further down the coast. Eventually, some of us gathered by the fallen oak that the landowner had told us about. Although the oak was dead, we found that it was full of new life, as it had become a home for ants, mushrooms, and honeysuckle. We could also observe how people had carved their initials into the trunk. Without being explicitly

addressed, being gathered by the fallen oak and observing new life that had emerged in and around the oak generated a sense of hope among the group, perhaps not a hope of preventing the erosion and the losses that come with it but in our capacity to live with changes.

This sense of hope echoed as we all gathered at the end of the day to share the cuttings that we had made. Someone started by saying that he did not know much about the project when he came but that he was willing to give it a chance. He showed his cutting from a rowan tree that he thought was beautiful and explained that the day gave him what he described as a ‘creative changeover time’ to take in the narratives and explanations shared at the beginning of the day. He further described his experience as an ‘act of preparation’ that involved ‘allowing oneself to fall, to be brave and to grab hold of changes in a creative way’.

Although future scenarios of erosion were important to us, understanding the beach and its potential losses, being at the beach together, taking cuttings, and sharing memories of being at the beach became a way of emphasising other values and ways of relating to the future. Rather than trying to predict the future of the beach or prevent erosion, the gathering became a way to make notes of ongoing changes and losses and to practice what it means to live with uncertainties and ongoing changes. For at least one participant, this was expressed as a reorientation that involved letting go, allowing oneself to fall, and moving on.

5.2 The proposed vanadium mine

The second gathering was set in a small village that was a prospective vanadium mine and thereby might be sacrificed in the name of the transition. We introduced the location as a potential future shadowplace—a place that is ruined to sustain current high-material lifestyles elsewhere [34] because of mining or other forms of resource extraction.

As vanadium is used in batteries to store energy from solar and wind power, it is often considered vital to enabling the transition into green energy. However, plans to open the mines have also sparked resistance and protests. The invited geology specialist told us about the multiple risks associated with extracting vanadium and how the most common usage of vanadium is for constructing skyscrapers, knives, and weapons. Today, vanadium is imported from China, Russia, and South Africa.

The historical account brought forward concerned how the neighbouring village met a gloomy fate after drastic weather changes in the 1860s, which resulted in such low harvest that farmers struggled to reimburse their lease of land. Not only did the farmers lose their source of food with their absent farmland, but their houses were taken down, brick by brick. Some of the houses were rebuilt. Other houses disappeared, leaving no ruins or marks due to being built from the unburned clay from the surrounding fields—the very same potentially vanadium-rich soil that is now considered crucial in the transition to a fossil-free society.

As a way of orienting ourselves in this location, which might be sacrificed in the name of the transition into a fossil-free society, we invited participants to make casts of the ground using unearthed clay from the village (Fig. 2). This created a negative shape that



Figure 2: Maps, notes, and sticks used to mark out where to make casts with the use of a wooden form.

could potentially be used later to reproduce the shape or ground of the village.

5.2.1 Exercises in future orienteering: Creating attachments and getting stuck in disorientation. As we gathered to share what we had made casts of, several participants shared examples of how the landscape is marked by past and current ways of living, such as a carefully paved courtyard, a pile of unearthed clay, a coup-marked stone, a manhole cover, and road markings (Fig. 2). For one participant, making the cast raised concerns about past and future extractivist ways of using the land. She had made a cast of a pile of stones, bricks, and other leftover materials that she described as a slag heap. To her, the heap carried both grief and hope—grief for the damage caused by extracting materials from the earth and hope of finding ways to better care for materials left behind and discarded. She was, however, in doubt that this would be enough to sustain the current recourse-intensive lifestyles.

Overall, making the casts seemed to generate a sense of care for the village. However, some casts also troubled the now, of simply preserving the place and our current ways of using it. This became particularly apparent to one participant, who had planned to make a cast out of a potato groove but instead ended up making a cast out of tire tracks from a tractor (Fig. 2). She explained that the tire track made it a bit more complex, as this type of farming, visible around the village, was highly dependent on fossil energy. The tire track perplexed her and left her with more questions, as staying with the now did not seem like a viable path to stay on.

Trying to reorient ourselves and find alternative paths in this terrain was difficult. Rather than proposing specific futures (with or without mines), the making of casts became a sort of inventory of the at-stake places and landscapes that we are often unfamiliar with. Making the casts thereby became an exercise in articulating our attachments to these potential shadow places—whether or not we see them as our homes. However, the large agriculture surrounding the town, which is highly dependent on fossil energy, reminded us that preserving the town *alone* is not sufficient. It also reminded us that we need to find ways to extend our care and solidarity beyond



Figure 3: One of six cyanotype prints showing the biodiversity in the energy forest.

this town to other places that carry a similar faith. However, how to do so was less clear, which generated a sense of lost agency and disorientation.

5.3 The energy forest

The third gathering was situated in an energy forest grown in a wetland. The invited experimental intensive forestry specialist described this type of land as a ‘taskmark’, which is slang indicating land without value, typically unsuitable for forestry or farming. However, this type of land, he proposed, has great potential to provide energy in the future, as it is fertile ground for energy forests. At the same time, the public is largely reluctant to encourage this fast-growing form of forestry due to its monotonous aesthetic qualities and potential negative impact on biodiversity. The invited specialist also brought to attention how the landscape used to be characterised by an abundance of wetlands, which were extremely biologically diverse and important for storing CO₂. However, its character changed in the 19th century due to drainages when the wetlands were converted into farmland.

To practice how to hold the multiple and contradictory values of this place, researchers and participants tried to inhabit this energy forest rather than just drive past. Together, we slowly walked through the forest and looked for biodiversity and undiscovered values among the trees. As a practical engagement, we also invited artists to explore this landscape by making paintings, while the rest of the group made cyanotype prints (Fig. 3) of plants growing in the forest.

5.3.1 Exercises in reorientation: Attending to and cultivating multiple values. As we gathered to share our experiences and began to identify the plants, two participants said that they were struck by the size of the nettles and suggested that it must be an indicator of rich soil. Someone else responded that nettles are also proposed as a potentially important food in the future, as they are rich in iron. In response to this, others started to envision a possible future woodland garden that welcomes sunlight through the sheer foliage

and where rhubarb and other edible plants can grow between the tree trunks.

As none of us had previously walked through this kind of forest, several participants started to compare it with other forests, such as much darker spruce plantations. One participant explained that although her attitude towards these kinds of forests had changed during our visit, she still could not think of it as a forest. Someone else described the character of being inside the energy forest as sacred. In response, this triggered a conversation on trying to find alternative words for describing it as a hybrid between a forest, a farmland, a park, architecture, and a garden.

Trying to reorient ourselves and find alternative values in this place was easier than expected. Although we were initially entangled with the industrial character of the straight rows of tree trunks, spending time inside the energy forest made us see it differently: as a place that carried multiple values beyond, but not excluding, its potential to produce energy. However, some concerns were also raised regarding how and by whom these values would be prioritised and the importance of not making this into a universal solution.

5.4 The closed-down local food store

On the last circle, we gathered in a countryside food store that had been closed due to struggles to compete with large food chains. As this gathering took place in mid-June, we temporarily reopened the store and invited participants to rehearse a fossil-free midsummer celebration. To narrate ‘pasts, nows, and futures’, this gathering was set around a table with local traditional dishes in combination with more contemporary alternatives (Fig. 4). The invited specialist, an ethnologist, further elaborated on traditions as something in constant transformation.

One of the central components of how we tried to reorient ourselves at this gathering was by trying to reach further back in time and activate the forgotten midsummer tradition, where you will dream about your future wife or husband if you eat ‘dream porridge’. Instead of looking into the future as if it had already been written, we invited the participants to commit to the future. These should be commitments towards meaningful relations they could develop and nurture with their surrounding world.

5.4.1 Exercises in future orienteering: Finding cues in less carbon-dependent pasts. As we gathered at the end to share our commitments, quite a few expressed a wish to reconnect with their immediate environment by, for example, getting to know trees and bushes. Someone also wanted to commit themselves to slowing down and making space for more daydreaming. Another suggestion was to commit to ‘everyday life to be a bit boring’ and instead use energy for more festive occasions. Eating more porridge was also discussed as a commitment, and one person saw it as an opportunity to reconnect with fond childhood memories of eating porridge in the evening. Another participant emphasised the communal aspect of eating porridge and saw it as an opportunity to be in dialogue with different seasons and past generations that he would like to share with his grandchild, who had just turned one.

Through sharing our commitments, a sense of hopefulness connected to everyday practices emerged. Traditions started to be discussed as having been remade to fit current life rather than



Figure 4: An alternative midsummer smorgasbord with dream porridge in the closed-down country store.

something pristine, solid, and linear. While many found a sense of hope in our ability to continue remaking traditions in response to current conditions, many of the emerging narratives of commitments also found hope in reviving lost practices, seeing them as cues for living a less fossil fuel-dependent life. As a clear proposal for a path of reorientation, one participant hoped to become better at going even further back in history as a way to enrich the possible cues for a future life without fossil dependency.

5.4.2 Emerging reorientations. As we have shown, the proposed pedagogy, guided by foregrounding objects, values, and imaginaries that often end up in the background, supported several moments of reorientations. In the first circle, we were confronted by the effects of climate change. When we gathered at the beach, there was little hope of being able to prevent erosion, but rather than orienting ourselves towards how to control such affects, the group primarily became oriented towards letting go of control and finding ways to live with such ongoing changes in more or less hopeful ways. In the second circle, we were confronted by the potential effects of a post-carbon society that seeks to sustain current recourse-intensive lifestyles. Being confronted by such effects, the group acknowledged the need to explore alternative paths to this familiar road. As this sparked more questions than answers, the group seemed to be stuck in a moment of disorientation. In the third circle, we were again confronted by the need for alternative energies and how they might affect the landscape. Immersing ourselves in the experimental forest, the group became oriented towards multiple values of this place, beyond production of energy. The groups seemed to be able to find hope in the possibility of caring for these multiple values, even though there were some concerns regarding how such values would be prioritised and by whom. In the final circle, the group engaged with continuously changing traditions. In doing so, the group was able to find cues for less carbon-dependent lifestyles from the past while still acknowledging the need for continually remaking traditions. Although these emerging disorientations and reorientations are different, they can all be seen as part of a process

of unlearning optimism, in the sense of letting go of a taken-for-granted future. Furthermore, they all acknowledge that there is no pristine past to return to. As such, these reorientations all require engagement and involvement in the unfolding of the future, even though it might sometimes be unclear how.

6 REFLECTIONS ON A PROTOTYPICAL PEDAGOGY

In setting up the study circles, we articulated learning goals aimed to support us in transition to fossil free futures by pointing towards emerging and in-the-making entities, such as terrains in transition, as well as knowledge, skills, and affective sensitivities that might be needed. What characterises these learning goals is uncertainty—a move away from the predefined or fully known. Below, we reflect on the format and address some challenges, insights, and learnings that come with this type of work, which seeks to enable and support reorientations through grief and hope to unlearn normative accounts of optimism. We will draw on our experiences from the study circle and on conversations from a reunion we had with some participants of the study circle about one year later. The reunion was set up during an exhibition based on some of the materials and insights made during the study circle.

6.1 Foregrounding potential losses and making emerging hope tangible

Notably, although most of the participants who joined the study circle were concerned with issues of climate change and how to address them, they did not share any prior experiences with either extreme climate change or extractivist projects. This might not come as a surprise, as the south of Sweden, where the study circle took place, has not been hit as hard as in other parts of the world. Therefore, to fully engage with the implications of climate change and how to address them, it was not enough to rely on the experiences of the participants. Instead, an important task during the study circle became to make potential and anticipated losses related to climate change and the fossil-free transition present in ways that they could become part of lived experiences. This was achieved by foregrounding things that are typically left in the background or that might be muted in the presumed desire to continue our lives more or less as usual. To make reorientation possible and expand on ways of confronting our environmental challenges, we worked with the changing local landscapes in relation to the potential losses that come with the introduction of, for example, wind and sun power, new biofuel, and transition metals.

To expand our understanding of these places and their potential futures beyond dystopian narratives and enable more situated affective responses, we also focused on making emerging alternative paths and hope tangible and accessible. Participants were asked to engage in various kinds of situated material explorations to provide a more tangible and textured understanding of notions of both grief and hope in context. At times, these more concrete exercises supported participants in carrying emerging and anticipated losses into more hopeful engagement and in imagining alternative paths, such as when a participant reimagined the value of energy forests as being spiritual or committing to different everyday eating habits.

At other times, both participants and researchers experienced moments of disorientation when encountering people who might lose their homes due to the transition. Such moments of uncomfortable disorientation also point to the importance of being able to create collaborative spaces that can hold discomfort when practicing how to live with uncertainty, as well as the continued need for more traditional PD methods and approaches for engaging with marginalised groups, empowerment, and emancipation.

6.2 Creating stable grounds to navigate uncertainties together

Reorienting ourselves away from the straight modernist road requires that we let go of a taken-for-granted, hopeful future. In other words, it involves venturing into uncertain terrain where we will encounter moments of being disoriented and lost. This dilemma of not knowing where to go or turn was discussed during the reunion. The multiple uncertainties with which the study circle engaged and performed were suggested as a strength of the format. Several participants experienced that in itself, the format also involved uncertainties and openness, as they did not always know what to expect. Still, there was a sense of stability in the format (4.1), as it followed the same structure each time. Some participants also pointed towards the importance of the collective aspect of the study circle, of not knowing together. Others described the importance of the invited guest specialist, who provided knowledge and points of entry to explore these specific locations.

As such, living with uncertainties was not figured as not knowing anything or having nothing onto which to hold. Rather, there seemed to be a need for formats, stories, and tools that could provide stable ground to navigate in uncertainty together without striving for controlling or predicting the future. This is a quite different way to build trust compared to traditional participatory design, where efforts to build trust across participants and their differences are at the centre [5]. Here, trust comes from being together in uncertainty. It also deviates a bit from how mutual learning is often understood in PD as a process through which researchers and participants learn about each other's domains, and each participant is an expert in their own area [4]. The learning in our study circle instead focused on navigating together in uncertainty, both within domains such as modernity, which we are all familiar with but are dissolving under our feet, and future domains, which we only see small contours of.

6.3 Bearing responsibilities in the small

As mentioned, a central challenge for this project concerns restoring a sense of responsibility and commitment towards futures. How to do this might differ depending on who is involved: groups and collectives that have experienced profound loss, people who are in denial or privileged communities who might be aware of climate change but have not yet have experienced its effects. Although our study circle was open to anyone, those who attended were there because they did not want to look away; they took part due to various concerns, worries, and feelings of being lost. As those who took part were perhaps lost but already engaged, we followed the basic idea that with too much support, one does not learn anything, whereas being faced with an enormous challenge could cause someone in need of support to flee a learning situation [31].

In the context of the study circles, we experienced that there was a much-needed balance of providing both challenge and support to make sense of how to actively participate in fossil-free futures. We have come to think of this pedagogic balancing act as ‘bearing responsibility in less radical ways’, as being implicated and privileged in terms of environmental damage does not necessarily correspond with having agency, especially if your worldview has been guided by a kind of optimism that places agency elsewhere, such as in others’ roadmaps and tech-fixes. This balancing act will be part of our ongoing work of finding ways of tuning into the troubles of people attending while simultaneously avoiding stirring up expressions of fear and anxiety, since this tends to block people’s openness to deal with challenges to their current worldview. Instead, to ‘stir good enough’ allows us to bear the responsibility that conditions possibilities for the unlearning of modern optimism, because, as Freire [13] writes, “women and men are able to take responsibility for themselves as beings capable of knowing—of knowing that they know and knowing that they don’t” (p. 15).

6.4 Acknowledging relational and emerging expressions of emotions

The format of foregrounding anticipated losses and making emerging hope tangible, along with the work of creating collaborative spaces that can hold discomfort, is important. However, in our attempts to explore how to unlearn optimism and leave paralysing senses of despair behind, we should acknowledge that many of the expressions and articulations made by the participants during the study circles do not easily fit within strict categories of either grief or hope. In line with Campbell [6], our experiences tell us that this is typical of emotions that are in formation. To create conditions for these types of emerging affective responses to be expressed and shared, we argue for the importance of acknowledging what Campbell [6] describes as ‘free-style’, or ‘free-form’ feelings that capture emotions that are difficult to express using classical definitions, as they are more complex and still in formation. We found that the material explorations, such as taking cuttings from trees and making casts of the ground, supported emerging affective responses and articulations. However, rather than being a well-defined expression of either hope or grief, these material engagements often gave shape to the specific relational entanglement between loss, grief, and hope that emerged through participating in the study circle. This type of free-form feeling can also be observed in the statement of one participant who, by the end of the first gathering that took place at the eroding beach, expressed a feeling of ‘allowing oneself to fall, to be brave and to grab hold of changes in a creative way’. Thus, we see a need to not only hold spaces of discomfort but also develop spaces of discomfort that give room for free-form feelings along with material expressions.

7 CONCLUDING DISCUSSION

As we are confronted by multiple environmental crises and vast ecological damage, PD is faced with the challenge of expanding its commitments to new settings and issues concerning uncertain futures and the need for societal transformation. In this paper, we explored how the central commitment within PD to situate collective learning within lived experience can be activated in ways that

can restore a sense of attachment and commitment to the unfolding of the future among publics. A central part of this work was to activate grief and hope as affective orienteering devices in support of unlearning optimism and reorienting ourselves within a terrain in transition. This proposal was discussed and explored through a prototypical pedagogy for orienteering futures that involved (1) visiting places where different futures could be sensed, (2) narrating pasts, nows, and futures, and (3) material explorations and forms of grief and hope.

As we have shown, this prototypical pedagogy, guided by foregrounding objects, values, and imaginaries that often end up in the background, enabled several moments of both disorientation and reorientation and articulations of attachment to the unfolding of the future. For example, the suggested pedagogy of situating each place as part of historic narratives of change, coupled with different scenarios and visions of potential futures, made it clear that there is no pristine past to return to, nor are there any easy fixes that will allow us to continue with business as usual. As such, we ventured into more uncertain terrain, which opened up several questions and dilemmas that we explored together through situated material explorations with matters at stake that made it possible for participants to give shape to and share anticipated losses and emerging hopeful engagements.

However, reorienting ourselves and finding new paths is not an easy task, as it involves leaving behind a road in which we, as a society, have significantly invested. We suggest that the format of a study circle is promising, as it allows us to share the hardships of this journey and situate the transition in local environments rather than abstract images of a distant future. However, there is no quick fix to undoing our entanglements with fossil energy or unlearning optimism. Rather, it requires an ongoing collective work of grief and hope. To support this work, we have produced a pedagogical material in the shape of an orienteering guide [21], that has already been picked up and used by others in similar contexts.

ACKNOWLEDGMENTS

This project would not have been possible without all the different participants in, and contributors to, our study group. Thanks to all of you who have been practising grief and hope with us in unknown terrains. We also would like to thank all other persons and organisations who have not participated in the study groups but in many and other ways have enriched our project: individuals, village communities, hiking teams, and others. Thanks to Anne-Charlotte Ek, Anna Blomkvist, Barbara Wohlfarth, Lars Christersson, and Håkan Jönsson for generously sharing their knowledge and experience. Thanks to Gabriella Dahlman, Kerstin Engblom Clavijo, Per Gustavsson, Anna Rohegova, and Hasse Karlsson, who all helped us see unexpected aesthetic values in shifting landscapes. Thanks to Gunnel Petterson for sharing her gritty hope, to Tim Astbo for taking care of our tree cuttings, to Emma Bergström and Caroline Skovbye for space and food in the closed-down country shop, and to Jon Tillberg and Åsa Wiktorsson for providing lodging when we needed it. Thanks to Daphné Hamilton-Jones and Émile Roch for your creativity, curiosity, and perceptivity. Thanks to Anders Gustafsson, Jan Månsson, Frans Larsen, and Kerstin Nilsson.

Thanks also to Sjöbo Konsthall. The project is funded by Formas, grant 2019-01996.

REFERENCES

- [1] Barbara Adam and Chris Groves. 2007. *Future matters: action, knowledge, ethics*. Brill, Leiden; Boston.
- [2] Mette Agger Eriksen, Per-Anders Hillgren, and Anna Seravalli. 2020. Foregrounding Learning in Infrastructuring—to Change Worldviews and Practices in the Public Sector. In *Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Volume 1 (PDC '20)*, 2020. Association for Computing Machinery, New York, NY, USA, 182–192. <https://doi.org/10.1145/3385010.3385013>
- [3] Sara Ahmed. 2006. *Queer phenomenology: orientations, objects, others*. Duke university press, Durham.
- [4] Erling Björgvinsson, Pelle Ehn, and Per-Anders Hillgren. 2012. Agonistic participatory design: working with marginalised social movements. *CoDesign* 8, 2–3 (June 2012), 127–144. <https://doi.org/10.1080/15710882.2012.672577>
- [5] Tone Bratteteig, Keld Bødker, Yvonne Dittrich, Preben Holst Mogensen, and Jesper Simonsen. Methods. Organising principles and general guidelines for Participatory Design projects. In *Routledge International Handbook of Participatory Design*. Routledge Taylor & Francis.
- [6] Sue Campbell. 1997. *Interpreting the personal: expression and the formation of feelings*. Cornell Univ. Press, Ithaca, NY.
- [7] Laura Cortés Rico, Jaime Patarroyo, Tania Pérez Bustos, and Eliana Sánchez Aldana. 2020. How Can Digital Textiles Embody Testimonies of Reconciliation? In *Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Volume 2 (PDC '20)*, 2020. Association for Computing Machinery, New York, NY, USA, 109–113. <https://doi.org/10.1145/3384772.3385137>
- [8] Carl DiSalvo. 2022. *Design as democratic inquiry: putting experimental civics into practice*. The MIT Press, Cambridge, Massachusetts.
- [9] Pelle Ehn. 2017. Learning in participatory design as I found it (1970–2015). In *Participatory Design for Learning*. Routledge, 7–21.
- [10] Josefin Wangel and Elenore Fauré (Eds.). 2021. Beyond Efficiency: a speculative design research anthology in which we seek to deconstruct ecomodern imaginaries of urban sustainability through exploring what more just and sustainable living environments could be like. AADR, Baunach.
- [11] Fossil Free Sweden. Roadmap for fossil free competitiveness. Retrieved September 29, 2021 from <https://fossilfrittssverige.se/en/roadmaps/>
- [12] Paulo Freire. 1985. *The politics of education: culture, power, and liberation* (1. publ ed.). Bergin & Garvey, South Hadley, Mass.
- [13] Paulo Freire. 2004. *Pedagogy of indignation*. Paradigm Publishers, Boulder.
- [14] Paulo Freire, Ana Maria Araújo Freire, and Paulo Freire. 1994. *Pedagogy of hope: reliving Pedagogy of the oppressed*. Continuum, New York.
- [15] Paulo Freire, Donald P. Macedo, and Ira Shor. 1970. *Pedagogy of the oppressed* (50th anniversary edition ed.). Bloomsbury Academic, New York.
- [16] Alix Gerber. 2018. Participatory Speculation: Futures of Public Safety. In *Proceedings of the 15th Participatory Design Conference: Short Papers, Situated Actions, Workshops and Tutorial - Volume 2 (PDC '18)*, 2018. Association for Computing Machinery, New York, NY, USA. <https://doi.org/10.1145/3210604.3210640>
- [17] Donna Jeanne Haraway. 2016. *Staying with the trouble: making kin in the Chthulucene*. Duke University Press, Durham.
- [18] Lesley Head. 2016. *Hope and grief in the anthropocene: re-conceptualising human-nature relations*. Routledge, London; New York, NY.
- [19] Lars Holmstrand, Gunilla Härnsten, and Jan Löwstedt. 2023. *Handbook of Collaborative Management Research*. SAGE Publications, Inc., 55 City Road. <https://doi.org/10.4135/9781412976671>
- [20] Li Jönsson and Kristina Lindström. 2023. Who Cares about Fågeltofta? Failing to Grieve Landscapes in Transition. In *Failurist*. The Institute of Network Cultures, Amsterdam, 91–99.
- [21] Kristina Lindström, Li Jönsson, Christina Lindkvist, Jonas Larsen, and Per-Anders Hillgren. 2023. *Grief and Hope in Transition An orienteering guide*. Malmö universitet, Skåne.
- [22] Hannah Korsmeyer, Ann Light, and Lisa Grocott. 2022. Understanding feminist anticipation through 'back-talk': 3 narratives of willful, deviant, and care-full co-design practices. *Futures* 136, (February 2022), 102874. <https://doi.org/10.1016/j.futures.2021.102874>
- [23] Lenneke Kuijer. 2020. Democratizing and Anticipating Everyday Futures Through Critical Design: A Review of Exemplars. *TdD* 36 (October 2020), 150–177. <https://doi.org/10.46467/TdD36.2020.150-177>
- [24] Thomas Laurien, Li Jönsson, Petra Lilja, Kristina Lindström, Erik Sandelin, and Åsa Ståhl. 2023. An Emerging Posthumanist Design Landscape. In *Palgrave Handbook of Critical Posthumanism*, Stefan Herbrechter, Ivan Callus, Manuela Rossini, Marija Grech, Megan De Bruin-Molé and Christopher John Müller (eds.). Springer International Publishing, Cham, 1–23. https://doi.org/10.1007/978-3-030-42681-1_42-2
- [25] Kristina Lindström, Li Jönsson, and Per-Anders Hillgren. 2021. Sketching hope and grief in transition: Situating anticipation in lived futures. *Artifact* 8, 1 (December 2021), 17.1-17.22. https://doi.org/10.1386/art_00017_1
- [26] Laura van Oers, Giuseppe Feola, Hens Runhaar, and Ellen Moors. 2023. Unlearning in sustainability transitions: Insight from two Dutch community-supported agriculture farms. *Environmental Innovation and Societal Transitions* 46, (March 2023), 100693. <https://doi.org/10.1016/j.eist.2023.100693>
- [27] Yannick Oswald, Anne Owen, and Julia K. Steinberger. 2020. Large inequality in international and intranational energy footprints between income groups and across consumption categories. *Nature Energy* 5, (2020), 231–239.
- [28] Pablo Calderon Salazar and Liesbeth A Huybrechts. 2020. PD otherwise will be pluriversal (or it won't be). June 2020. 9. <https://doi.org/10.1145/3385010.3385027>
- [29] Maria Puig de la Bellacasa. 2009. Touching technologies, touching visions. The reclaiming of sensorial experience and the politics of speculative thinking. *Subjectivity* 28, 1 (September 2009), 297–315. <https://doi.org/10.1057/sub.2009.17>
- [30] Keywan Riahi, Detlef P. van Vuuren, Elmar Kriegler, Jae Edmonds, Brian C. O'Neill, Shinichiro Fujimori, Nico Bauer, Katherine Calvin, Rob Dellink, Oliver Fricko, Wolfgang Lutz, Alexander Popp, Jesus Crespo Cuaresma, Samir KC, Marian Leimbach, Leiyen Jiang, Tom Kram, Shipa Rao, Johannes Emmerling, Kristie Ebi, Tomoko Hasegawa, Petr Havlik, Florian Humpenöder, Lara Aleluia Da Silva, Steve Smith, Elke Stehfest, Valentina Bosetti, Jiyong Eom, David Gernaat, Toshihiko Masui, Joeri Rogelj, Jessica Strefler, Laurent Drouet, Volker Krey, Gunnar Luderer, Mathijs Harmsen, Kiyoshi Takahashi, Lavinia Baumstark, Jonathan C. Doelman, Mikiko Kainuma, Zbigniew Klimont, Giacomo Marangoni, Hermann Lotze-Campen, Michael Obersteiner, Andrzej Tabeau, and Massimo Tavoni. 2017. The Shared Socioeconomic Pathways and their energy, land use, and greenhouse gas emissions implications: An overview. *Global Environmental Change* 42, (January 2017), 153–168. <https://doi.org/10.1016/j.gloenvcha.2016.05.009>
- [31] Nevitt Sanford. 2017. *Self and society: Social change and individual development*. Routledge.
- [32] Sara Gottschalk. 2023. Thick Transitions In The City, Designerly Engagements For Sustainable Change In Urban Planning. June 2023. Norrköping.
- [33] Jesper Simonsen and Toni Robertson (Eds.). 2013. *Routledge international handbook of participatory design*. Routledge Taylor & Francis, New York London.
- [34] Val Plumwood. 2008. Shadow Places and the Politics of Dwelling. *Australian Humanities Review* 2008, 44 (2008). Retrieved from <https://australianhumanitiesreview.org/2008/03/01/shadow-places-and-the-politics-of-dwelling/>
- [35] Blanche Verlie. 2019. Bearing worlds: learning to live-with climate change. *Environmental Education Research* 25, 5 (May 2019), 751–766. <https://doi.org/10.1080/13504622.2019.1637823>
- [36] 2016. *Making Oddkin in the Chthulucene. Lecture. Anthropocene consortium series*. Retrieved October 1, 2023 from [https://www.youtube.com/watch?v=\\$fWQ2JYfJWU&t\\$=\\$12666](https://www.youtube.com/watch?v=$fWQ2JYfJWU&t$=$12666)