

Recollecting with Collectives towards Coexistence: A Theoretical Framework for Participatory Design in Times of Climate Crises

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Abstract

This paper explores a theoretical framework called “recollecting” for Participatory Design (PD) with collectives to support coexistence in times of uncertainty and polarisation around climate crises. It offers a PD concept and design approach that engages with the memories of hybrid collectives of humans and more-than-human actors within transitions of their built and natural environment, foregrounding collective memory as a political and relational process, central to shaping regenerative futures. In contrast to dominant strategies for dealing with climate challenges that emphasise technical solutions and material flows, we argue that meaningful transitions require practices of remembering - ritualised, situated, and affective - embedded in local ecologies and histories. We examine three case studies across Belgium, Denmark, and Sweden where PD researchers collaborated with local governments and communities to reimagine relations among people, places, and more-than-human actors. Through these cases, we identify three interwoven dimensions of recollecting: “orienting” towards attachments and past relations, “actualising” memory to shift power dynamics, and “archiving” as co-creating dynamic repositories of collective memory that enable continuity, reflection and action across time and actors. Our findings suggest that recollecting can support transitions not only by regenerating ecosystems, but also by reshuffling

social and ecological inequalities. Ultimately, we argue that designing with collectives offers pathways toward addressing regenerative futures grounded in recognition, care and solidarity.

CCS Concepts

• **Human-centered computing** → Interaction design; Interaction design process and methods; Participatory design.

Keywords

Participatory Design, Collectives, Recollecting

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1 Introduction: RECOLLECTING COLLECTIVES IN ADDRESSING CLIMATE CHALLENGES

An uncertain and existentially-threatening future is painted by environmental science predictions and the realities of rising temperatures, wildfires, and flooding that we face [11, 19]. The anthropocentric ways of building relations with the environment have overused natural resources and destroyed natural habitats, leading to a decline of biodiversity and material scarcity. In emergency



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response, the European Union (EU) and national governments currently stimulate initiatives that catalyse change by influencing new planning rules and promoting intensified renaturing for European living environments, requiring paradigm level shifts. Designers, inhabitants of spaces in transformation, and local governments find themselves quickly assembling in spatial transition processes, for instance in Circular Urban Economy (CUE) projects, arguably ticking boxes of participation and circularity whilst aiming for quick solutions. There appears to be a mismatch in how participation is set up, for instance in building a circular city vision, because of an over-emphasis on major urban stakeholders, as well as digital and data-driven approaches [49]. Simultaneously, there is a need to approach the complex climate-focused problems with care for social stability and cohesion [11, 19]. To address this, we must move away conceptually from thinking about transition stakeholders as separate entities or clearly delineated communities, and emphasise their relationships as collectives. In PD, when we speak of collectives, they are not fixed groups but dynamic contestations and formations between people and more-than-human actors in their environments that come into being through joint activities, shifting orientations, and histories of development and degradation [23]. Climate adaptation approaches need to be expanded to support designing with diverse collectives, so they explore and enable their own futures by building alternative relations with their environment. In this endeavour, there is a need to shift away from the dominant human-centred perspective on collectives to account for the needs of more-than-humans (e.g. trees, plants) to restore biodiversity and address climate challenges [56, 57].

We - the authors of this paper - come from four European research groups sharing an interest in how PD approaches can shape alternative, more proactive (power) relations of coexistence between human and more-than-human participants in climate-focused urban transitions. We investigate design with collectives with the aim to expand the concept of participation with human communities to participation with more-than-humans with close attention to the temporal dimensions of such endeavours. In the last PD conference (PDC) alone, there were ten such papers, building on discussions of participation otherwise [2]. Alongside speculative and theoretical contributions on more-than-human participation [36, 37, 48], the last PDC illustrated an active engagement with the past – grieving, remembering and designing with more-than-humans [28, 46]. This turn to the past reflects the need to engage in processes of historicising and interpreting how societal challenges are expressed in climate change and resource exploitation; and how practices of designing and accounting for the past can question cultural, expert-led, institutional demarcations, which define access and privilege [22], also identified as a need to re-world [25]. As Head [21] explains, if we set aside the theological view of history as progress, and approach the past in a non-hierarchical way, we will find numerous imaginative resources to help us think about alternative ways to deal with what we currently think of as a catastrophe.

In this article, we show how the concept of *recollecting (with) collectives* towards climate transitions expands current work in PD on communities and more-than-human participation, by complementing it with memory studies and environmental humanities. We develop the argument that PD with collectives can only deeply

explore human and more-than-human coexistence - as promoted in the PDC2026 theme - when recollecting is foregrounded as multiple acts of remembering how past contestations, power dynamics and formations shape current and future human and more-than-human collectives [23].

We define recollecting through three qualities. First, recollecting entails *designing with collectives*: a process of encountering and accounting for how collectives take shape and make sense of their practices *over time* in relation to climate transitions. This act makes collectives and their roles in climate transitions legible and meaningful to others. This includes seeing collectives not as fixed entities, but as formations that materialise over time through affective entanglements. Second, recollecting builds on PD's ongoing shift from designing with communities, towards designing with collectives - unfolding relations and actions between human and more-than-human actors. Recollecting is *revealing and working with collectives' entangled relationships between the human and more-than-human*, as affective, multispecies practices. Third, recollecting offers a framework for PD researchers and practitioners to engage in collectives' becoming and opening up a potential for regenerative and just futures via remembering of the past and shaping it into an event, practice, or artefact. It foregrounds the role of memory in noticing the past and actualising the present and future of collectives in PD for climate transitions.

To underline this engagement with the past, this paper further introduces "orienting" and "actualising" as memory practices that attempt to resist erasure, embrace complexity, and embed histories of ecological harm and resilience into urban planning and future making. In that way recollecting aims to safeguard, reintroduce, and manage circularity and biodiversity in rural and (peri)urban spaces. We ask the following question: how can the memory-conscious practices of recollecting support imagining and mobilising an enhanced coexistence between human and more-than-human actors?

To respond to the above question, we begin by unpacking the concepts of collectives and their memories. This is our foundation for developing a theoretical framework that positions recollecting as a mode of future-making, grounded in practices of 1) "orienting" such as noticing and storytelling, and 2) "actualising" through the happening of participatory events which engage with collectives' memories. By means of recollecting three real-world cases, we examine how PD researchers work with circular and regenerative processes addressing climate challenges, and how they can engage with memory practices as dynamic, contested, and materially embedded processes that shape future-oriented spatial transformation and governance. Our recollecting - as practiced in this paper - concludes with a plea for integrating a third practice - that of "archiving" - which completes our proposed framework. This paper contributes an ecology of practices for the making of memories in participatory rural and (peri)urban transitions to open loops of reflection, repair, and reimagining collective life in light of climate change.

2 METHODOLOGICAL APPROACH

The concept of recollecting grew from an exchange between four European research groups, working with regenerative and circular transition processes in Design higher education institutes in Italy,

Belgium, Denmark, and Sweden. While the four research groups have cases to offer, we chose to develop three cases in the context of this article to allow space for theoretical contributions. We started with a bottom-up analysis of three single cases: 1). Denmark, a smaller city scale in a peri-urban municipality; 2). Belgium, a regional scale redevelopment; and 3). Sweden, a rural setting. Our exploration took the shape of describing the affective engagement the authors had with the cases. All cases explored how to better tap into and valorise designing with collectives when working with governments, spatial, and environmental organisations to tackle climate change challenges. We chose to abstract our experiences into affective storytelling [50], i.e., we recollect past and ongoing spatial transformations as human and more-than-human encounters and sketch out strategies for working with collectives through these processes.

The choice to mobilise research affect into storytelling allowed us to share additional data which we used to support the development of PD concepts and research approaches that can be further explored in other contexts [60]. Retelling the stories here is thus the first form of recollecting, the one available to us as academic authors in an academic paper. Theory development went hand in hand with narrating the cases as we understood our retelling as recollecting. This is why we wanted to introduce our methodological approach before presenting the theory. In what follows, we enter in the theoretical discourses that founded the concept of recollecting in this paper, then move to the cases, and conclude with reflections that contribute the practice of “archiving”, derived from the shared analysing of the case studies with the theory. As such, we propose recollecting as a PD research strategy enacted through varied modes and techniques across the entire process, from framing engagements and initiating collaborations to generating and analysing data.

3 THEORETICAL FRAMEWORK OF RECOLLECTING

Concurrently with the case study work, we developed a theoretical framework to analyse how recollecting can support shaping collective futures. The idea of recollecting interrogates who and what gets remembered in PD with collectives in rural and (peri)urban transitions, and what power dynamics this creates in present and future. Recollecting considers how participatory processes might activate more inclusive and reparative forms of memory, extending beyond the human, across time and socio-material systems.

3.1 Designing with Collectives

Through the work that takes place in the above-mentioned cases, but also in a lot of current PD work, the traditional PD approach of “designing with (human) communities” is being questioned and rearticulated towards “designing with collectives” [23, 27]. This linguistic change better addresses the need to shift the relationship between human and more-than-human actors. Although the idea of collectives has been explored more deeply in the past decade [15], it is not new and builds on Ehn and Badham [9]. Their seminal article revisited the idea of a “collective” designer as a political agent in practice, who thinks with sensitivity beyond the human self. It concludes with several questions in relation to the non-human

actors: (1) How do non-humans “act” in the collective? (2) How are non-humans brought into the collective? (3) How are non-humans interpreted and mobilised by the human actors? We see these questions as interrelated and we reflect on the implications of the first two to shape our thinking. However, in this paper, we develop the third question by focusing on how collectives can be recollecting, further developed and mobilised in contexts of designing complex socio-environmental transitions in which human and more-than-human actors coexist.

To be able to understand and design with collectives methodologically, we draw from Callon’s [6] concept of “hybrid collectives” which connects agency to assemblies of human and non-human actors. Callon [6] defines collectives as highly structured, hierarchised or loosely organised arrangements and power constellations of specialists, lay people, professionals, and users. A place for these collectives is vital in our societies: their dynamics and knowledge need to be accounted for and their coexistence needs to be supported. Therefore, in transformation processes, there is a need to trace collectives and their recollections of how the environment shifts and can be shifted in the future. Henceforth, when we refer to collectives, we consider them as hybrid since collectives are always composed of multiple actors.

The need to trace how collectives form and evolve motivates us to approach memory making as an ontological skill - one that helps make new “ways of being” legible and meaningful [10]. Designers, in this view, engage with shared, situated concerns to help co-produce memory, identity, and futures through collective, more-than-human action. This involves what Escobar [10] calls “intense involvement with a collectivity” by taking practical action. Such involvement reveals how certain qualities and processes of collectives are mobilised - for example, to strategically advocate for specific policies. This requires us to approach collectives methodologically: to explore how they historicise themselves (i.e. engage in acts of recollecting) and how these recollections can be mobilised to shape new complex collectives. In other words, we aim to make collectives legible through the practical action of recollecting, enabling us to design futures with them.

Understanding collectives methodologically requires a shift from viewing them as stable entities to recognising them as emergent and relational assemblages formed through affective, material, and social encounters. Recollections materialise through time, thus, memories of the situated relationships people built with their environment can become a resource for more sustainable relations in the future [58]. This perception of agency as produced by a collective of interrelated human and more-than human actors challenges the assumption that modes of action are, following Callon [6]: (1) unique to human beings; (2) solely responsive to human demands or needs; and (3) that artefacts function only as passive servants.

This brings us back to Ehn and Badham’s [9] questions. If the first question is something we could attempt to capture ethnographically, the second question needs reframing. More-than-human actors are always-already entangled in collective life; they are not external entities waiting to be “included” or acknowledged post-factum. The task is not to bring them in, but to cultivate ways of attuning to the relations, agencies, and histories that already shape these collectives, to gravitate toward “Haraway’s conviction that there is something about our everyday engagements with other kinds of

creatures that can open new kinds of possibilities for relating and understanding” [33], explicating our inextricable links to them in “unexpected collaborations and combinations” [20]. Successfully doing so requires moving beyond dominant human-centred frames and becoming more responsive to the subtle affects, dynamics, and asymmetries that constitute coexistence with more-than-human beings. Hence, we develop the following two aspects of recollecting: orienting and actualising.

3.2 Orienting towards Collective(s) Memories

To be able to deepen the idea of recollecting through the role of collective memory making and its mobilisation into alternative futures, we leverage Ahmed’s [1] concept of orientation, which helps us think about orienting not only in a spatial sense, but also through time: “If orientation is a matter of how we reside, or how we clear space that is familiar, then orientations also take time and require giving up time” [1]. It points to, for instance, how researchers’ own recollecting of positions, desires, and investments shape which collectives can come into view and which remain out of frame. Orientation is also about affect: what recollections pull us in, what memories feel close or distant, and how these feelings in the encounter structure the field of possible relations. Exploring this affect, links to “attunement” [54] as a key methodological and ethical gesture: a way of engaging with what has and is already happening, of tracing the speculative openings nested within the here-and-now, and of remaining accountable to what is being brought into form.

Provided that collectives are entangled, dynamic, and multi-species, we argue that recollecting is not simply about preserving shared pasts. It becomes a practice of orienting towards particular memories of collectives and assembling and activating memory in ways that enable action in the present and future. We turn to the field of memory studies to expand our methodological understanding of recollecting by 1) investigating collective memory as an orientation and 2) drawing on recent developments in memory studies to integrate more-than-humans in that orientation.

Collective memory is always oriented towards something and thus is never neutral. It is socially constructed, politically contested, and often strategically mobilised to support dominant narratives of progress, identity, and governance. Halbwachs [18] asserts that the attribute “collective” preceding the noun “memory” implies that the process of remembering unfolds in present social frames. Moreover, memory is not simply the past remembered, it is the past curated, shaped by institutions and embedded in specific sites, rituals, and representations [47]. Examples of resources for collective memory making are narratives, oral and archived histories, artefacts, material practices in the landscape, media, folk memories, and autobiographical records [19]. Yet, rural landscapes and (peri)urban environments are also memoryscapes where histories of labour, displacement, and ecological transformation are either monumentalised or erased.

Researching collective memory reveals its political uses – collective memory is dependent on “who remembers something, and why” [31] and “who wants whom to remember what and why” [43]. Kubik and Bernhard [35] argued that such an instrumental

approach to the past is often caused by power struggles. Commemoration is one key tool of symbolic power, attributing meaning to spaces by material installations or procedural forms of rituals and ceremonies. On the one hand, the politics of memory are often related to places of memory and place-making [34, 53], evoking collective memories in the environment [30]. On the other hand, the politics of memory are related to the institutionalisation and revitalisation of stories to evoke and reinforce a collective’s coherence [30, 40]. Both symbolic forms of commemoration – material and procedural – allow the past to become a part of the (ongoing) present. The risk of alignment with one-sided dominant narratives exists, whereas the potential lies in activating multiple historical lines to leave space for dissonance and participation [52]. Scholarship has increasingly highlighted the entanglements of memory in collective action and collective future imaginations [29], which can enable dissonance and participation. Furthermore, personal and affective memory engagements are vital for mobilising collective action [59].

To better understand what recollecting with collectives could mean to the specific context of our PD work, we engage with memory studies, focused on planetary and more-than-human memory [7]. In this research strand, animals, ecosystems, landscapes, and technologies are agents of memory in more-than-human entanglements. We pay attention to environmental memory – that is the way individuals, communities, and societies remember and make sense of past interactions with their natural environments. Garde-Hanssen et al. [16] present ‘remembering as resilience’, tracking how communities collect, archive, remember, and forget flood histories to cope with environmental changes. Other authors have employed multispecies storytelling decentralising the human. Authors such as Tsing (*The Mushroom at the End of the World*, 2015) [55] and Rose (*Wild Dog Dreaming*, 2011) [51] practice noticing and attunement [54] – by attending to the latent, the emergent, and the interdependent in multispecies encounters on damaged sites.

In summary, by building on Callon’s [6] notion of hybrid collectives and Ahmed’s [1] concept of orientation, we reframe design as a process of orienting across species, temporalities, and forms of memory that is socially and politically constructed. We argue this orientation emerges from an attunement to how hybrid collectives produce memories, recollect their histories and remember together [54]. In the next section, we explore how recollections “actualise” collectives, supporting us in building methods for PD design with and for coexistence in climate crises.

3.3 Actualising Collective(s) Memories

Collective memories, particularly those shaped by multispecies engagements, are often not anchored in official frameworks of remembrance, even when more-than-human actors are acknowledged. For example, Garde-Hansen et al. [16] highlight how markers across the UK point to water levels and flood histories, yet these markers remain on the periphery of formal recognition. As a way to nurture norm change and recognition in the broader public Mihai and Thaler [45] point to the need in a situation of environmental loss to acknowledge our species’ entanglement with the more-than-human world through ecological commemoration. This encompasses not

only material monuments such as memorials and museum exhibitions, but also intangible commemorative practices - recollections - enacted through oral traditions, performances, ceremonies, and rituals, as they support processes of collective responsibility and learning through embodied modes of participation [13]. Intangible commemorative practices like festivals, nature walks, and shared storytelling can turn memory into a living, communal experience whilst they hold political power [14, 32].

We discussed the theoretical framework of “recollecting” as understanding collectives as dynamic formations (not fixed groups) that come into being through shifting orientations, and histories of development and degradation in joint actions [24]. Recollecting dives deeper into the underdeveloped role of the histories of collectives in PD, needed to cultivate more inclusive and nuanced PD processes with collectives attentive to the complexity of climate transitions. First, it invites practitioners and researchers to orient themselves to or notice how collectives remember and form through material, affective and situated actions (e.g., the markers that are created across the UK point to water levels and flood histories). Second, by actualising these memories, we begin to trace how collectives cohere and act towards alternative rural and (peri)urban futures (e.g., events that place these markers central in discussions on the future of our lives with enhanced water challenges). The resulting recollections are not nostalgic but world-making [21] - they shape how people understand their relationships with each other, nature, and the places they live in. In PD fashion, we think of recollecting as political - reflecting on who uses the memories and how agency is redistributed.

The following section explores how recollecting took place in three situated contexts, emphasising how stories and artefacts of attunement may shape the becoming of collectives, and in turn, the rural and (peri)urban futures they seek to enact.

4 Stories of recollecting: complementary case studies

All the texts below are in themselves a limited recollection of the myriad of (hi)stories, encounters and events that have made up our engagement with the sites - for some cases the timespan exceeds ten years. This presupposes that the different projects we worked on were at different stages of development. We use orienting and actualising as ways to conceptually bring together these differences. Under orienting, we narrate how we have encountered the memories of collectives, and in actualising we describe how we approached working with different members of these collectives. As a result, our texts represent an agential cut [3] in a growing flow of insights and knowledge shaped differently over time.

4.1 Recollecting Future Archives in face of a potential future mine

Case Grief and Hope in Transition in Bondrum: In the first case we zoom in on a particular event in the Grief and Hope project taking place in the rural area of southern Sweden. The project’s aim is to engage diverse inhabitants in imagining and performing post-carbon futures encompassing loss and hope. And further, to develop forms and methods for how these futures can be known,

discussed and debated in light of the Swedish government’s decision to become fossil-free by 2045. To do so, the project research group was invited to four study circle events (further discussed in [39]) where each meeting took place in a landscape that is undergoing transformations related to climate change as well as to new demands for biofuels and metals needed in the transition to become fossil free.

4.1.1 Orienting. Buried below the topsoil and invisible to our eyes without digging, shale-rich clay surrounds the village where the study circle took place. The small village and the local landscape faced an uncertain future due to current demands of innovation-critical metals needed for greentech. An international mining company had been given an exploration permit to sample and evaluate the richness of Vanadium in one of the nearby fields, a permit widely debated locally. Hosting the study circle here was based on how previous participants in the project pointed to the potential mines with a deep sense of worry in regards to its social and ecological effects [38].

The study circle started with an introduction that pointed to both historic and future accounts of the area, followed by a local geologist explaining different soil layers, geological time, as well as risks associated when extracting Vanadium from shale. She reminded us that mining shale (for Alum) in the area had already begun in 1637 and how the red slag heaps still cause environmental degradation as they lay scattered as commemorations in the landscape. As Alum was needed back then to respond to societal needs, Vanadium is today a key servant in current visions for the green energy transition as a component for storing energy.

4.1.2 Actualising. To actualise the soil and Vanadium into the study circle, part of the research team dug up some of the shale-rich local clay soil with the help of a farmer living in the village. Over several weeks, we got to know the material, handling it by researching, discussing, cleansing and even firing it. The excavated clay was then introduced into the circle through narrating its historic and culturally rich background - it had been used to build the local houses along with its more politically charged green-tech value related to the fossil free transition.

To practice how to attune to the village history and potential futures, the clay was used by the research team and the participants to make imprints, or memory marks of the local landscapes. Several reflections surfaced in this process. First, the embodied experience of the local clay in our hands, while making the imprints, demanded an attentiveness to details of moss, soil and twigs while actualising collective histories along with the political potential of vanadium and extractive human practices. Secondly, this transformed into associations, reframing extractive mining practices. For instance, a participant reflected on how it felt like a subversive reenactment of the mining companies practice of claiming land, marking the landscape for extraction - here, marking for remembering.

Later, when the group reconvened to report on the findings and to collaboratively reflect on motives and motivations, an imprint of a pile of rocks triggered a woman to think about slag heaps from mines and industrial sites. She said, “I grieve that these leftovers are what we have taken from earth, but I hope that the solution can also be found there”, hinting towards better ways to re-use and take care of slag heaps and other things we do not value and leave



Figure 1: Making imprints of the local soil and carbon tractor footprints. Village 3 Sunday, 22 May 2022 at 14:32. Photo credit Daphné Hamilton-Jones and Émile Roch.

behind. An imprint of a tree stump made a man from the village think of what had been there before him as he suggested “recreate a little of that farming culture with a smaller herd of animals and a vegetable garden” to support better sensibilities and relations to local ecologies (Figure 1). We interpret these shared reflections on what we wanted to memorise as affective experiences, often in relation to hopes for the future.

The memory marks became a form for prefigurative archive, in case the shale-mine would open. About a year after hosting the study circle the permit for exploration of Vanadium ended. No tests were ever done on the field next to the village. Before the permit ran out, the memory marks were exhibited in a local community centre open for the public. They are currently stored at the University.

4.2 Recollecting a road transition

The North-South Limburg is a heavy-traffic road connecting the Belgian and Dutch cities of Hasselt and Eindhoven, cutting through the municipality of Houthalen-Helchteren (BE), impacting road safety, mobility, and quality of life and biodiversity. The Flemish government initiated a complex project and founded Studio NZL – an interdisciplinary consortium of research, design, and communication bureaus to reconfigure the street space – currently dominated by cars – to make place for green, public transport, bikes and pedestrians, and tunnels needed to be built. Aspects of this transition have been addressed in previous articles [17, 25]. To gain space for the project, the Flemish government bought buildings, houses, and plots of land from residents. We became aware of the fact that recollecting the expropriated and demolished buildings carries potential for circular design processes, reusing otherwise “lost” resources in community, public and open spaces. During a first circular reuse of these resources in a transformation of a pastoral house and garden (2023-2024) – of which the main driving actor was a local collective initiative, later named *De Pastorie* – a non-profit organisation of local actors who explored the possibilities of upscaling the circular process for the upcoming designing of tunnels and new biodiverse landscapes up and around them.



Figure 2: Stieglitz, Goyens & Huybrechts, UHasselt, 2022



Figure 3: Stieglitz, Goyens & Huybrechts, UHasselt, 2022

4.2.1 Orienting. The houses, their inhabitants and the nature elements around them are all small collectives, some of which will play a role in the creation of new collectives in a Circular Urban Design process: a community centre and two new tunnels under the existing road surface. The reason for orienting towards past collectives in this circular process is that sustainable transitions are not always just, offering benefits for some and disadvantages for others. Moreover, who is affected in positive or negative ways changes through space and time. Circular design processes can reshuffle these inequalities, when paying attention to building a collective memory of how the transition took shape and how different actors, human and more-than-human, are positioned in this.

To orient ourselves towards collectives, before houses were expropriated, a “living-experience research” was organised for us as researchers to orient ourselves in the existing dynamic collectives alongside the road. We visited the houses alongside the road and did one-on-one conversations with the road’s inhabitants to learn about how they experience the place, how they were attached to it and the reasons for their habitation, and how they would feel at home in another place in case they would need to move. The insights were translated into stories and drawings that not only narrated human experiences, but also the role of more-than-human actors in the changing environment. These were transferred to the road design team and the local and supralocal governments (Figure 2 and Figure 3 below).

We learned that some of the owners were relieved to be expropriated, after having lived for a long time in bad housing situations alongside a too busy road. Living on this road was for them an

economic choice - it was cheap due to worsening living conditions in terms of health, noise and spatial quality. Others were more hesitant or even sad because of long time memories and family ties. Their houses were built in times when the road was still a green and vivid living space or they had started a business there (like “Simonne” - fictitious name - in the drawing (Figure 2)). However, some houses will not be broken down as they are located outside the zones where new infrastructure will be built. Some feel disadvantaged because of that - they have to stay in an environment that currently is not experienced as liveable.

4.2.2 Actualising. To actualise the collectives in more just climate transitions, while the houses are waiting to be broken down, a circular design process was set up to explore new configurations of collectives in which the more-than-human could gain agency in relation to the human stories of grief and loss. The inhabitants started reusing materials and green elements (trees, bushes, etc.) from the houses in a new community infrastructure. This process was organised through a series of events - an urban harvesting festival and three “live” projects with MA students - where the collective of researchers and design agencies in the project gathered with the collectives already present in the location. Pragmatic, economic, ecological, but also emotional and ethical reasons drove the idea that reusing and recording the more-than-human actors and activities encountered in this process enables us to remember a challenging past of transition. The local community gathered at several moments to harvest materials and nature elements from the abandoned houses and actualise them for new community space, by collecting, sorting, nurturing and cleaning them. They were attracted via a harvesting event, a treasure hunt (searching for valuable materials), and building events that worked very well to bring professionals and community members (both outside of their usual work hours) together. To avoid “hurting” people with these activities, the event started with harvesting resources from the bigger company buildings, where personal attachments were less sensitive. Designers, regional landscape management (with interest in the biodiverse memory and futures), and a tree caretaker are now looking into how they can design a local “tree bank”, where trees find a temporary home before their final destination on the redesigned road, and a memory bank, where both the material, social, and ecological memories are archived and can be passed on to future collectives.

4.3 Recollecting the Sønderbro case

Case Sønderbro: Sønderbro, an urban district in Copenhagen was established in the early 20th century and bordered up until 2000, directly on the Common, a vast natural area with diverse ecology. The development of the neighbouring district of Ørestad has since then cut off the neighbourhood from the Common. Currently characterised by traffic barriers, a diverse demographic mix, a fragmented urban layout, and socio-economic challenges, the Municipality of Copenhagen has launched a comprehensive urban renewal effort aimed at transforming Sønderbro into a connected, green district with strong community bonds and biodiversity at its core.



Figure 4: The annotated map and non-human participant from our first workshop in the urban garden at Sundholm back in 2017, photo by Jonas Fritsch.

4.3.1 Orienting. Sønderbro is a municipal priority area for urban renewal just next to the university campus in Ørestad. Despite the proximity, the short walk from the campus is a transition from a uniform landscape of glass, steel and artificial lawns to a patchwork of fragmented neighbourhoods marked by a very busy street, which partitions the “old” Sønderbro from the “new” Ørestad. In the area there are social housing estates from the 70’s and 80’s, old working-class housing blocks from the end of the 19th century, and several smaller newly built housing estates, reserved for tenants believed to contribute valuable resources to the area. In addition, the area has a youth prison, two public schools, and a large old workhouse estate, Sundholm, for the city’s most vulnerable citizens. This is a contrast to the very recent developments in the area where the university campus is situated (late ‘90s and 2000s).

We first started orienting ourselves towards collectives in the area more than eight years ago through an active engagement with the Sønderbro area, principally with the urban garden at Sundholm. Our research interest was driven by a desire to understand how the particular coming together of plants, green houses, dogs, and users of the garden produces a kind of value in ways that tend to get lost in the mappings of landowners, politicians and urban planners. In addition to working as a “regular” urban garden, gardening was also used as a form of social rehabilitation for often homeless people with different addictions. Becoming regulars with the users of the garden, we experimented with sound recordings related to the affective qualities of what was unfolding. We aimed to explore different tools and methods for capturing affective data related to the quality of life of human and non-human actors across the diverse environmental, social and mental ecologies present in the garden, but often overlooked – and under-valued – in urban planning processes (Figure 4).

At the time, we did not manage to recollect a collective willing to continue these experiments, partly due to unsuccessful funding applications. Seven years have passed since then and we have been invited for a tour by the municipal urban renewal team to visit

the hotspots of the newly published district plan. The plan gently touches upon how the renewal effort is motivated by the socio-economic indicators chosen to define the area, but also elaborates on the promises that the plan holds for a better future. The narrative seems to be that residents are living in an area with ‘social problems’, and they ‘now’ have the opportunity to reach out for “the good city life” through taking part in dedicated and situated renewal efforts.

4.3.2 Actualising. Memories of the area are written into the district plan, where the formation of collectives is tied to specific sites and to flows of money and activity. Yet who is invited to take this up, and to what extent? Open project groups exist, and the renewal team actively courts stakeholders and community groups. At Sundholm, a key priority is to open streets and courtyards to outsiders under the label Together in Sundholm (echoing the municipal slogan Together for Copenhagen). The renewal team hosts monthly “chocolate parties” for residents to spark conversation and has joined the local Sundholm street crew to learn about the area.

While our engagement with Sundholm continues, also to a certain extent framed by our previous engagements, new collectives in Sønderbro are beginning to actualise through the transition plan. A local art group will stage participatory installations organised around soil, where compost from the neighbourhood playground acts as a material agent. As the installation circulates, it activates local memories of Sønderbro’s past as agricultural land, while opening concrete routes to speculate about future urban food production and soil fertility. Here, soil, microbes, and compost convene collectives rather than serving as passive backdrops. A second initiative invites residents to co-design artistic habitats for other species and to prototype interventions that heighten attention to more-than-human life.

Another collective focuses on urban swifts, a bird losing nesting niches through current building practices. By co-designing swift bricks and roosting sites and hosting participatory multispecies activities, swifts are envisioned to become co-constituents of a new urban collective-in-the-making. These activities have participatory potential and could inform the street-layout changes envisioned in the plan. Still, we wonder how memories of everyday living shape the neighbourhood when outcomes are so tightly predefined in the plan. It is easy to picture the physical alterations to streets and yards; it is harder to grasp the lived practices these new landscapes will sustain. This reflection turns toward how the affective and emerging memories of collectives might be sustained. For instance, we could investigate how residents, sound boxes, beer, drugs, dogs, benches, cherry blossoms, compost, microbes, and soil practices intertwine with schoolchildren, street art, and busy parents, recomposing relations across human and more-than-human lives. As swift bricks, roosting sites, and bird-watching practices take root, memories of Sundholm as a refuge from the city’s body politics evolve into recollections of shared, multispecies belonging. Local archives, soil records, and species sightings carry these memories-in-the-making forward, holding traces of a place continually becoming.

5 DISCUSSION: RECOLLECTING WITH COLLECTIVES FOR COEXISTENCE

This paper extended the theoretical discourse on design with collectives, building on defining collectives not as fixed groups but as dynamic contestations and formations between people and actors in their environments. Collectives come into being over time, through joint activities, shifting orientations, and histories of development and degradation. The hypothesis of the paper was that 1) there is a need to actively remember how collectives between human and more-than-human have grown, and that 2) a participatory approach drawing on recollecting with these collectives can reshape future rural and (peri)urban transitions. To investigate this hypothesis, we recounted our memories of three case studies through practicing recollecting - a process of orienting with collectives and actualising collectives’ memories towards desirable futures. Orienting towards difficult and silenced stories and histories from these places in transition was done through visiting archives, doing interviews, sound recordings, and retelling through agential cuts. When actualising, the insights from the different orientations were activated through different events (festivals, walks, and study circles). Different materialisations were important to redistribute visibility of what tends to be overlooked in times of transition, such as more affective values and more-than-humans.

The case studies demonstrate recollecting as taking action on a spatial, temporal and affective continuum. In this discussion, we elaborate on a third practice that (could have) played a (more) important role in the on-the-ground research action as well as in our recollections of the case studies, namely the need for *archiving* these processes of orienting and actualising, in order to share the memories that are built with collectives and for others to be able to relate back to and work with them.

5.1 Orienting

The literature and case studies have shown us the value of recognising collectives and their action through time. They also demonstrated that collectives are not something we “design”, but orient towards [1]. When orienting towards collectives, relationships needed to be noticed. In the Belgian case study, the group organised a series of field interviews and house visits to capture how collectives formed over time as part of the road transformation, developing particular affective relations of both connection and loss between human and more-than-human actors, the loss of material property, relation to garden spaces and so on. Organising these visits and their translation in maps and drawings served to orient ourselves towards the past and present of the transition and its emotional impact on this community. Similarly, in the Swedish case study, by virtue of orienting to deep geological time and mining history in study circles, collectives attuned to their relationship to soil histories and Vanadium as actants in their lives. In the Danish case study, the research team got re-oriented toward the area after some years of not engaging directly. They observed how municipal narratives structure participation by inviting residents into a future-oriented story of transformation. However, these narratives, lacking proper orientation towards collectives’ formations over time, risk flattening the lived complexity of places which are already dense with multispecies memories, informal economies

of care, and affective infrastructures. In these cases the events of house visits, study circles, but also our own recollections of past and present engagements with sites in constant becoming, are the boundary work [12] of recognising the just and unjust ways of distributing social goods between humans and more-than-humans.

5.2 Actualising

Our approach acknowledges the ongoing entanglement of multiple actors in complex processes of transition through time: municipal actors, local communities, infrastructures, and more-than-human participants are already constituting the fabric of our living environments. The challenge, then, is not only to initiate connection between diverse collectives but also to attune to and recognise the relations that were there in the past and already existed, and to actualise and prefigure them in relation to climate transitions; and to do so in ways that redistribute visibility, care, and power as a fundamental aspect of a just transition. In the case studies, we want to point to how the practice of actualising was expressed through following human and more-than-human histories through forming and attending to that which often might be neglected. In the Swedish case, the shale-rich Vanadium clay, used for making memory marks of an area facing an uncertain future, allowed us to focus on the local soil as an important actant for both the history and future of the area. In the Belgian case, we attended to a heavy-traffic road as a place of value along with the otherwise discarded materials through collecting and reusing them as an act of respect for the past and act of care for potential futures. In the Danish case, the research team engages with the urban renewal project to potentially include and actualise different memory-making trajectories across human and more-than-human actors to facilitate different forms of recollection.

5.3 Archiving

In the above case stories, *memory becomes both a resource and a process of transfer* within collectives, which are capable of strengthening relational ties, but also vulnerable to erasure if not held within frameworks that recognise their significance. Although the theory in dialogue with cases had already revealed two aspects – orienting (what is/has been going on within collectives), and actualising (bring to the surface and make tangible collective transformations and further transform them) – the storytelling in the cases highlight a third concern: a need and desire to archive to ensure that others can remember. However, archiving within the dynamic and ongoing process of recollecting presents a challenge. It requires looking back – an activity difficult to sustain in the often-fast-moving realities of PD projects. It goes without saying that archives are not neutral – they are our common responsibility and they are not only questions of the past, but also questions of the future [8].

We engage with Ahmed’s [1] metaphor on “points” and “lines” to make sense of this. Archives are an accumulation of “points” and these points might take us into predetermined, normative “lines”. Anything outside that line is “misaligned”, especially when archiving under systems of oppressive power-dynamics where certain historical and memory trajectories are reinforced. As archiving activists from the Global South remark – “Until the lion learns to write, the story will always glorify the hunter” [41, 42]. These

risks became tangible in the cases. In the Danish case, the recollection presented by the municipality clashes with many of the ideas and insights the research team was working on to foreground the socio-cultural and biodiversity already entangled across human and more-than-human actors. This was easily subsumed to a grand narrative about the benefits for the usual suspects in gentrification processes. Moreover, the case has revealed differences in memories and experiences, which implies working with multiple and sometimes contested lines of recollecting. This creates challenges, but also generates a different assemblage across academic and non-academic actors, always asymmetrical, and in flux. As such, the presented recollection in archives is also a cut across the multitude of ongoing relations and memories, tending towards future engagements.

To archive with collectives then requires us to trace or make space for deviant lines, for recollections that fall outside institutional recognition or linear progress narratives. In this way, archiving becomes an active part of recollecting: a practice of redirecting attention, making collectives legible, animated, and imaginable across time and other collectives. It necessitates orienting to the plurality of practices and representations of different collectives. Archiving under the lens of recollecting is about making emerging memories tangible, sharable and available to be actualised and re-configured towards sustainable futures: not general assumptions of the past, but particular memories and alignments, situated in concrete collectives. In the discussed cases, the collective value of memory entailed a process of aligning between human and more-than-human histories – for example, housing developments in Belgium road North-South Limburg alongside the life histories of trees. This alignment enabled participants to map and remember how (peri)-urban landscapes have evolved over time by the ongoing relationships between human and more-than-human actors. In the Swedish case, we animated the soil through imprints from a rather unknown village with much at stake and shared them in an exhibition in a local community space. This brings collectives with different historicities together, such as the deep geological time and the future mining in the Swedish case. It points to the need to design methods for acknowledging their entanglements and foregrounding them where these entanglements are not already attuned to.

Finally, archiving can support transferring recollections between collectives over time and thus support taking action as a continuum, enabled by orienting ourselves towards particular memories and actualising them in and with collectives. Whereas in the other two case studies the collectives consist of individuals and groups who were already oriented towards recording memories, the Danish case history is distilled through the eyes of a municipality plan, following a more traditional model of curating the past towards an identity that serves governmental visions. In this process of orienting and actualising, archiving can support the recognition and making public and tangible the collective memories that were “forgotten”. In the cases of Sweden and Denmark, these were experimented with – they traced and recorded the movement of materials such as vanadium not only as a substance but as a story – who touched it, shaped it, remembered it. The cases thus raise important questions about how archiving can be a generative practice that challenges conventional environmental and municipal inventories. These new

archives can include: detailed observations of more-than-human actors; memories and personal narratives; material trajectories and skill ecologies - who worked with the materials, using what (embodied) knowledge, and to what end. Although not exhaustive, these elements can shape a more dynamic and inclusive approach to archiving that foregrounds relational, affective, and multispecies dimensions of memory and use.

6 CONCLUSION: RECOLLECTING AND ITS VALUE FOR PD DISCOURSE

In the discussion, we articulated *the role of recollecting in PD*, supported by orienting (in order to recognise the role of collectives), actualising (bringing diverse human and more-than-human historicities to the surface as part of actualisations of possible futures of our living environments) and archiving (making the memories of collectives tangible and public). In our cases, we demonstrated how recollecting is activated via the role of orienting, actualising and archiving human and more-than-human relationships to foster collectivity in novel human and more-than-human configurations of collectives [5, 27, 44]. Events serve as gatherings where human and more-than-human actors come together to orient towards and actualise memories, make them visible and support a deeply relational future-making process. The inclusion of *contested memories* - such as the expropriation process - is crucial, since active participation with collectives is not about achieving consensus, but about creating spaces where diverse perspectives can engage meaningfully. More than “successful”, we foreground thoughtful participation, allowing different memories to coexist and interact. Memories are also entry points into collectives that are vital for *democratic transformation*, navigating complexity and uncertainty rather than seeking straightforward solutions [4].

Working with collectives through recollecting, then, is never neutral. It is a methodological orientation through past, present and future, an affective openness, and an ethical commitment all at once. It requires recognising that our engagements help bring collectives into being, that we do not merely observe them, but participate in their formation. This is echoed in recent PD scholarship, where *infrastructuring*, *commoning*, and *institutioning* are framed as practices through which collectives take shape, not only among humans, but across entanglements with materials, places and more-than-human actors [23]. What this demands of us is a corresponding attentiveness [26] to the rhythms and intensities of the encounter, and an ethical sensitivity to which voices, histories, and orientations are amplified or foreclosed.

We conclude that a framework for recollecting in PD can support designing with collectives for a more conscious and caring coexistence between humans and more-than-human worlds in our (peri)urban and rural living environments. It opens PD approaches to a greater variety of actors in decision-making, by including more-than-human actors and by better articulating the time dimension of the collective - especially the future as not something “out there”, but as part of a continuum. It supports PD in recognising our lives as embedded in biological, environmental, and technological domains in order to develop effective strategies for urban transitions addressing climate change. This enables us to develop modes of coexistence through *boundary work* [12] including more-than-human

actors, through a deeper understanding of the involved collectives’ connections with environmental resources. This leaves us with many more questions for further research. Do recollections require shifting roles and responsibilities of PD researchers? Where do they start and end? How does it relate to the project structures in which we often operate? Rather than listing all possible questions that emerge from this papers’ exploration, we hope that you as reader can recollect what you have read here and bring it into - again - new collectives and take this discussion further.

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