INSTITUTE FOR SUSTAINABLE WORLDS

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Preferred citation including student contributors:

Lockton, D., Coops, F., Samit, D., Draaijer, S., Fanchamps, X., Vaandrager, P., van Lieshout, M., Kuipers, I., Hoymann, R., Amato, S., Slotboom, T., & van Zeijl, I. (2026). What Doesn't Have a Place in the Future? Exploring imaginaries of systemic transitions through speculative design probes. Contexts—The Systemic Design Journal, 3.

The definitive version of this article is published at https://doi.org/10.58279/v3004


NORWICH UNIVERSITY OF THE ARTS

CONTEXTS
Volume 3 | 2026 | doi.org/10.58279/v3000

SYSTEMIC DESIGN ASSOCIATION

# What Doesn't Have a Place in the Future? Exploring imaginaries of systemic transitions through speculative design probes

**Citation (APA)**

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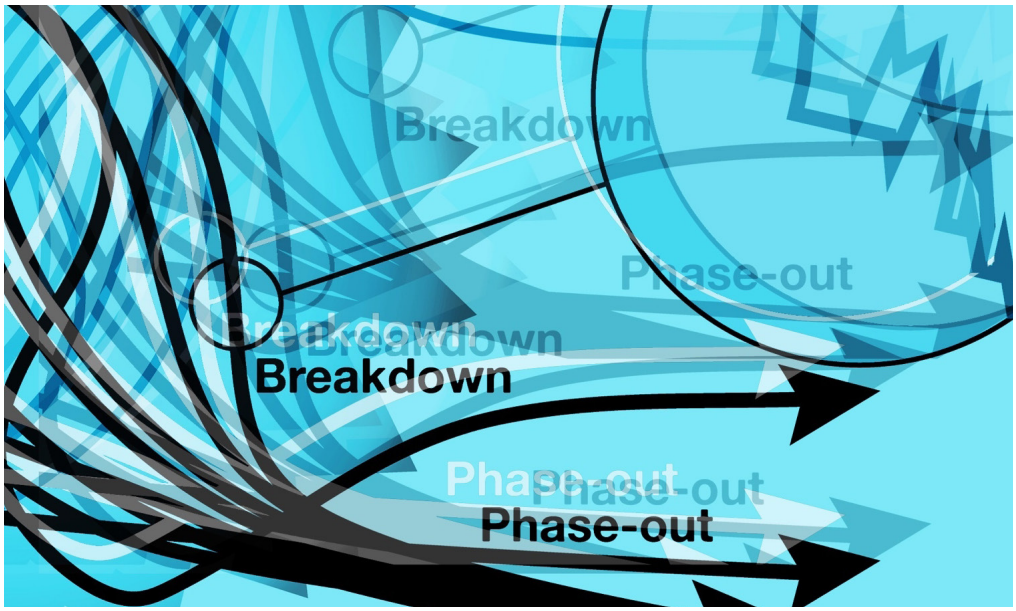
## Abstract

Designed visions of systemic transitions usually focus mainly on new possibilities, practices, and configurations of everyday life. We rarely consider what is missing: what aspects of our current everyday lives are not present in these futures? The notion of *breakdown* and phase-out is central to transition studies, but has been underexplored in design and in design education. In this paper, we explore the idea of "what goes away?" as a framing. Based on the context of IMAGINE: Contested Futures of Sustainability (2021), an interdisciplinary research project addressing the societal power of cultural imaginaries of sustainability, we examine how topics from design and transition studies fit together and identify opportunities for more nuanced approaches to the lived experience of being inside transitions. Through a provocation to Master's students, around visiting a museum in 2050 and encountering a cabinet of rarities or curiosities featuring objects (or practices) that have disappeared from everyday life, we illustrate examples of three speculative design projects addressing sustainability and cultural topics, around coffee, marriage, and consumer choice, in the form of probes. The projects, and focus on what does not have a place in particular imagined futures, offer a distinctive perspective for approaching designers' responsibilities towards the future.

Keywords: Futures, transition design, nostalgia, speculative design, probes

## Visual Abstract

A close-up of part of the breakdown and phase-out parts of the transitions X-curve, with a notion of the messiness and complexity suggested through multiple offset overlays of the curves.




## Introduction

How do people imagine what a 'sustainable' future might entail in everyday life—and where do those ideas come from? The conjunction of climate change, health crises, and social inequalities can form a grim picture for our collective futures, but can we use this context as a position for imagining something different? As Ruha Benjamin (2024) reminds us, "imagination is the invisible infrastructure" shaping our world. Yet, certain imaginaries—from certain groups of people—currently dominate popular culture and politics, whether centred on AI-driven techno-utopias (for some), evoking fictional golden ages, or fuelling growing climate anxiety. Our societies seem unable to conceive of narratives beyond visions promoted by the technology and entertainment industries ("Half Hollywood, half corporate demo reel" as designer Julian Bleecker (2025) puts it). The notion of an "imaginary crisis" (Mulgan, 2020) or a "crisis of imagination" (Ghosh, 2018) suggests that alternative imaginaries remain hidden, or are not even imagined. Some suggest the necessity for imagination "infrastructuring" (Oldham, 2021; Robinson, 2022; Vervoort, 2023; Potts & Facer, 2024) to support their development and emergence: creative methods, organised programmes, and opportunities for experimentation, that support diverse groups to imagine and explore more radical possibilities for everyday life, and "stimulate [our] creative capacity to confront the future" (Özbekhan, 1970, p.7). A systemic approach here emphasises that transitions to more sustainable futures will necessarily involve multiple models—multiple worlds within one world, "plural ways of making the world" (Escobar, 2018), and alternative narratives for change (Røkenes et al., 2025).

When we start expanding our understanding of the making of worlds and creating space for more plurality, different ideas of what a sustainable future might look like exist next to each other. But while design often focuses on new possibilities,


*Figure 1. A traffic-free living street in Utrecht, Netherlands, illustrating how the removal of traffic enables new forms of use. Photos by Dan Lockton.*

practices, and configurations of everyday life—with designers adopting roles as future-makers (Mazé, 2025)—we rarely consider what is missing. What aspects of our current everyday lives are not present in these visions, and what would need to happen for them to disappear, including being actively designed away?

The absence of things can be hard to make salient or engaging when so much thinking about the future focuses on creating images of the new. Perhaps some of the most persuasive contemporary examples seek to show what can be gained, recovered, or made possible by the disappearance of something else—for example, traffic-free "living streets" (Figure 1) or even the removal of roads (Figures 2 and 3) in city centres, thereby enabling new parks or waterways.

*Figure 2. Catharijnebaan, Utrecht, Netherlands, 6 October 1973. Photo by W. Meijnen. Copyright Utrechts Archief; used under CC-BY 4.0 licence.*

*Figure 3. The same location, now Catharijnesingel, Utrecht, Netherlands, 25 August 2025. See the Public Space Prize 2022 for more details. Photo by Dan Lockton.*

Defuturing in design (e.g., Perera & Fry, 2022) recognises that proposing particular visions of futures might erase the possibilities of others. Nevertheless, proposing the question "What doesn't have a place in the future?" seems to be relatively rare. The article poses this question because we find this inquiry missing from design education, even within Transition Design (e.g., Irwin et al., 2020) and, more broadly, in designing for transitions and transformations (e.g., Coops et al., 2024a). Outside of design, the notion of transitions involving breakdown and phase-out (e.g., Koppenborg, 2025) is central to models such as the "X-curve" (Loorbach et al., 2017). Yet less attention is given to designing how existing practices are phased out and to

the societal effects of these changes. Furthermore, we know the powerful cultural and political effects of memory, nostalgia, and histories (e.g., Arnold-Forster, 2025), as well as resistance to change.

In designing for societal transitions towards more (ecologically) just, resilient, and sustainable worlds in an age of climate crisis concern, embracing a more plural approach to futures could show us how different groups of people imagine which systems, artefacts, and practices might exist in the future, and which might no longer exist. Placing these different futures next to each other shows the importance of different things to different groups of people. What would still exist in their future? What would they focus on? But also: what has disappeared? What doesn't exist?

In design education, systems are often assumed to be substrates for additions, rather than subtractions, for removing elements. But what happens if design students focus on what goes away when thinking about futures? In this article, we explore a set of projects by industrial design students in the Netherlands, at a technical university where largely techno-optimistic imaginaries of futures dominate, to examine how the question of what goes away perhaps fits within a more systemic perspective on transformation.

**Throughout this article, we will also ask you, the reader, to ask yourself some of the same questions that the students engaged with over the course of their projects. The first is a simple question, but it often comes paired with quite multifaceted answers:**
**Q1. How did you imagine the future when you were younger? Where did those ideas come from? (e.g. often from movies, cartoons, technology, popular culture—but perhaps also from family or friends). What do you think about those ideas now?**

## Letting Go and Transitions

The idea of "what goes away" is linked with the notion of letting go, as explored by author Coops (Coops et al., 2024b, p. 497).

> We tend to underestimate that we do not only develop attachment bonds with living beings surrounding us, but we also develop relationships, attachments, as so-called material possession or material culture, with the established practices and—in the end—physical environments and systems we live in and with… When letting go of certain objects, practices, or places, we might experience this as losing a part of ourselves.

The workshop *Designing Spaces for Letting Go* at the RSD12 Symposium (Coops et al., 2023) and subsequent work, has examined, with participants from the systemic design community, more of these affective aspects of breakdown and phase-out of unsustainable or unjust established practices, structures, and cultures within societal transitions.

There is also a strong material component to how these questions manifest within design and popular culture more widely. Movements such as Marie Kondo's KonMari method (Kondo, 2014), Swedish Death Cleaning (Magnusson, 2017), and various approaches to minimalism in living have mainly focused on decluttering of physical

possessions, usually in rather privileged contexts. But there are also other ways in which people 'let go' of certain objects or practices—or even the idea of them. For example, students have mentioned decisions such as becoming vegetarian or vegan, giving up on the idea of ever owning a car (or even learning to drive), or techniques to stay off social media (including using focus-preserving apps, or even changing one's phone display to greyscale). In design and human-computer interaction research, Kuijer et al. (2025) imagine a future where academics—seen to have enabled climate destruction—lose their research funding, as public opinion turns against them.

In general, changes or transitions where something goes away are not always smooth or easy. There are practical, systemic challenges, but also emotional and personal ones. For example, a common pattern cited to explain obsolescence and technological transition processes is that of 'dematerialisation'-focused shifts away from physical media for music or films (e.g. vinyl records, cassettes, CDs, videos, DVDs, etc) towards digital files and streaming services. Now there is a growing resurgence in popularity of physical media formats (Long, 2025) extending beyond only audiophiles and dedicated cineastes, which highlights the complexities of nostalgia and material culture. Letting go can 'spark joy' (Kondo, 2014) but also grief. While some studies of KonMari (e.g. Chamberlin & Callmer, 2021) suggest that adopting the method can have wider effects in changing people's consumption behaviour in a pro-environmental direction, many design researchers have argued that more systemic-level changes are needed for more impactful shifts.

Design can lead a more consciously active role in how we consider letting go; as Perera & Fry (2022, p. 2) note, "actions of creation (production) are always accompanied by acts of destruction." Yet there is also less attention to this aspect of design. Tonkinwise (2014, p. 198) argues that:

> … not-designing is also a kind of designing; it can be proactive, a deliberate strategy to undesign, to make existing designs disappear. The opposite of the *vita activa* of making, of designing things into existence, is not merely the privatively passive *vita contemplativa*, but rather the very active act of unmaking aspects of our locked-in world; the designing of things out of existence.

Or, it could be that this process also shows us more clearly which existing design in fact does not need to go away, because it is well-suited to the futures ahead. As Tony Fry (2005, p. 146) also noted:

> … constructive acts of 'clearing', allow […] us to identify what really matters to us so we may be sustained spiritually, symbolically, intellectually as well as physically […] already existing sustainable design can reveal itself. What is being identified here is the plethora of often common and overlooked made objects and built forms that have historically demonstrated an ability, in the right hands, to sustain.

Maybe some objects and practices can be adapted and repurposed for new needs in a different future. Pierce's (2012) exploration of undesigning, along with Baumer & Silberman's (2011) work on when not to design, offer useful perspectives on some of these issues within a technology context, primarily human-computer interaction, but very relevant for design education. Homewood (2019) discusses the decision not to design a system for digital self-tracking of menopausal transition—after reflecting on what such technologies do in society, and on her own values. She argues that since "the act of not-designing does not produce any artifact to disseminate knowledge, literary accounts [such as a reflective essay] are key in disseminating knowledge." (Homewood, 2019, p. 2).

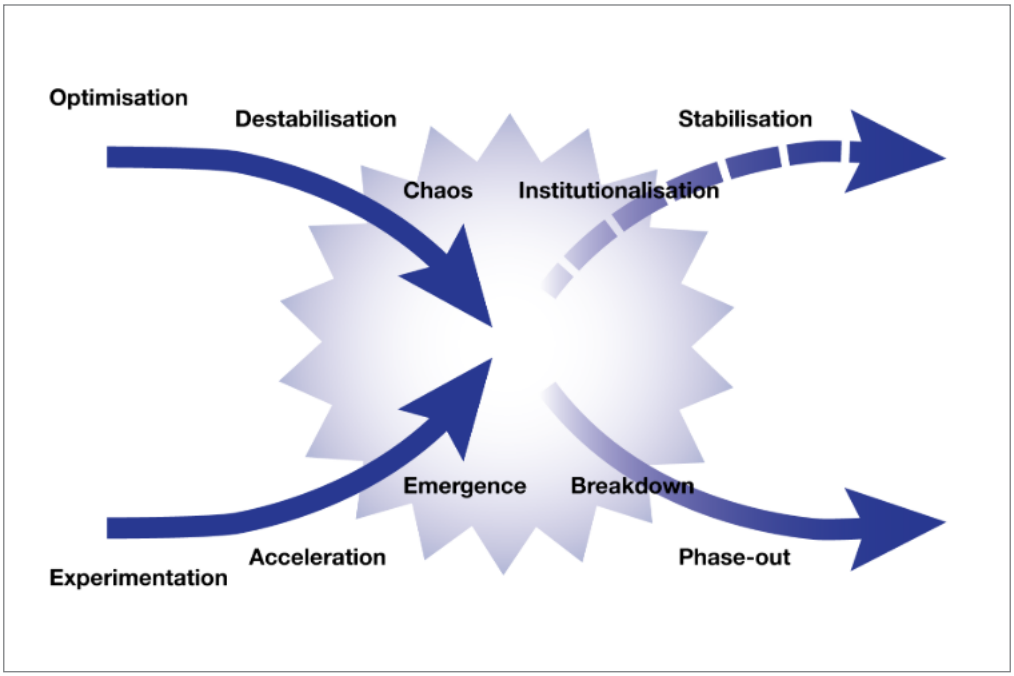



*Figure 4. The transition X-curve (adapted from Loorbach et al., 2017).*

Within transition studies, concepts such as exnovation (as an alternative to innovation) have been used as a way of addressing phases of breakdown and phase-out inherent in models such as the X-curve (e.g., Hebinck et al., 2022; Figure 4). Noëth and Moons (2024) consider that "the act of destabilising and breaking down these unsustainable practices is largely overlooked in design research and practice" (2024, p. 1).

Others have proposed visualising an empty future (Van den Bergh et al., 2024) as part of a framework for designers to approach exnovation, which was explored through workshops with the RSD Symposium community. In general, a constructivist, contextually-situated perspective as we might often see used within systemic design—at least the critical systems visualisation end of the field, as Nold (2021) terms it—would probably highlight and critique how smooth the curves are in the X-curve—and the fact that in representing them as a single curve rather than in multiple suggests a god's-eye view of a system which ignores the different experiences, power differences[1], standpoints, and feelings of people actually in the system. Being in the middle of the breakdown or phase-out of a way of life is rarely going to be a smooth experience and is highly unlikely to happen in perfect synchronisation with everyone else's experience (Figure 5).

As lived experience, these curves are plural, messy, moving at different speeds for different people, sometimes maybe even regressing, and fully entangled with people's emotions. Up close—the real texture of transition, phasing out, letting go, in people's lives—is not smooth at all. It is jagged, punctuated, sometimes abrupt, painful, and difficult, as researchers such as Coops et al. (2024b) and Lindström et al. (2021) explore. It may require a hospicing approach (Machado de Oliveira, 2021). And just

[1] As Avelino (2021) outlines, questions of power—and the fact that "the large majority of explicit power theories tend to privilege stability over change"—need more attention within systemic accounts of transition.

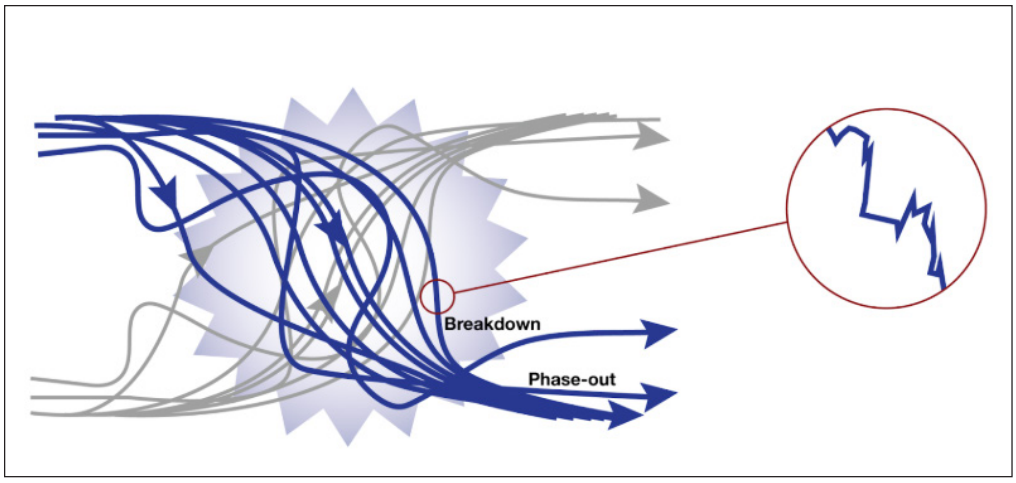



*Figure 5. A more realistic approach to considering transitions? Many curves, reflecting many experiences, and not at all smooth when viewed up close.*

as William Gibson's oft-cited observation that "the future is already here—it's just not very evenly distributed" takes into account this hodgepodge (Kennedy, 2012) property of everyday life[2] when viewed through a futures lens, we might heed Somerville's (2025) rejoinder that "the past is always here—it's just angrily concentrated."

Along with lost futures (Fisher, 2014), how can design engage with nostalgia (Arnold-Forster, 2025)? Whether nostalgia is manifested as peacefully wistful, entertaining, or weaponised by hate groups and governments is a related topic, one that deserves more substantial treatment in relation to transitions[3]. The approach we describe in this paper—asking design students to imagine what goes away, what does not have a place in the future, and using that as a design research probe—can only scratch the surface of this vast field. Nevertheless, we believe that it offers an interesting approach to questions of letting go in transitions, which centres the experience of being inside transitions rather than viewing them from an abstract view above.

**Q2. How do you imagine your own life in the future, now? How would you hope it to be? What are you afraid of?**

## The Research Context: The IMAGINE Project

IMAGINE: Contested Futures of Sustainability (Welch et al., 2024) was an interdisciplinary research project across the humanities, social sciences, design, and arts, bringing together researchers from Norway, the Netherlands and the UK. The

2 Pagan Kennedy's (2012) review of William Gibson's *Distrust That Particular Flavor* provides an evocative way of thinking about this: "Cars lumbered past like ponderous elephants of rusty steel, not so different from the cars of 30 years ago, and seemed not to belong in the same world as the tattooed kid punching code into his laptop nearby. Under the spell of this book, I suddenly understood my surroundings not as a discrete contemporary tableau but as a hodgepodge of 1910, 1980, 2011 and 2020."

3 We address some of these questions in a forthcoming piece of work around a participatory art/design process, *Sunsets & Sunrises*, focusing particularly on the affective aspects of saying goodbye to certain imagined futures.

project aimed to address the societal power of cultural imaginaries of sustainability—specifically in relation to imagined futures—through a programme of research that included working with design students in Norway and the Netherlands. The project asked where these ideas come from (in culture, media, and education) and how they are socially performative (Oomen et al., 2021). We took consumption-related practices around eating, dressing, and moving as focal starting points for exploring these imaginaries, but, of course, the interconnectedness of issues in sustainability (and futures) means that, in fact, these practices can be considered touchpoints of much larger systems.

Perhaps, though, design methods have something to offer here: design methods can surface people's imaginaries of those systems, enable shared exploration of systems, and inspire their unmaking (Feola, 2019; Lockton et al., 2023) and creation of more radical, collective ideas. Actively co-designing can spark a sense of possibility and shared emotion missing when materiality is not present. Design methods can also enable prefiguration: experiential futures (Candy & Kornet, 2019), participatory prototyping and living (parts of) possible futures now, converging prefigurative politics (Monticelli, 2021) with imagination. While sustainability transitions research certainly engages with systems and foresight methods, it rarely considers imagination infrastructuring or imaginaries as something that—socially and culturally—can be actively imagined—materialised, constructed, debated, reconstructed—and felt emotionally. Students at Oslo Metropolitan University in Norway and Eindhoven University of Technology in the Netherlands worked on a series of design projects addressing imaginaries of the future, specifically around consumption and sustainability, some of which were exhibited in Oslo in December 2024 (see project details).

## The Educational Context: Researching the Future Everyday

At Eindhoven University of Technology, the industrial design master's course, Researching the Future Everyday (Kuijer & Robbins, 2022), addressed an idea central to IMAGINE: when we imagine the future, we are not acting in isolation, but rather doing our imagining in a broad sociological, cultural, and systemic context which influences what we believe to be possible or desirable. Mainstream Western design education and practice often take for granted ideas about the relationship between design and changes in everyday life, usually centred on a model of *the user* (Woolgar, 1990; Lockton et al., 2012). The user-consumer position neglects wider dimensions and questions of responsibility, and presupposes a primarily technocentric view of progress through technological innovation, while paying less attention to the power structures of the systems we operate in. In reality, all of this happens against a backdrop of a world facing significant systemic crises in climate, health, inequality, social justice, and biodiversity loss.

How can design education responsibly negotiate these vast questions? Our approach was to combine knowledge from other domains—in the arts, humanities, and social sciences (and in fiction) — addressing aspects of how people imagine everyday life in different futures, with designerly approaches to futures, aiming to equip students with a broader vocabulary of ideas and ways of thinking. For example, recommended readings included work on prefigurative politics (Monticelli, 2021), the idea of the techno-hedonist persona (Dahlgren et al., 2021), anthropological foresighting

(Pink et al., 2023), solastalgia (Albrecht et al., 2007), the Marie Kondo movement (Chamberlin & Callmer, 2021), post-fossil transitions (Stripple et al., 2021), hauntology (Fisher, 2014), worldbuilding (Zaidi, 2019), domestic sociology (Cowan, 1976), energy practices (Kuijer, 2022), and fiction, including work by Nnedi Okorafor (2018). Guest lectures and workshops focused on topics including utopias (Chambers, 2025), justice-led conservation technologies (Longdon et al., 2024), designing spaces for letting go (Coops et al., 2023), urban heat futures (Sikorska, 2024), and working in participatory futuring (Studio Futurall, 2024), with guests from Oslo Metropolitan and Utrecht Universities among others (also see details on the syllabus and student projects). Students' projects were intended to combine a speculative and critical design approach (Mitrovic et al., 2021; Dunne & Raby, 2013; Auger, 2013), drawing on work in experiential futures (Candy & Kornet, 2019) with a particular methodological emphasis on research through design (Gaver, 2012). A combination of field and showroom approaches was employed as suggested by Koskinen et al (2012). The projects were intended to be deployed as what-if? probes to learn more about a topic, through people's interactions with (or responses to) them, rather than proposals for end products. IMAGINE-related project topics included The Cabinet of Rarities 2050 (which we will discuss further below), Disputing Automated Decisions in Future Homes, Challenging Consumerism by Design, The Time-Travellers (exploring prefiguration), and The (Un)Predictables, a family whose lives are characterised by crises of routine. Students' projects were deployed through exhibitions in Eindhoven, where visitors' interactions with and participation in the probes enabled qualitative data to be gathered and examined in written research papers.

## A Provocation Case: The Cabinet of Rarities 2050

We were inspired by aspects of a number of projects addressing the interplay between futures and pasts, including Carbon Ruins (Stripple et al., 2021), the Urban Futures Studio's Museum of the Linear Economy (2020), Smyth (2023), Tascherau Mamers (2021), Gatehouse (2020), and Soetarman (2017)[4]. The project developed a provocation for students centred on the idea of visiting a museum in 2050 and encountering a cabinet of rarities or curiosities—a *wunderkammer* featuring objects (or practices) that have disappeared from everyday life:

*There'll be a last time that you ever use the electronic device you're (probably) reading these words on. Do you notice when you stop doing things in a certain way, or stop using an object entirely? If you look back a few years, what everyday things did you do in a different way? What changed? What can you imagine changing in the years ahead? How does this make you feel? How do others feel?*

*In this project, we are asking you to* ***imagine being in 2050****. You are 26 years older than you are now. The world is very different to now in some ways, and similar in others. There is climate change, with huge social, cultural, economic, and political effects, and technological change too. In 2050, some of the objects and everyday practices that are common in 2024 have disappeared from our lives or been transformed. That process has not necessarily been easy or uncontroversial. But it has happened, with practical and emotional consequences, and it is something that designers have contributed to.*

4 And recognising recent work on lost futures and design, including Laurell Thorslund et al. (2025), Muashekele et al. (2024), Vega et al. (2024), and Cutting and Blell (2024).

*Imagine visiting a museum in 2050 and encountering a **cabinet of rarities**—a kind of wunderkammer which features objects (or practices) **that don't have a place in the future any more**. It could be focused on a particular aspect of life (food, transport, clothes, etc) or a broader systemic perspective across many areas of life (e.g. entertainment, or education), or something more personal entirely. The cabinet includes both **objects** (or things that represent the practices around those objects—e.g. car keys) and **annotations** explaining or giving an insight into the stories of how they went away, or transformed, and what the emotional aspects of that process were like. Did people grieve for them? Did people celebrate? Did people just not notice their passing? How could designers support people 'letting go,' recording their feelings and priorities? Could this be a new form of service design, an experience that helps people come to terms with changing how they live? Is it a DIY tutorial video? A collective nostalgia (or solastalgia (Albrecht et al., 2007) ritual?*

Design and create (the contents of) such a cabinet of rarities for the future. It could take a variety of forms—exhibition, performance, activity—and you could make use of your own experiences, blended with (informed) speculation and fabulation (fiction). Set it up so that it asks questions of people who see or experience it, to learn more about how they feel and think about the topic. Why do people (in 2024) value particular objects or practices? How might it change if those things go away?

Deploy what you have created at the Imagining Future Everydays exhibition, as a research probe, to learn from visitors, and inform the writing of your group paper.

Students were free to interpret this provocation in many ways, treating it as a starting point for exploring the question of "What doesn't have a place in the future?" but the probe element was important. These projects needed to be able to elicit ideas and responses from visitors to the final course exhibition, in particular around investigating why we value a particular practice.

**Q3. What everyday objects would you grieve for if they were no longer part of your life? Is it the objects themselves or the practices around them—and their meaning—which are more important to you?**

## The Projects

We detail here three projects that responded to the question *What doesn't have a place in the future?* in different ways, covering the topics of coffee, consumerism, and marriage. Nostalgia Coffee Shop and Futures of Forever both used a museum display format, while The 2050 Restricted Market took the provocation in a more immersive direction.

### 1. Nostalgia Coffee Shop

Xander, Susan, and Diya looked at everyday products in 2024 and concluded that coffee might be something that would disappear or become much less common by 2050. The system of coffee production is threatened by climate change, rising temperatures, shifting weather patterns, pests, and diseases, which reduce yields and quality and undermine the livelihoods of producers (Montgomery, 2023). The students also explored their own nostalgia for products and rituals that reminded them of experiences from their childhoods, such as a common Dutch children's

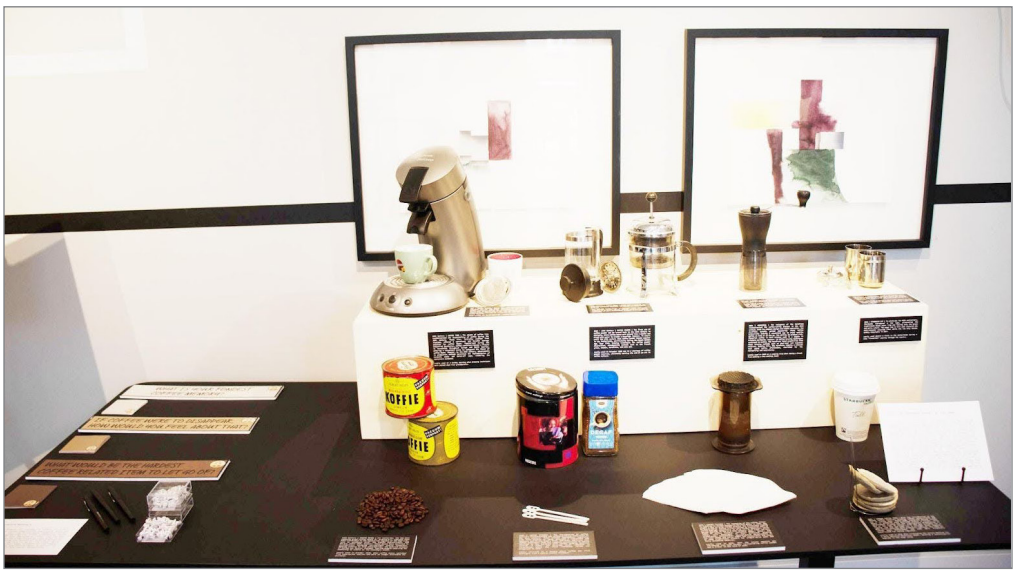



*Figure 6. A museum display from 2050, It's All Gone! looking back on coffee. Photo by Merel van Lieshout.*

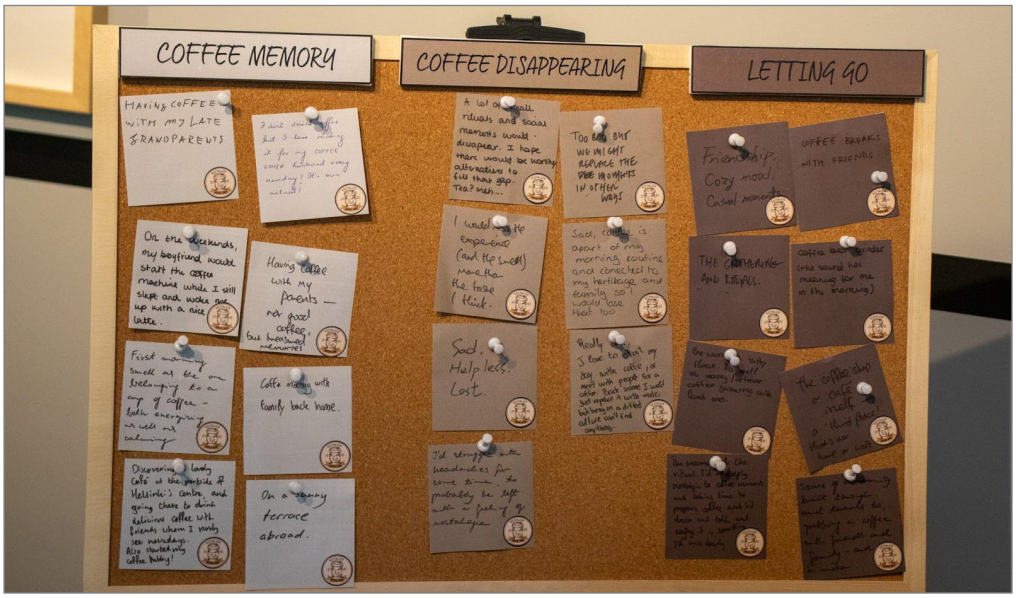



*Figure 7. The Collective Nostalgia Board, where visitors shared memories of coffee. Photo by Merel van Lieshout.*

school lunchbox design and the skill needed to chop vegetables using a traditional Indian pahsul, arriving at inspiration through the interplay between memory, identity, and material culture. While food futures and transitions (e.g. Juri et al., 2024) are a common topic in speculative design (e.g. Hebrok & Mainsah, 2022), coffee was not something we had previously seen as a focus in a design project.

Nostalgia Coffee Shop imagines a future without coffee, or at least one where the idea of drinking coffee as part of everyday life has disappeared, but where nostalgia for coffee culture is pervasive. Coffee shops have been shuttered, and the daily ritual of grabbing a cup has vanished. 'Let's grab a coffee' has become an antiquated phrase.

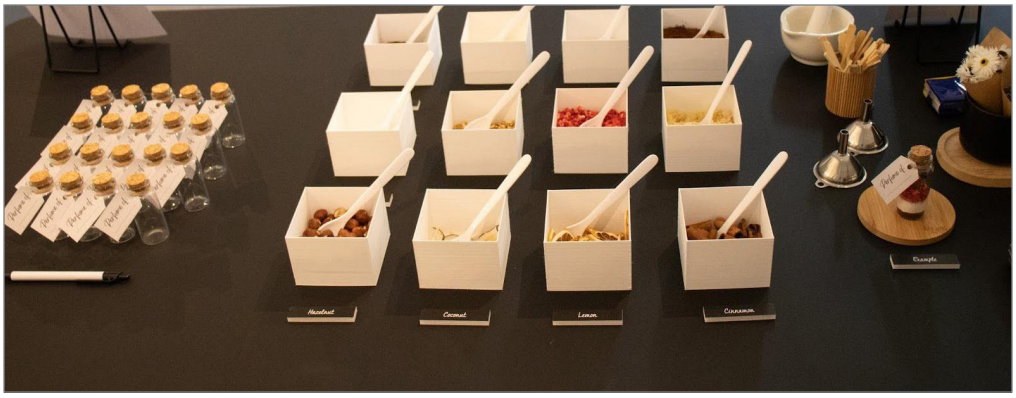



*Figure 8. I Need Closure is an activity where visitors put together their own coffee-nostalgia scent. Photo by Merel van Lieshout.*

People have adapted by drinking herbal infusions or nutrient-packed energy drinks, but the warmth and comfort of coffee are irreplaceable. It was left open whether or not these substitutes have the same caffeinated qualities.

The project comprises three linked components: A museum display from 2050 (Figure 6); a pinboard on which visitors (back in the present) could share their memories of coffee and thoughts about its disappearance (Figure 7); and a scent-based closure activity (Figure 8). The museum display of coffee-related artefacts, "It's All Gone!" includes an Aeropress, a Philips Senseo machine, filters, a cafetière, disposable coffee cups, grinders, and jars of instant coffee, and a precious selection of beans; each artefact was paired with a historical description including its materials, skills essential for the operation, history of its creation, identities of its past users (some real, some speculated), and stories of how coffee was woven into the fabric of everyday social life, with personal rituals highlighting how individual practices contributed towards shared cultural experiences.

The Collective Nostalgia Board asked visitors to share their coffee-related memories (in the present) via three questions: (1) What is your fondest coffee memory? (2) If coffee were to disappear, how would you feel about that? (3) What would be the hardest coffee-related item to let go of? Over the course of the exhibition—one afternoon—visitors' answers built up on the board.

**Q4. How would you answer the students' questions about coffee going away?**

In the third part of the project, "I Need Closure", visitors carefully put together their own coffee nostalgia scent in a small glass phial, from a selection of "precious" ground coffee as a base, with other ingredients including dried flowers, nuts, chocolate powder, dried citrus peel, spices, and flavourings, to evoke a particular memory of a moment when coffee was important—for example incorporating the scent of lavender to highlight a cup of coffee experienced in the south of France, or adding strawberry because your child was eating strawberry ice cream at a restaurant while you were drinking your cup of coffee for dessert. Visitors labelled the phial with their memories and took it away, with a guide on how to use it as part of a ritual (Sas and Coman, 2016) to appreciate coffee while we still have it, and as a thank-you for participating and answering students' questions.

Fifteen exhibition visitors participated in the entire Nostalgia Coffee Shop sequence, creating their own scents, which varied in complexity from quite simple (e.g., coffee with powdered cream and/or chocolate) to more layered, perhaps evoking more complex memories. One insight from the Collective Nostalgia board, and from students' discussions with visitors, was that it is very often the moments around coffee that would be most missed: the chance to have a break, or spend time with friends or family, in meaningful locations such as homes or cafés with particular ambience, or the rituals around coffee as part of morning routines. While the smell (and other sensory aspects such as the sound of a coffee machine or kettle boiling) is an important part of the memories, it seems as though the taste and caffeine effects were secondary for many. Some visitors expressed hope for alternatives if coffee were to disappear and said they would seek them out to maintain enjoyable social moments with friends and family.

This notion of dematerialising one element of consumption (and substituting with another) while retaining as much as possible of the rest of the experience and associated meanings aligns well with much of the work in design for sustainability (e.g., around product-service systems: Vezzoli et al., 2021). For example, Hesselgren et al. (2020) developed and deployed alternative mobility-as-a-service practices in Stockholm, Sweden.

**Q5. What do you do that you know others find outdated? Is it inevitable that you will stop at some point, or could you keep doing it regardless of what other people think?**

## 2. Futures of Forever

Marriage may perhaps not seem an obvious choice of topic given the largely sustainability-related transitions focus of other projects. Students Sofia, Tom, and Ilka explored marriage as a social and cultural phenomenon which they saw as plausible to have changed sufficiently in the decades ahead for current (Western) defaults to have gone away. Futures of Forever aimed to be a critical exploration of the futures of marriage (and in particular, the idea of the "promise" and the wedding ceremony) through an exhibition set approximately 50 years in the future (around 2074), with an activity where visitors could create their own "objects of use" for different types of ceremonies and discuss their symbolic meaning.

The students questioned the widely recognised constitution of marriage, its vows, and ceremonies. Marriage has historically reflected the social conception of relationships and their changes, and has been interpreted in various and diverse ways across cultures for centuries, while remaining prevalent today amidst ongoing changes in social values. Underlying this conformity are the relational structures officially recognised by society. Across cultures (Monger, 2013), marital ceremonies are often emblematic of the social roles of men and women and how they interrelate, between each other and with their social environment, for example, around reproduction (Burch, 2019). But once heteronormative concepts of families and couples are already changing, especially among younger generations, and in their vision, the students imagined that looking back from the 2070s, one would show a series of alternative practices, with associated artefacts, leading up to a set of more fluid new traditions.

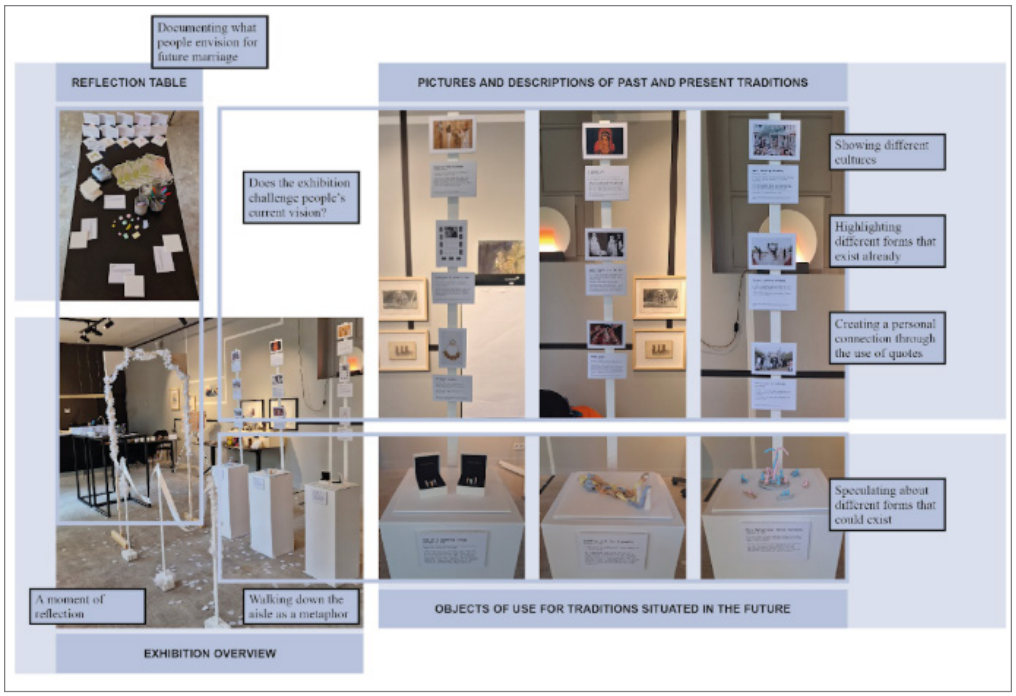



*Figure 9. The Futures of Forever setup, with exhibition and activity elements.*

Visitors to the exhibition—walking down the aisle—encountered real historical examples of marriage types and related artefacts, including an image of an Egyptian ring exchange from 1000 BCE, a flame-coloured bridal veil from Ancient Rome, and a contemporary Vedic wedding ceremony. These were interspersed with speculated practices and artefacts (Figure 10), including a scale model of a Poly-Relational Union Ceremony (joining a multitude of partners in their promises to take care of one another; 2056), an interconnected wedding veil for four people (2050), and a set of six wedding rings from the first fully legal community marriage, also in the 2050s—all including quotes from the people involved, about the meaning of the ceremonies to them. Then, visitors were invited to a reflection table (Figures 11 and 12) where they could create their own artefact from modelling clay, prompted by cards asking different prompts—in the same style as the exhibition pieces, write a description of the artefact and its meaning, and a date to situate it in the future. To provide a sense of remembrance and reflection after the exhibition, they were given a Polaroid photo of their creation.

The fifteen visitors who participated (a mixture of students, university staff, and external guests) created a variety of objects (Figure 13). These included new kinds of jewellery; an infinity sign and measuring scale to represent "A promise to explore my infinite potential along with my partner! A promise to balance and work together towards our infinite selves"; arrangements describing alternative family structures; and different ways to visualise the merging and intermingling of partners' lives[5]. Ideas mentioned included "a system of relationships," "to marry my friend," "embracing the whole of one in a collection of others," and "unions can be with 2+ people, between all genders, etc."

[5] While one artefact was an object of use (i.e., a wearable piece of jewellery), others were representations of the arrangements of social relationships in new forms of marriage; others were metaphorical materialisations of abstract concepts or symbolic objects.


*Figure 10. A wedding veil for four people (2050) and a set of six wedding rings (2056).*

*Figure 11. Visitors created their own future marriage artefacts.*


*Figure 12. A selection of artefacts created by visitors, with description cards.*


*Figure 13. A clustering of the artefacts created by visitors.*

In general, the notion that marriages are only always between two people seemed to have gone away in the future. Discussions with visitors led to more speculations. Reasoning that increased lifespans would lead to new forms of relationship norms, as well as a normalisation of polyamory as currently younger generations age, were behind some of the ideas. Yet there was recognition that significant cultural, societal, and legal change would be needed for some of the ideas to become mainstream. While the visitors skewed towards a younger demographic (fellow Master's students and PhDs), a few older and middle-aged people took part, but it was noticeable that there was less discussion of potential roles for children in the future models of marriage.

Speculative design has considered weddings before, for example, enacting 'quantified' wedding ceremonies (Elsden et al., 2017) or Acharya and Wu's (2020) exploration of weddings across militarised borders. However, Futures of Forever aimed at contributing to the understanding of marriage as a flexible social construct. By having participants actively reflect on the past and diversity while creating their own personal visions of possible futures of marriage and weddings, it perhaps suggests an opportunity for more attention to social and familial relationships when considering futures and transitions within design.

## 3. The 2050 Restricted Market

Asked to imagine forward to 2050, and what would have disappeared or gone away (and how people might feel about that), Isabel, Robin, Merel and Pauline conceived a world where climate change and material scarcity have had huge social, cultural, economic, and political effects, with public demand for changes to the capitalist systems of mass consumption. In the Netherlands, this has led to government intervention to introduce a "democratic market" in which the development and market launch of new products is centrally regulated as part of a degrowth agenda (Hickel, 2021). People have a chance to vote each month on the production of a new product. Every month, a selection of products in a specific category is presented by the expert product panel. From this selection, people are allowed to choose one product to vote on in the monthly product elections. The product that has the most votes will be the product that gets produced in that product category for the year. The goal of this democratic market is to limit consumption and the use of materials. What goes away in this future is the current system of consumer capitalism.

Such a move would face opposition. A rebel movement, Reclaim Rebellion, was conceived as formed by an alliance of major consumer product companies, with a grassroots campaign of un(der)employed designers and engineers, and people in favour of freedom of choice. The perhaps uneasy tension between these groups, finding themselves on the same side, provided a useful provocation for discussion and allowed for a range of interventions in visitors' experiences when they encountered the project in the course exhibition.

The project was brought to life through an installation comprising information screens, a voter registration desk with poll workers, a voting booth and a ballot box (kindly lent by the Eindhoven Municipality), and a vote-counting ritual at the end of the event. Walking into the exhibition, after receiving their voter registration card as part of the exhibition catalogue, visitors encountered a futuristic screen (Figures 14 and 15) showing a video with a message from the government, via an AI-generated spokesperson. In this video, an explanation was given about the voting process. After

this, all products that were selected for this month's voting—for example, a storage bench, a sofa, a table—were showcased and explained with an estimation of their environmental impact. The screen glitched, and a message from the rebels showed the freedom of choice available, back in 2024. The rebels called to boycott of the elections by voting in all the boxes to show their protest of the current system. After the glitch, the governmental message continued, and the visitors were wished good luck with their voting.

Visitor identity was 'verified' through a hand scan and they were issued a ballot paper (Figure 16). They were asked to enter the booth (Figure 17) and vote, using the same red pencils used for election voting in the Netherlands (indeed, the exhibition took place a week after the 2024 European Parliament elections). However, around the rest of the exhibition, various 'guerilla' Reclaim Rebellion posters and stickers, and activists (including, secretly, one of the poll workers themselves) attempted to persuade visitors to spoil their ballot or vote for all the products. Following each vote, the poll workers—breaking character to enter back into their role as student researchers—discussed visitors' experiences and thinking process with them, to gather insights about their reactions to the provocation.

Twenty-seven visitors cast a vote, of whom 10 signalled support for the rebel movement by voting for all the options. A sofa (with seven votes) was the actual 'winning product'. Synthesis of visitor comments revealed a number of themes emerging The visitors largely believed in the promotion of more sustainable consumption, including government (or EU) intervention around waste and resources, but variously believed that a restricted market as imagined in the project could not work due to corporate lobbying and advertising able to influence the process unfairly, or because limited product releases would distort prices and supply chains. Parallels with Soviet-era shopping were noted, and there was concern about the effects on innovation and consumer choice. The biggest challenge seen from visitor comments was how to align cultural values around variety (and the desire of designers to create more) with environmental responsibility. Embedded in a culture which emphasises freedom and individualism, the visitors often rejected the thought of having just one choice per category—letting go of variety—while usually agreeing on some level with the necessity of reduced consumption. This was often the reason for visitors to vote for everything and boycott the system. Nevertheless, surfacing these tensions is valuable, since they are likely to be very relevant components of any measures around 'choice editing' in sustainable consumption (Gunn & Mont, 2014). As Hannah Goss (Goss et al., 2025) notes, "recognising conflict as a source of systemic learning rather than as a barrier is critical for transition designers seeking to foster transformative change" (2025, p. 5).

**Q6. Are there tensions in your own way of thinking about the future? What are they?**

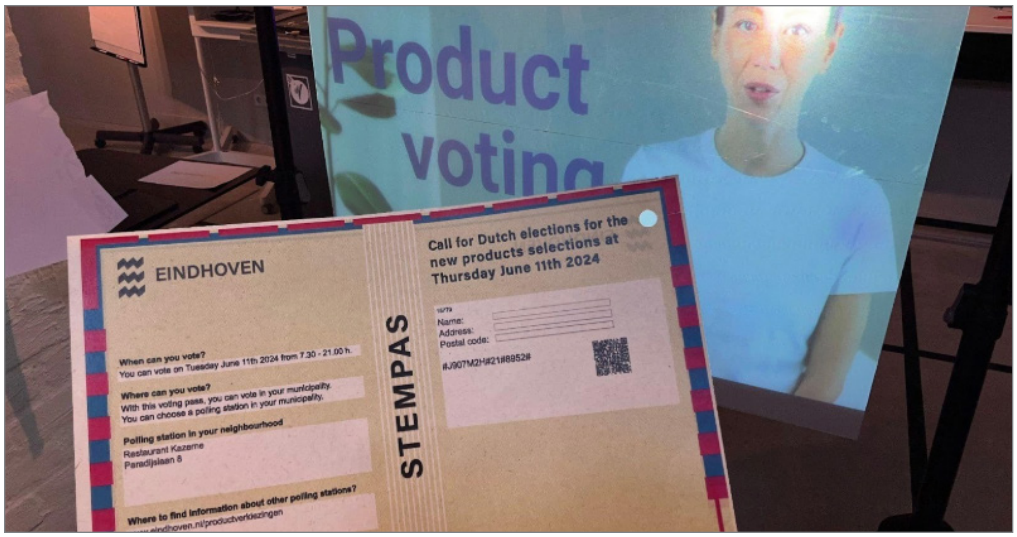



*Figure 14. The detachable voting registration card was included in the exhibition catalogue which visitors received on arrival. As they approached The 2050 Restricted Market they were confronted with an uncanny AI-generated government spokesperson addressing them via a projected video, introducing the voting process.*


*Figure 15. The government spokesperson showing the products available to vote on this month was interrupted by a message from the rebels evoking nostalgia for the 2020s when there was a much greater variety of products available.*

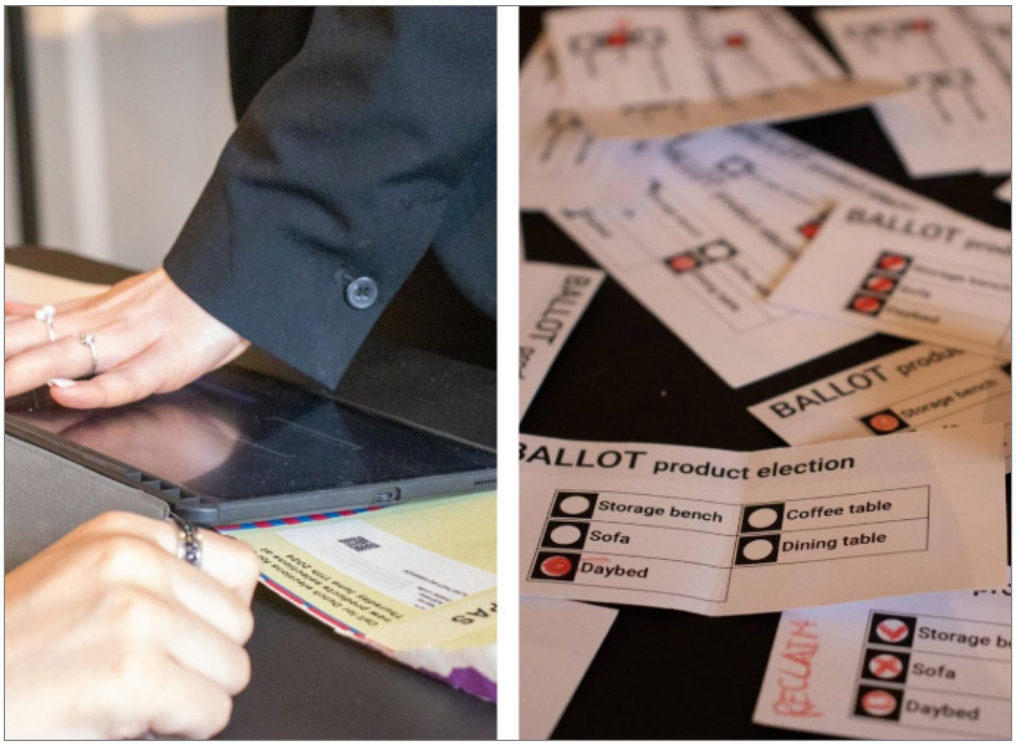



*Figure 16. Identity verification and ballot paper (the used ones are shown here—note how some are spoiled by every circle being filled). Photos by Merel van Lieshout.*

*Figure 17. A visitor voting in the booth borrowed from the municipality. Note the purple Reclaim Rebellion sticker on the ballot box (bin).*

## Discussion: What does this framing offer?

The three projects discussed here make use of speculative design methods as a way to conduct research with participants, in this case, visitors to an exhibition. This approach, where the design process itself is not the only moment of enquiry, but rather aimed at creating a probe, scenario or installation which itself is both exhibition and research site, is perhaps underused in gallery settings where the expectation may often be for finished work to be exhibited only to draw reactions or responses rather than to engage visitors in an active participant role. The ethnographic experiential futures cycle (Candy & Kornet, 2019) offers a more nuanced framework for examining this approach, but it has rarely been applied in the context of transitions.

Although the topics addressed are all parts of complex social and economic systems, the projects largely focused on particular ways in which those systems become visible or tangible in everyday life: coffee, wedding ceremonies, and the launch or purchase of new products (in this case, furniture). As so often, engaging with systems is done through their touchpoints rather than attempting to model or comprehend the systems as a while. There are also many limitations to the research aspects of these projects—they were restricted in depth due to the time available, and the small numbers of mostly younger participants were not a representative sample of the wider population.

The projects nevertheless offer a glimpse of what could be possible when design education asks what goes away, rather than only concentrating on creating the new. In a sense, many more extensive 'living change' (Scott et al., 2012) experiments in transitions, such as urban living labs (Overdiek, 2024; Bulkeley et al., 2017) will necessarily involve the 'going away' of certain elements of everyday life, such as (the ease of) car use. Yet the framing of such transitions is rarely promoted to suggest the exclusion of options in the future. The models used, as discussed earlier, often presume a smooth path to phase-out without attention to the experiences of the people involved. We would suggest that while the kind of design student projects illustrated in this paper are not directly (or appropriately) scaleable to real-world cases of transition design, the use of speculated visions of futures without certain elements, as probes for doing research with members of the public, including a focus on memories and meaning, could provide a useful approach for work on place-based systemic transitions (Fitzpatrick et al., 2024).

For the IMAGINE project—the research context in which the student work was situated—the focus on imaginaries of futures in which something has gone away, offered a valuable counterpoint to the larger set of design projects from Oslo and Eindhoven which mainly centred on radically new products and services. We believe that absence, loss, and letting go are likely to become increasingly important in studies of societal imaginaries in the age of planetary crises. Designers will be called upon to create research methods which can surface tensions and differences in how people approach this loss—and possibly help recover elements of what has already been lost.

In terms of design education, we recommend that the approach of "What doesn't have a place in the future?" be developed more extensively, including (for example) building in more systems analysis of existing and potential future systems and practices (using gigamapping (Sevaldson, 2022), synthesis maps (Jones & Bowes, 2017), or tangible methods (Lockton et al., 2020)) to provide a perhaps more rigorous

process of developing the future scenarios as part of a practical educational context for anticipatory literacy in design (e.g. Morrison et al., 2023). On the other hand, we see the value in the imagination-driven fiction elements of the students' approach, with aspects such as the 'Reclaim Rebellion' intervention, or specific aspects of nostalgia rooted in the students' own interests and ideas. Perhaps this might lead to more provocative or resonant elements of the stories that would have been less likely to emerge from a more analysis-driven approach. We believe that the challenge of thinking about what could disappear (and how) offered a distinctive prompt for design students that was less present in other aspects of their education, and as such offered a slightly different way of approaching designers' responsibility towards the future, questioning the default position. Returning to conceptions of undesign, the approach taken by the student projects, the exhibition of possible futures (looking backwards) as a site for research in the present, may offer reflection for design education. This seems to complement to the type of reflective essay that Homewood (2019) discusses as an outcome from deciding not to design (see 'Letting Go and Transitions'): speculating and materialising aspects of futures where a particular technology, product, or practice has ceased to exist, or has not been designed, and exploring what experiencing or confronting that does in the present.

In reality, nothing ever 'goes away' completely. Cultures—and systems—are haunted by what came before: memories, meanings, and left-over structures (physical, organisational, legal, and power-related). Nostalgia for an imagined coffee shop experience, or consumer choice in furniture, is part of a spectrum with imagined 'golden ages' of societies, with all the consequences that entails.

Perhaps as we think about the wider employment of the frame 'what doesn't have a place in the future?' in creative methods for imagination, there are ways to consider not only the absence of something, but the more complex results of breakdown and phase-out. Cassie Robinson encourages us to use a different metaphor, as said in her address at The Conference (2023) when thinking about endings: "systemic transition… as making good compost—composting improves soil, it provides nutrients, it stimulates the ecosystem, it builds up."

Perhaps in the compost of our societies, some new ways of living can grow.

## Acknowledgements

Parts of this work were funded by the Research Council of Norway as a component of the project IMAGINE: Contested Futures of Sustainability (2021-4) led by Oslo Metropolitan University. The write-up of the project was supported by Norwich University of the Arts (2025). Thank you to Lenneke Kuijer and Emilia Viaene at TU Eindhoven.

## References


1. Acharya, K., & Wu, Y. (2020). "Where is your other half?": A wedding shaped by the profile, politics and potential of the Indo-China border. In S. Boess, M. Cheung, and R. Cain (Eds.), *Synergy - DRS International Conference 2020*, 11-14 August. https://doi.org/10.21606/drs.2020.220
2. Albrecht, G., Sartore, G.-M., Connor, L., Higginbotham, N., Freeman, S., Kelly, B., Stain, H., Tonna, A., and Pollard, G. (2007). Solastalgia: The distress caused by environmental change. *Australasian Psychiatry*, *15* (1_suppl) : S95-S98. https://doi.org/10.1080/10398560701701288
3. Arnold-Forster, A. (2025). *Nostalgia: A history of a dangerous emotion*. Picador.
4. Auger, J. (2013). Speculative design: Crafting the speculation. *Digital Creativity*, *24*(1), 11-35. https://doi.org/10.1080/14626268.2013.767276
5. Avelino, F. (2021). Theories of power and social change: Power contestations and their implications for research on social change and innovation. *Journal of Political Power, 14*(3), 425-448. https://doi.org/10.1080/2158379X.2021.1875307
6. Baumer, E.P.S. and Silberman, M.S. (2011). When the implication is not to design (technology). In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI 11). Association for Computing Machinery, New York, 2271-2274. https://doi.org/10.1145/1978942.1979275
7. Benjamin, R. (2024). *Imagination: A manifesto* (A Norton Short). WW Norton & Company.
8. Bleecker, J. (2025). N°100 - N O R M A L S futures are boring. *Near Future Laboratory podcast*, 3 Aug 2025. https://www.youtube.com/watch?v=e1na1PR28ww
9. Bulkeley, H., Coenen, L., Frantzeskaki, N., Hartmann, C., Kronsell, A., Mai, L., Marvin, S., McCormick, K., van Steenbergen, F., & Voytenko Palgan, Y. (2017). Urban living labs: Governing urban sustainability transitions. *Current Opinion in Environmental Sustainability*, *22*, 13-17. https://doi.org/10.1016/j.cosust.2017.02.003
10. Burch, R. L. (2019). The wedding as a reproductive ritual. *Review of General Psychology*, *23*(3), 382-398. https://doi.org/10.1177/1089268019832848
11. Candy, S. & Kornet, K. (2019). Turning foresight inside out: An introduction to ethnographic experiential futures. *Journal of Futures Studies*, *23*(3). http://doi.org/10.6531/JFS.201903_23(3).0002
12. Chambers, J.M. (ed.) (2025). *Utopia*Art*Politics: Experimenting with artistic practices in radical imagination and politics*. Urban Futures Studio / Basis voor Actuele Kunst / Stichting Moira: Utrecht, Netherlands. https://doi.org/10.5281/zenodo.14930485
13. Chamberlin, L, and Callmer, Å. (2021). Spark joy and slow consumption: An empirical study of the impact of the KonMari method on acquisition and wellbeing. *Journal of Sustainability Research*, *3*(1):e210007. https://doi.org/10.20900/jsr20210007
14. Coops, F., van der Veen, R., van der Horst, S., Bogner, K., & Lockton, D. (2023). Designing spaces for letting go in sustainability transitions. *Proceedings of Relating Systems Thinking and Design, RSD12*. Article 057. https://rsdsymposium.org/letting-go-in-sustainability-transitions/
15. Coops, F., Lockton, D., Gaziulusoy, İ., Boehnert, J., Ortega Pallanez, M., Overdiek, A., Nilstad Pettersen, I., Culén, A., Juri, S., and Tonkinwise, C. (2024a). Designing for transitions and transformations: Resistance, recovery, reflection, and reimagination. In Gray, C., Hekkert, P., Forlano, L., Ciuccarelli, P. (eds.), *DRS2024*: Boston, 23-28 June, Boston. https://doi.org/10.21606/drs.2024.1696
16. Coops, F., Bogner, K., & Hummels, C. (2024b). Letting go in sustainability transitions: designing spaces for the unavoidable companion of change. *Routledge Handbook of Sustainable Design* (493-504). Routledge. https://doi.org/10.4324/9781003365433-38
17. Cowan, R.S. (1976). The "industrial revolution" in the home: Household technology and social change in the 20th century. *Technology and Culture*, *17*(1):1-23. https://doi.org/10.2307/3103251
18. Cutting, K. & Blell, M. (2024). *How can immersive experiences help people imagine and build new worlds?* Fractals Co-op, Feb 20, 2024. https://fractals.coop/our-work/museum-of-lost-futures/
19. Dahlgren, K., Pink, S., Strengers, Y., Nicholls, L., & Sadowski, J, 2021. Personalization and the smart home: Questioning techno-hedonist imaginaries. *Convergence*, *27*(5), 1155-1169. https://doi.org/10.1177/13548565211036801
20. Dunne, A. & Raby, F. (2013). *Speculative everything: Design, fiction, and social dreaming*. Cambridge, MA: MIT Press.
21. Elsden, C., Chatting, D., Durrant, A.C., Garbett, A., Nissen, B., Vines, J., and Kirk, D.S. (2017). On speculative enactments. *Proceedings of the 2017 CHI Conference on Human Factors in Computing Systems (CHI '17)*. Association for Computing Machinery, New York, 5386-5399. https://doi.org/10.1145/3025453.3025503
22. Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*. Duke University Press. https://doi.org/10.1215/9780822371816
23. Feola, G. (2019). Degrowth and the unmaking of capitalism: Beyond 'decolonization of the imaginary'? *ACME: An International Journal for Critical Geographies*, *18*(4), 977-997. https://acme-journal.org/index.php/acme/article/view/1790

24. Fisher, M. (2014). The slow cancellation of the future. In *Ghosts of my life: Writings on depression, hauntology and lost futures*. Zero Books.

25. Fitzpatrick, H., Luthe, T., & Sevaldson, B. (2024). Methodological pluralism in practice: A systemic design approach for place-based sustainability transformations. *Contexts-The Systemic Design Journal*, 2. https://doi.org/10.58279/v2003

26. Fry, T. (2005). Elimination by design. *Design Philosophy Papers*, *3*(2), 145-47. https://doi.org/10.2752/144871305X13966254124554

27. Gatehouse, C. (2020). A hauntology of participatory speculation. *PDC '20: Proceedings of the 16th Participatory Design Conference 2020 - Participation(s) Otherwise - Volume 1*. Association for Computing Machinery, New York, 116-125. https://doi.org/10.1145/3385010.3385024

28. Gaver, W. (2012). What should we expect from research through design? *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*. Association for Computing Machinery, New York, 937-946. https://doi.org/10.1145/2207676.2208538

29. Ghosh, A. (2018). *The great derangement: Climate change and the unthinkable*. Penguin UK.

30. Goss, H.M., Schifferstein, H.N.J., de Koning, J.I.J.C., & Tromp, N. (2025). The proof of the pudding: Introducing quantitative testing in transition design reasoning. *Contexts-The Systemic Design Journal*, 3. https://doi.org/10.58279/v3002

31. Gunn, M., & Mont, O. (2014). Choice editing as a retailers' tool for sustainable consumption. *International Journal of Retail & Distribution Management*, *42*(6), 464-481. https://doi.org/10.1108/IJRDM-12-2012-0110

32. Hebinck, A., Diercks, G., von Wirth, T., Beers, P.J., Barsties, L., Buchel, S., Greer, R., van Steenbergen, F., and Loorbach, D. (2022). An actionable understanding of societal transitions: the X-curve framework. *Sustainability Science 17*, 1009-1021. https://doi.org/10.1007/s11625-021-01084-w

33. Hebrok, M. & Mainsah, H. (2022). Skinny as a bird: Design fiction as a vehicle for reflecting on food futures. *Futures*, 141, p.102983. https://doi.org/10.1016/j.futures.2022.102983

34. Hesselgren, M., Sjöman, M., & Pernestål, A. (2020). Understanding user practices in mobility service systems: Results from studying large scale corporate MaaS in practice. *Travel Behaviour and Society*, 21, 318-27. https://doi.org/10.1016/j.tbs.2018.12.005

35. Hickel, J. (2021). What does degrowth mean? A few points of clarification. *Globalizations*, *18*(7): 1105-11. https://doi.org/10.1080/14747731.2020.1812222

36. Homewood, S. (2019). Inaction as a design decision: Reflections on not designing self-tracking tools for menopause. *Extended Abstracts of the 2019 CHI Conference on Human Factors in Computing Systems (CHI EA '19)*. Paper alt17, 1-12. https://doi.org/10.1145/3290607.3310430

37. Irwin, T., Tonkinwise, C., & Kossoff, G. (2020). Transition Design: An educational framework for advancing the study and design of sustainable transitions. *Cuadernos del Centro de Estudios de Diseño y Comunicación*, 105. https://doi.org/10.18682/cdc.vi105.4188

38. Jones, P. & Bowes, P. (2017). Rendering systems visible for design: Synthesis maps as constructivist design narratives. *She Ji: The Journal of Design, Economics, and Innovation*, *3*(3), 229-248. https://doi.org/10.1016/j.sheji.2017.12.001

39. Juri, S., Terry, N., & Pereira, L.M. (2024). Demystifying food systems transformation: A review of the state of the field. *Ecology and Society*, *29*(2):5. https://doi.org/10.5751/ES-14525-290205

40. Kennedy, P. (2012). William Gibson's future is now. *New York Times*, 13 January, 2012. https://www.nytimes.com/2012/01/15/books/review/distrust-that-particular-flavor-by-william-gibson-book-review.html

41. Kondo, M. (2014). *The life-changing magic of tidying up: The Japanese art of decluttering and organizing*. Ten Speed Press.

42. Koppenborg, F. (2025). Phase-out clubs: An effective tool for global climate governance? *Environmental Politics*, 1-23. https://doi.org/10.1080/09644016.2025.2483070

43. Koskinen, I., Zimmerman, J., Binder, T., Redström, J., & Wensveen, S. (2012). *Design research through practice from the lab, field, and showroom*. Morgan Kaufmann. https://doi.org/10.1016/B978-0-12-385502-2.00006-7

44. Kuijer, S. C. (2022). *Extending possible futures of summer comfort in Dutch households: Phase 2 report 'Anticipating the role of smart technologies in the dynamics of everyday life'*. Eindhoven University of Technology. https://research.tue.nl/en/publications/extending-possible-futures-of-summer-comfort-in-dutch-households/

45. Kuijer, S.C. & Robbins, H.V. (2022). Teaching alternative paradigms through critical design. *Interaction Design & Architecture(s) Journal*, 51, 172-201. https://doi.org/10.55612/s-5002-051-008

46. Kuijer, S.C., Kaipainen, K., Bidwell, N. J., Fiedler, M., Friday, A., Hassenzahl, M., Lallemand, C., Laschke, M., Lockton, D., Olsson, T., Raake, A., Väänänen, K., Sari, E., & Shakeri, G. (2025). Once upon a time when HCI prioritised environmental sustainability: Reflections on a collection of fictions. In *CHI EA '25: Proceedings of the Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*, Article 641. https://doi.org/10.1145/3706599.3716223

47. Laurell Thorslund, M., Eriksson, E., Pargman, D., Hesselgren, M., Thiel, P., Hedberg, M., & Martling, A. (2025). Pastcasting: Engaging with seemingly unreachable futures. *Futures*, 171, 103609. https://doi.org/10.1016/j.futures.2025.103609

48. Lindström, K., Jönsson, L., & Hillgren, P.-A. (2021). Sketching hope and grief in transition: Situating anticipation in lived futures. *Artifact: Journal of Design Practice*, *8*(1-2), 17.1-17.22. https://doi.org/10.1386/art_00017_1

49. Lockton, D., Forlano, L., Fass, J. & Brawley, L. (2020). Thinking with things: Landscapes, connections, and performances as modes of building shared understanding. *IEEE Computer Graphics and Applications*, *40*(6), 38-50. https://doi.org/10.1109/MCG.2020.3027591

50. Lockton, D., Vervoort, J., Waardenburg, M., Duncan, J., Chambers, J., Bosch, R. R., Vervoort, J., Browne, J., Downward, G., Llamas, A., Knight, S., Vu, D.V., & Colombant, S. (2023). Playing with systems. *Proceedings of Relating Systems Thinking and Design, RSD12*. Article 078. https://rsdsymposium.org/playing-with-systems/

51. Long, S. (2025). *The last mixtape: Physical media and nostalgic cycles*. University of Chicago Press.

52. Longdon, J., Westerlaken, M., Blackwell, A.F., Gabrys, J., Ossom, B., Ashton-Butt, A., & Acheampong, E. (2024). Justice-oriented design listening: Participatory ecoacoustics with a Ghanaian forest community. *Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24)*, Article 560, 1-12. https://doi.org/10.1145/3613904.3643044

53. Loorbach, D., Frantzeskaki, N., & Avelino, F. (2017). Sustainability transitions research: Transforming science and practice for societal change. *Annual Review of Environment and Resources 42*, 599-626. https://doi.org/10.1146/annurev-environ-102014-021340

54. Machado de Oliveira, V. (2021). *Hospicing modernity: Facing humanity's wrongs and the implications for social activism*. North Atlantic Books.

55. Magnusson, M. (2017). *The gentle art of Swedish death cleaning: How to free yourself and your family from a lifetime of clutter*. Scribner.

56. Mazé, R. (2025). Design and other ways of knowing the future. In J. Glückleretal (Ed.), *Placing the future, knowledge and space*, *20*, Springer. https://doi.org/10.1007/978-3-031-76841-5_12

57. Mitrović, I., Auger, J., Hanna, J., & Helgason, I. (Eds.) (2021). *Beyond speculative design: Past - present - future*. Arts Academy, University of Split.

58. Monger, G.P. (2013). *Marriage customs of the world: An encyclopedia of dating customs and wedding traditions*. ABC-Clio. https://doi.org/10.5040/9798400683114

59. Montgomery, J. (2023). What the coffee industry could look like in 2050. *newGround magazine*, 4 May 2023. https://newgroundmag.com/2023/05/the-coffee-industry-in-2050/

60. Monticelli, L. (2021). *On the necessity of prefigurative politics*. *Thesis Eleven*, *167*(1), 99-118. https://doi.org/10.1177/07255136211056992

61. Morrison, A., Rygh, K., Celi, M., Tomico, O., Marenko, B., & Colombi, C. (2023). Tools, means and mediating design futures education. In A. Morrison (Ed.), *Design futures literacies: Extended essays*, *2*, 470-550. Oslo School of Architecture and Design.

62. Muashekele, C., Rodil, K., Winschiers-Theophilus, H., & Kandjengo, S. (2024). Recovering lost futures of the past: Situating alternative futures within an indigenous Afrocentric orientation and past trajectory. In *Proceedings of the Participatory Design Conference 2024: Full Papers -Volume 1 (PDC '24)*, *Vol. 1*. Association for Computing Machinery, New York, 28-40. https://doi.org/10.1145/3666094.3666101

63. Mulgan, G. (2020). *The imaginary crisis (and how we might quicken social and public imagination)*. UCL STEaPP and Demos Helsinki. https://www.ucl.ac.uk/steapp/sites/steapp/files/2020_04_geoff_mulgan_swp.pdf

64. Noëth, E. & Moons, S. (2024). The power of doing less: The concept of exnovation in Transition Design through a multi-lens perspective. In C. Gray, P. Hekkert, L. Forlano, & P. Ciuccarelli (Eds.), *DRS2024: Boston, 23-28 June*, Boston. https://doi.org/10.21606/drs.2024.1705

65. Nold, C. (2021). *Towards a sociomaterial framework for systems in design*. University of the Arts London: Social Design Institute, Working Paper no. 2. https://www.arts.ac.uk/__data/assets/pdf_file/0034/286369/SDI_Working.Paper_2_Towards_a-Socio-material_Framework_Nold_tagged.pdf

66. Okorafor, N. (2018). Mother of invention. *Slate*, 21 Feb 2018. https://slate.com/technology/2018/02/mother-of-invention-a-new-short-story-by-nnedi-okorafor.html

67. Oldham, O. (2021). Imagination infrastructure - what do we mean? *Medium*, 30 April 2021. https://oliviaoldham.medium.com/imagination-infrastructure-abd96262fff6

68. Oomen, J., Hoffman, J., & Hajer, M. A. (2022). Techniques of futuring: On how imagined futures become socially performative. *European Journal of Social Theory*, *25*(2), 252-270. https://doi.org/10.1177/1368431020988826

69. Overdiek, A. (2024). Citylab X: Towards a lens on the urban living lab as driver of systemic innovation. *Contexts–The Systemic Design Journal*, 2. https://doi.org/10.58279/v2002

70. Özbekhan, H. (1970). *The predicament of mankind: A quest for structured responses to growing world-wide complexities and uncertainties*. Report for the Club of Rome. https://designdialogues.com/wp-content/uploads/2020/11/The-Predicament-of-Mankind.pdf

71. Perera, D. & Fry, T. (2022). Contra-innovation: Expanding the innovation imperative in the context of futuring, defuturing and fictioning. *Contexts–The Systemic Design Journal*, 1. https://doi.org/10.58279/v1002

72. Pierce, J. (2012). Undesigning technology: considering the negation of design by design. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '12)*, pp. 957-966. https://doi.org/10.1145/2207676.2208540

73. Pink, S., Strengers, Y., Dahlgren, K. & Korsmeyer, H. (2023). Design anthropological foresighting: Reframing automated futures. *Futures*, 154, 103275. https://doi.org/10.1016/j.futures.2023.103275

74. Potts, R. & Facer, K. (2025). *Interrogating imagination infrastructure*. Joseph Rowntree Foundation. https://www.jrf.org.uk/imagination-infrastructures/interrogating-imagination-infrastructure

75. Quintero Rawlings, F. & Hossain, Z. (2023). Space for grief. *Proceedings of Relating Systems Thinking and Design Symposium*, *RSD12*. https://rsdsymposium.org/space-for-grief/

76. Robinson, C. (2022). Change happens if our collective imagination changes. *Medium*, 9 Jan 2022. https://cassierobinson.medium.com/change-happens-if-our-collective-imaginationchanges-7a1c0475a578

77. Robinson, C. (2023). Emerging futures: Patterning the third horizon. *The Conference*, Malmö, 31 August 2023. https://videos.theconference.se/cassie-robinson-emerging-futures

78. Røkenes, H., Jornet, A., & Knain, E. (2025). Young people envisioning desired futures through narratives of change in science education. *Futures*, 169, 103591. https://doi.org/10.1016/j.futures.2025.103591

79. Sas, C. & Coman, A. (2016). Designing personal grief rituals: An analysis of symbolic objects and actions. *Death Studies*, 40 (9), 558-569. https://doi.org/10.1080/07481187.2016.1188868

80. Scott, K., Bakker, C., & Quist, J. (2012). Designing change by living change. *Design Studies*, *33*(3), 279-297. https://doi.org/10.1016/j.destud.2011.08.002

81. Sevaldson, B. (2022). *Designing complexity: The methodology and practice of systems oriented design*. Common Ground. https://doi.org/10.18848/978-1-86335-262-8/CGP

82. Shah, S. (2023). *"future, dear."* https://setwrite.in/projects/teaching/202301-srishti-futuredear.html

83. Sikorska, J., (2024). *Collective climate imagination: Towards a collective imagination and design practice for transformative climate adaptation*. PhD thesis, University of Applied Arts, Vienna. https://phaidra.bibliothek.uni-ak.ac.at/detail/o:74264

84. Smyth, M. (2023). Speculating futures in an age of nostalgia. *Proceedings of Cumulus 2023: Connectivity and Creativity in times of Conflict*, Antwerp. https://doi.org/10.26530/9789401496476-051

85. Soeterman, A. (2017). *The museum of almost realities*. https://www.aprilsoetarman.com/The-Museum-of-Almost-Realities

86. Somerville, A. (2025). On how futures and pasts are always with us in the present. *Acuity.design*, 20 August 2025. https://bsky.app/profile/acuity.design/post/3lwsxnzvsgk2u

87. Stripple, J., Nikoleris, A., & Hildingsson, R. (2021). Carbon ruins: Engaging with post-fossil transitions through participatory world-building. *Politics and Governance*, *9*(2). https://doi.org/10.17645/pag.v9i2.3816

88. Studio Futurall (2024). *Projects*. https://www.studiofuturall.com/projects

89. Tascherau Mamers, D. (2021). Living in lost futures. *Journal of Environmental Media*, *2*(s1), 10.1-10.6. https://doi.org/10.1386/jem_00058_1

90. Tonkinwise, C. (2014). Design away: Unmaking things. In S. Yelavich & B. Adams (Eds.), *Design as future-making*. Bloomsbury Academic. https://doi.org/10.5040/9781474293907-0022

91. Urban Futures Studio (2020). *Museum of the Linear Economy*. https://uu.nl/sites/default/files/museum_catalogus_-_museum_of_the_linear_economy.pdf

92. van den Bergh, M., Bakke, N.K., Noëth, E., & Moons, S. (2024). A first practical exploration of the exnovation framework: Visualising an empty future. *Proceedings of the Relating Systems Thinking and Design Symposium RSD13*, Oslo. https://rsdsymposium.org/exnovation-framework/

93. Vega, K., Baltazar, M., López, P., Ruiz, L. & Ramos, J.M. (2024). Reimagining lotería: Participatory futures and cultural renewal in Mexico. *Journal of Futures Studies* Perspectives, 9 May 2024. https://jfsdigital.org/2024/05/09/reimagining-loteria-participatory-futures-and-cultural-renewal-in-mexico/

94. Vervoort, J. (2023). *Unity and the destruction of imagination infrastructure*. Medium, 17 September 2023. https://anticiplay.medium.com/unity-and-the-destruction-of-imagination-infrastructure-6d82790b4b6f

95. Vezzoli, C., Ceschin, F., & Diehl, J.C. (2021). Product-service systems development for sustainability: A new understanding. In C. Vezzoli, B. Garcia Parra, & C. Kohtala (Eds.), *Designing sustainability for all. Lecture Notes in Mechanical Engineering*. Springer. https://doi.org/10.1007/978-3-030-66300-1_1

96. de Vos, B., Babu Sankara Subramaniam, M., & Meeusen, M. (2024). *Towards a more sustainable coffee sector: The role of true price and beyond*. Wageningen Economic Research, Report 2024-070. https://edepot.wur.nl/657117

97. Welch, D., Kjus, A., & Heidenstrøm, N. (2024). Imagined futures of crisis in the UK and Norway. *Proceedings of Anticipation 24: 5th Annual Conference on Anticipation*, Lancaster, UK.

98. Woolgar, S. (1990). Configuring the user: The case of usability trials. *The Sociological Review*, *38*, 58-99. https://doi.org/10.1111/j.1467-954X.1990.tb03349.x

99. Zaidi, L. (2019). Worldbuilding in science fiction, foresight and design. *Journal of Futures Studies*, *23*(4), 15-26. http://doi.org/10.6531/JFS.201906_23(4).0003

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