HUMAN OBJECT

– A disobedient pathway towards
a more resonant design practice

Artistic Reflection

by *Siv Lier*

2025

HUMAN OBJECT

— A

DISOBEDIENT

PATHWAY

TOWARD

A

MORE

RESONANT

DESIGN

PRACTICE

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I'M A DESIGNER

What I love about being a designer is that I can make things that do not yet exist accessible for people to experience through their bodies and senses. In my past, this has often manifested as pieces of furniture. Furniture is fascinating because it relates directly to the body and daily life: we sit on chairs, gather for meals around a table, turn on a lamp to read, and sleep in a bed. I enjoy the typical design process, which involves sketching ideas, discussing them with others, drawing and redrawing, creating cardboard models, and eventually building a prototype. It's always a thrill to see an idea in my mind become a tangible object that exists in the world.

Early in my career, I made it my goal to design furniture for longevity by using natural materials that age gracefully, with parts that are easy to repair or replace when worn out. I was interested in how the stories and emotional value that develop over time, as we interact with the furniture, shape behaviour. My designs have been showcased internationally at exhibitions and furniture fairs, resulting in collaborations with a select group of manufacturers. I have simplified and compromised on construction, form, and materials to make my designs more practical for production. This often meant downplaying the conceptual aspects of the furniture in favour of functionality. Several of my designs have been close to mass production, yet only one has successfully progressed from prototype to product (it was quickly discontinued because it was not profitable enough).

Finding my place as a designer in the international furniture design industry has been both meaningful and frustrating. It has been fulfilling to apply my design training to contribute to a focus on sustainability, yet disheartening to gain insight into the backstage of the industry and the journey from natural resources to finished products. It is challenging to accept that what is branded as Scandinavian design often relies on production in low-cost countries, and that with each new design, something becomes outdated, generating more waste. My concerns about what happens before and after a finished product is launched became so significant that I could no longer practise design in the same way as before. I needed to step back and reflect on how my professional life can harmonise with my values as a human being.

This PhD project grows from a desire to explore the core of my practice. It is not about leaving the design world to become an academic; I still want to be a designer, but I aim to redefine the kind of designer I wish to be, and whether I want to continue to be part of the international furniture design industry. I am more interested in understanding how designed objects influence our lives and the environment than in creating products for mass production. Although this PhD is based on my personal experiences, I believe other designers share similar frustrations; nonetheless, like me, they stay in design because they know their voices are needed.


↑ TREE
Branches of a tree inspired the functional and decorative features in this table that explores the transition from 2D to 3D in a simplified expression.
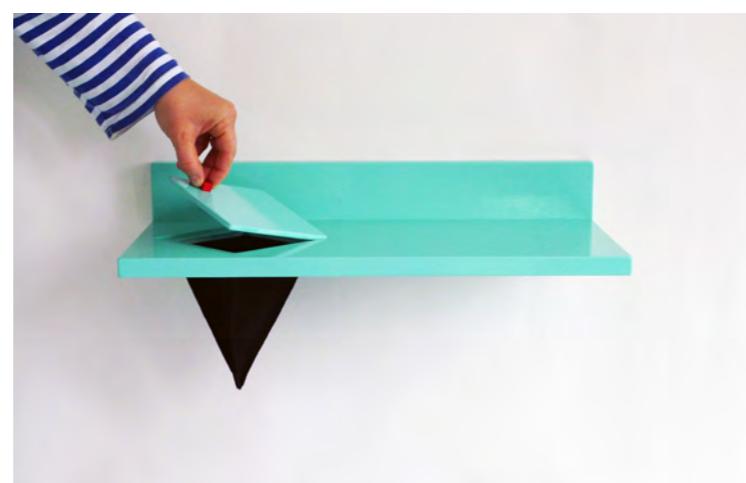
↑ NO WORRIES
A bedside table with a built-in compartment for worries. Place your book on the table, your worries under the lid, and sleep peacefully.
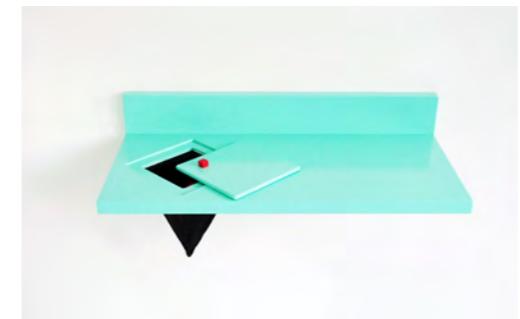

→ "I need this," Norway's crown princess Mette-Marit said at an exhibition opening in Paris, when I told her 'No worries' is a nightstand where you can store your worries for a good night's sleep.

↘ Illustration by Ingvild Os.

↑ ODEL
A family of chairs made from ash wood and cork were part of my MA in Design from KhiB (2011). The Swimmer and The Bicyclist are two members of the Odel family, with anthropomorphic shapes inspired by athletes' bodies.

↑ The "knobs" at the back allow for alternative chair configurations depending on the situation and the number of people.

↑ *FRØY*
Traditional handicrafts inspire the design of this chair. I love the warm and welcoming qualities of wood, and that no two pieces are exactly the same. This emphasises the personal touch I seek in my design, aiming to create furniture that you care about and want to keep, regardless of changing trends.

← *YME*
A bench that invites people to sit face-to-face rather than facing the TV. Yme is made of solid oak, with a seat of woven linden offering comfort without the use of upholstery.

↑ *SPRING*

↑ *TOTAL ECLIPSE*
A solar eclipse occurs when the moon blocks all or a portion of the sun. In this lamp, the light is dimmed by shifting the "moon's" position in front of the "sun".

INTRODUCTION

Human Object – a disobedient pathway towards a more resonant design practice is an Artistic Research project that explores the entangled relationship between design and nature, and between human and designed objects. The project grew from my experiences as a furniture designer in the international design industry, recognising that I was more interested in the human-object 'intra-actions' (Barad 2007) than in creating profitable products for mass production. This interest, along with my concern for the state of the Earth, created a dissonance within me and a desire to find ways for my practice as a designer to correspond with my values as a human. The project belongs to the expanded field of design, viewing design not as a science but as a liberal art (Buchanan 1992). The project relates to Discursive Design (Tharp and Tharp 2018) because it emphasises design as a tool for reflection and building relationships rather than for utilitarian purposes. I am part of a community of designers aiming to change design from being *human*-centred to becoming *more-than-human*-centred (Coulton and Lindley 2019). I start this Reflection by revisiting my past design practice to identify which aspects I valued and what caused the most friction. I articulate these aspects as conditions I want to expand on, reorient, or break with to become a resonant designer. This process marks the beginning of a series of practice experiments within my PhD project. 'Disobedience'

(breaking with) and 'entanglement' (immersion in) are the key concepts guiding the research, focusing on (1) *design's relationship to waste and (over) consumption,* and (2) *design serving as a tool to tame nature and humans*. These topics interweave throughout the practice, as do disobedience and entanglement. However, the emphasis on the unwanted elements that refuse to be categorised permeates the entire research. I invite the hammer into the process, both as a cultural prop I reflect *on* and as a companion I reflect *with*. I also welcome people to engage with my research through exhibitions, workshops, and other events. My reflections happen both during practice and afterwards, as I contemplate my actions. I realise that a resonant designer attunes herself to the situation before acting, and pays attention to the different voices and actants present.

THE OUTCOMES

The outcome of the PhD consists of three components:

- · THE REFLECTION
- · THE PRACTICE EXPERIMENTS
- · THE EXHIBITION

The Reflection explains how the research process developed and the insights gained. It includes texts, drawings, and photographs that illustrate my reflections on and within the artistic practice, as well as describing the context and methodology. The practice experiments are featured in the Reflection, with some also presented as printed books ('The Hammers' and 'Na(cul)ture'), providing the reader with a more detailed insight. The exhibition takes place in Room 61 at the Faculty of Fine Arts, Music, and Design in September 2025.

I DO NOT HAVE A RESEARCH QUESTION

But I have a collection of questions that have guided my research process, and that can also help the reader of this Reflection:

How can design foster a sense of human belonging with the natural world through reciprocity?

What if design focused more on questioning than answering?

How can design(ers) respond to societal challenges without being tempted to problem-solve?

What approaches are necessary in design to respond to the complex world of today?

You will not find THE answer to these questions in this Reflection, but they reflect my focus.

A FEW NOTES TO THE READER

All photos, texts and drawings are my own unless otherwise noted. The research focuses on the tangible, material world, excluding the digital realm and AI.

I avoid using words commonly used in design and research, such as 'results,' 'findings,' 'strategy,' and 'user,' and replace them with words I find more open:

Results   →   'Outcomes'
Findings →   'Insights and reflections'
Strategy→   'Approach'
User   →   'Community', 'people', 'participants', 'visitors', 'collaborators'

I understand things through practice before I have words for them. In this Reflection, terms like 'dissonance' and 'resonance' appear in the Introduction, Context, and Methodology chapters, which come before the Practice chapter. These terms emerged through practice and weren't initially guiding concepts from the start. I introduce these now to help the reader. Artistic Research is a messy, non-linear process.

I will often mention and refer to the books 'Na(cul)ture' and 'The Hammers' in this Reflection. They are key artistic outcomes of my research, providing a thorough and visual representation of what I discuss in this Reflection.

A GUIDE TO READING THE REFLECTION

In Chapter 2, I contextualise my research within the expanded field of design, more specifically in Discursive Design. I unfold why Artistic Research is an equally important context for the research. In chapter 3, I describe the methodology and the methods I use ('Material-led' and 'Body-based'). Chapter 4 describes the practice through the various 'practice experiments' that comprise it. In Chapter 5, I discuss and reflect on the insights, proposing design as a form of resonance and outlining a resonant design practice.

CHAPTER   2

CONTEXT

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In 2020, the total mass produced by humans surpassed the weight of all life on Earth for the first time (Venditti 2021). Every week, the average person worldwide generates more waste than their own body weight (Elhacham, Ben-Uri et al. 2020). On April 16, Earth Overshoot Day for 2025 was marked in Norway, indicating that the world's resources for the year would be exhausted by that date if everyone consumed at the same level as people in Norway (Global Footprint Network 2025). These facts represent the time in which I am a designer, and in this chapter, I will discuss how this context affects me and, more specifically, how I engage with it through this Artistic Research project in design. I will begin by explaining why the project belongs within the expanded field of design and is informed by both 'Discursive Design' and 'Artistic Research'. I will argue for a perspective on design that de-centres the human and recognises it as a situated practice. I will also discuss the core concepts of correspondence, resonance, entanglement, and disobedience.

THE OVERARCHING CONTEXT

'...ecological urgency impels us to push against the forces that have birthed design...'

(Pierre, Tham et al. 2019, p. 1 in introduction).

Design is a field that constantly evolves and changes according to times and situations. Richard Buchanan describes the context for designers today as volatile, uncertain, complex, and ambiguous, and uses the acronym VUCA. (Munich Business School 2024). Design shapes the human experience. 'There is no area of contemporary life where design – the plan, project, or working hypothesis which constitutes the "intention" in intentional operations – is not a significant factor in shaping human experience'. (Buchanan 1992, p. 8). However, design alone cannot 'fix' climate change, poverty, or any of the other detrimental global problems we face today. Many of the problems we are living amidst, in fact, originate from design. It is essential to acknowledge that designers from earlier generations worked within the constraints of their time and could not foresee how tackling the issues of their era would eventually lead to complex and wicked problems (Buchanan 1992). The shift that occurred during the Industrial Revolution illustrates this, as mass-produced products replaced the making of one-off artefacts. The consequences we face today, such as pollution, were not on the radar. Another example is the invention of plastic, which provided affordable consumer products for the masses after World War II (Science Museum 2019). It was not foreseeable at the time that this would lead to microplastics now being found in 98.9% of seafood samples (Myers and North 2025). As design researcher Kosuke Watanabe so accurately articulates in his essay *The Stagflation of Design Professions: A Perspective on the Disillusionment of Design:* 'The world of today has been shaped by numerous design endeavours, most of which aimed to create preferred situations. Nevertheless, many un-preferred situations still exist' (Watanabe 2024). Despite good intentions, the problems are real, and designers, including myself, struggle to understand how to be designers in this context.

Just as the complexity of the world today surpasses various fields and professions, it also spans across the different design disciplines. This is why I expand my practice beyond furniture design and position myself within the expanded field of design (Leerberg 2009). In the next section, I will elaborate on what this means and give examples of designers who propose a shift in the close relationship between design and capitalism towards one that involves nature.

ARTISTIC RESEARCH AND DESIGN IN THE EXPANDED FIELD

The field of design is not clearly defined, and you will receive different answers to the question of what design is, depending on who you ask. The Merriam-Webster dictionary will tell you that design is to 'create, fashion, or construct according to plan' (Merriam-Webster 2025). Social scientist Herbert Simon defined design as 'action aimed at changing existing situations into preferred ones' (Simon 2019, p. 55). Philosopher Vilém Flusser, on the other hand, described the designer as 'someone who is artful or wily, a plotter setting traps' (Flusser and Cullars 1995, p. 50–53). In his essay *The shape of things: A philosophy of Design* (Flusser 1999) he wrote: 'Every object of design sets a trap by presenting a problem in the form of what appears to be its solution. Thus, we are deceived into thinking of the spoon as a solution to the problem of how to transport food from bowl to mouth, when in fact it is the spoon that determines that we should do so rather than, say, holding

the bowl directly to our lips'. Flusser offers a refreshing contrast to the notion of the designer as a problem-solver, prompting me to ponder: What does it mean to change an existing situation into a preferred one? Preferred for whom, in what context, and at what cost? And as I reflect on the definition served by the Merriam-Webster dictionary, I wonder: What is this plan that designers are supposed to create, fashion, or construct according to?

In the book *Design and Nature – A Partnership* (Pierre, Tham et al. 2019), I find a description of design as '…an activity that makes ideas, artefacts and spaces become real'. I find this way of describing design less problematic than those mentioned above, due to its openness and absence of charged terms such as 'preferred'.

Finnish architect Juhani Pallasmaa's process-oriented characterisation of design as 'a search for something that is unknown in advance' (Pallasmaa 2024) aligns with that of anthropologist Tim Ingold. Ingold writes that 'making is a correspondence between maker and material' (Ingold 2013), and that this is the case as much in anthropology and archaeology as it is in art and architecture. Ingold writes about a method of hope and correspondence, which he describes as being open to what is going on in the world and responding to it. Ingold calls this way of relating to the world 'correspondence' and sees anthropology as an art of inquiry (Ingold 2013, p. 7). Ingold's approach to anthropology as a speculative discipline with the power to imagine what life might be has profoundly shaped my perspective on design. He writes about making not as imposing preconceived form on raw material substance, but as 'the drawing out or bringing forth of potentials immanent in a world of becoming (Ingold 2013, p. 31).

He continues: 'In the act of making the artisan couples his own movements and gestures (…) with the becoming of his materials, joining with and following the forces and flows that bring his work to fruition. It is the artisan's desire to see what the material can do, by contrast to the scientist's desire to know what it is (…)' (Ingold 2013, p. 31). 'It seems that composer, performer, architect, writer, draughtsman and painter alike are continually caught between the anticipatory reach of imaginative foresight and the tensile or frictional drag of material abrasion – whether of pen on paper, bow on strings, or brush on canvas' (Ingold 2013, p. 72). This way of describing creative practices reflects a poetic perspective on design that I will revisit later in this chapter as I discuss the terms correspondence, entanglement, disobedience, and resonance.

I have no urge to define what design is on a general level, and I like to be part of a field that encompasses various perspectives and the frictions that come with them. Yet I will state what it means to me and where my interest lies: I see design as a liberal art, in line with Nigel Cross (2001), and position my research within the expanded field of design. My interest lies in design as a critical, relational and reflective practice, which is a foundation I share with a community of designers. In the following, I will contextualise my project in relation to this community and to *Discursive Design.*

DISCURSIVE DESIGN

'Social design', 'Participatory design', 'Co-design', 'Communication design', 'Ecological design', and 'Design activism' are all fields that, in different ways, inform my design practice and research. These influences will become evident as I write about the community of designers to which I belong. Nevertheless, 'Discursive Design' provides the best-suited context for my research because it describes a type of design that 'asks its audience to take an anthropological gaze and seek understanding of its artifacts beyond basic form and utility' (Tharp and Tharp 2018, p. 5). Stephanie and Bruce Tharp coined the

↓ *Discursive Design: Critical, Speculative and Alternative Things* by Bruce M. Tharp and Stephanie M. Tharp.

term 'Discursive Design' in 2018 to describe the field of socially minded practice, which encompasses Critical Design, Adversarial Design, Speculative Design, and other related approaches. In their opinion, the design profession has been shaped towards more practical than intellectual purposes: 'While product design has an incredible influence on what people do and how they do it, the discipline contributes less effectively to what and how people think' (Tharp and Tharp 2018, p. 7). My interest lies in design as a tool for thinking and reflection, and in the spirit of Discursive Design, I believe objects can act as both *physical* and *intellectual* prostheses (Tharp and Tharp 2018, p. 7). This is not to say that I think all designers should become discursive designers, but rather that it is an aspect of design that also needs attention. Like the Tharps so beautifully express: '(…) we imagine an expansion upon, not a replacement for, design's traditional work' (Tharp and Tharp 2018).

A Discursive Design object is deliberately designed to spark reflection rather than having a practical function in the traditional sense. Yet, it typically resembles off-the-shelf design products. The Lammily doll by Nickolay Lamm, for example, prompts discussion on beauty standards in children's toys (Lamm 2014). My aim is not to create objects that resemble mass-produced products, as my focus is more on the design process than the design object itself. The discursive character of my practice occurs during the process as I interact with situations, materials, and existing objects, and as I invite people to engage with my work. This is something I will unfold in the Practice chapter. A similar process-focused design approach can be found in the works of *Studio Glithero* (van

↑ Me with my sweather that reads « I am (discur-) Siv »

Gameren and Simpson) and Judith Seng (Seng 2011). *Studio Glithero* aims to foster 'a deeper understanding of the value created in the moment of making' (van Gameren and Simpson). Seng is inspired by performative arts, and in a series of projects she calls Acting Things 'different production experiments are set up in which material and processes become mutually dependent: the material that is to be worked on generates a process which then in turn will shape the material' (Seng 2011). In the *Practice* chapter, I will outline a similar approach to creating hammers.

As a discursive designer, I am interested in design that sparks discussion, and one of my approaches is to challenge categories and identify points of friction. This will be evident as I write about the practice in chapter 4, especially in the various hammer experiments where the category 'hammer' is troubled. This approach is informed by 'Adversarial

↓ Me reading «Adversarial Design» by Carl Disalvo.
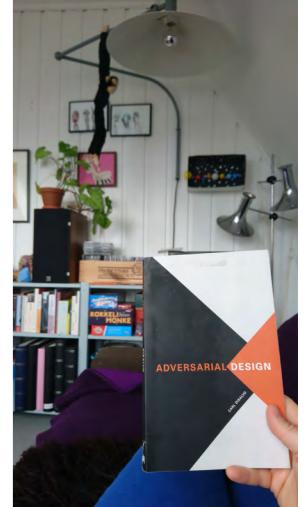
Design', which is one of the design types that falls under the 'Discursive Design' umbrella (Tharp and Tharp 2018, p. 84). Adversarial Design was coined by Carl DiSalvo and is concerned with what is left out of a discourse to create consensus. In the *Methodologies and Methods* chapter, I will revisit Adversarial Design and discuss the design tactic of reconfiguring the remainder, as described by Carl DiSalvo (DiSalvo 2012, p. 57).

In addition to Discursive Design, the field of Artistic Research plays a similarly significant role in shaping the context for my research. Just as Discursive Design offers me a context outside the traditional frames of design, the *Norwegian Artistic Research program* (Norwegian Artistic Research School 2025) presents possibilities that I did not have as a practitioner in the international furniture design industry. Both Discursive Design and Artistic Research are areas that do not search for answers and solutions, but rather question and relates to the subject at hand. Both aspire to share the knowledge that emerges from the process. Discursive Design situates me within the field of design, while Artistic Research anchors me in a cross-disciplinary space focused on creation and reflection. I combine the criticality of Discursive Design with the process-oriented research approach based on artistic exploration, as offered in the context of Artistic Research. This constitutes the field-relevant context for my research.

DECENTERING THE HUMAN IN DESIGN

> *'If you think the economy is more important than the environment, try holding your breath while counting your money'.*

(Komlik 2014)

How can I be a designer if I refuse to prioritise human needs over damaging nature and causing suffering? A shift from serving market and economic interests to valuing the planet and its resources is needed. Many designers base their practice on this perspective, and I will discuss a few of them.

In the book *Design and Nature: A Partnership* (Pierre, Tham et al. 2019), a companionship with nature is proposed for design, rather than one with industry, capitalism, and modernity. In his book *Caps Lock: How Capitalism Took Hold of Graphic Design, and How to Escape from It,* Dutch designer Ruben Pater asserts that capitalism has replaced social relations with economic relations, creating a distance between the maker and the consumer (Pater 2021). Using examples from designers worldwide, he proposes tactics for how designers can operate outside capitalist constraints. Both books demonstrate efforts to transition design from a capitalist practice to one that is socially conscientious, focusing on human needs without harming the environment. They inspire and guide my research and approach as a designer.

Heidi Biggs (Biggs 2025), Julia Lohmann (Lohmann 2025) and Mathilda Tham (Tham) are designers with a multi-species perspective on design. Biggs seeks stories, relationships, and experiences with objects. Through instilling wonder and imagination, she prompts us to reflect on how design influences who we are as humans, rather than focusing solely on its function. Lohmann critiques the ethics and value systems behind our relationship with flora and fauna. She founded the Department of Seaweed, an interdisciplinary community exploring seaweed as a sustainable material in design. (Lohmann 2018, Lohmann 2025). Tham suggests that we view clothes as friends or family with whom we have a deeper connection, rather than as consumer products. Tham argues that this can help combat fast fashion and promote sustainability.

In chapter 4, I will explore how decentering the human increases my awareness of fringe matters and the design's before-and-after life, beyond the usual focus on functioning objects.

Philosophical theories within the realm of 'New Materialism' and 'Post-Humanism' inform this de-centring of the human, which both Lohmann and Biggs represent. New Materialism describes a break from the persistent dualisms in modernist and humanist traditions, and, like Post-Humanism, seeks to reposition the human among nonhuman actants (Sanzo 2018). New Materialism and Post-Humanism challenge the stability of the subject, advocating a critical materialist approach to the influences of late capitalism and climate change (Sanzo 2018). It is beyond my capacity and knowledge as a designer to explore them in depth, as they are fields within science and philosophy with longstanding traditions. My focus is on how they influence me as an artistic researcher in design. Later in this chapter, in the section *Correspondence and resonance, disobedience and entanglement,* I will return to these theories and discuss how Bruno Latour's *Actor Network Theory* (ANT) (Latour 2005), Karen Barad's notion of *Intra-Action* (Barad 2007) and Tim Ingold's concept of *Meshworks* (Ingold 2010) are especially relevant for my context. In Chapter 3, I will elaborate on how this de-centring of the human influences my methodology.

FLUXUS, BRICOLAGE AND CONTEMPORARY ARCHAEOLOGY

My research focuses on my immediate surroundings, often interacting with what is in front of me, which I will discuss further in the Methodology chapter. I see a connection between New Materialism and the work of Fluxus artists, as well as the practice of Keri Smith. Contemporary archaeology is also relevant in my research context.

Fluxus was an experimental art community from the 1960s and 1970s that emphasised the artistic process over the finished product (Tate 2025). Fluxus was influenced by John Cage's ideas of starting an artwork without knowing its end. Fluxus artists used everyday, inexpensive materials in their work, and had a humorous, do-it-yourself, anti-commercial attitude that inspires me. I'm interested in the stories discarded materials tell and the polyphony that emerges from unusual combinations. Materials out of context create friction, waking us up and challenging our habitual perceptions. The use of waste materials also reflects my anti-consumerist stance.

Keri Smith is a conceptual artist who has written several books on creativity (Smith). The focus of her work and research is on creating open works that others can complete. Her playful way of exploring and being attentive to what is literally right at your feet has been a significant source of inspiration for my interest in working with found and waste materials. Her book *The Wander Society* (Smith 2016) explores wandering as a way of life, resonating with my experience of how being outdoors and moving opens my mind to new ideas. Critical insights and epiphanies often occur during my research while biking or running in the mountains. I have incorporated this into my working approach, which I will discuss in the Methodology and Methods chapter, as I outline the body-based methods.

I spoke with Thóra Petursdóttir in 2019 (UiT). At that time, she was an associate professor in the Department of Archaeology, Conservation, and History at the University of Oslo and part of the *Unruly Heritage - An Archaeology of the Anthropocene* research group. *Unruly Heritage* studies the archaeology of the recent past, especially objects floating in the ocean, highlighting their resistance to categorisation. This ties to my work on disobedience and exploding categories, discussed in the Methodology and Methods chapter.

THE SITUATED PRACTITIONER – DESIGN AS AN IMMERSIVE AND SUBJECTIVE PROCESS

I have outlined my design context in a volatile, uncertain, complex, and ambiguous world, which calls for alternative ways of being design-ers. This is because design is a *situated practice*. Situatedness is a theory in cognitive science that sees the mind as 'ontologically and func-tionally intertwined within environmental, social, and cultural factors' (Costello 2014, p.17–57). American Professor Emerita Donna Haraway argues that knowledge production is based on the experiences, life histories, and backgrounds of the scientists involved, and introduces the concept of 'situated knowledge' in contrast to 'universal knowledge' (Haraway 2013). Haraway's notion of knowledge as situated rather than universal is closely connected to what I see as the essence of Artistic Research: Unlike the "neutral" scientist who stands outside her experiments, the artistic researcher becomes a central part of it. I recognise my research influence stems from subjective, personal experiences that are not universal. I agree with Schouwenberg and Kaethler on the importance of a designer's personal experiences in countering the role of design in overconsumption and overproduction. In their book, *The Auto-Ethnographic Turn in Design* (Schouwenberg and Kaethler 2021), they argue for the designer's intuition as a powerful force for meaningful change over conventional approaches that are subservient to market logic or external ideals, which contribute to these problems (Schouwenberg and Kaethler 2021, p. 5). Michael Kaethler and Louise Schouwenberg note a shift from studying the 'exotic other' to studying the researcher's own world. I want to emphasise that it is essential for each designer's personal experiences to be meaningful beyond themselves, contributing to a design practice that fosters relationships and adds value to the world. An example of a designer who embodies a very personal and immersive design process while also offering valuable insights to the field is Thomas Thwaites (Thwaites 2016). This is what he did, in the words of the designer himself: 'I tried to become a goat to escape the angst inherent in being a human. The project became an exploration of how close modern technology can take us to fulfilling an ancient human dream: to take on characteristics from other animals. But instead of the ferocity of a bear, or the perspective of a bird, the characteristic most useful in modern life is something else; being present in the moment perhaps. Anyway, I ended up in the Alps, on four legs, at a goat farm, with a prosthetic rumen strapped to my chest, eating grass, and becoming a goat.' Thwaites's extreme approach is enviable, and his experiences provided him with insights he would not have gained otherwise.

The outlined situated, immersive, and autoethnographic approach is grounded in a phenomenological perspective on acting and being in the world. Phenomenology studies conscious experience as experienced from the subjective or first-person perspective. Phenomenology is a field in philosophy that studies experiences from the subjective or first-person perspective (Stanford Encyclopedia of Philosophy). Husserl revolutionised the philosophy of knowledge with his argument that what we know about a phenomenon cannot be separated from how a subject experiences it *(Husserl 1913/1982)*. Like 'New Materialism' and 'Posthumanism', Phenomenology is a field within philosophy that falls outside the scope of this PhD to discuss in depth. My focus is on how they influence me as an artistic researcher in design. Later in this chapter, I will revisit Phenomenology as I discuss 'entanglement' and 'disobedience' as concepts that lead me towards resonance as a design objective. In Chapter 3, I will

↑ Me and Ingrid Rundberg speaking with Thomas Thwaites

elaborate on how this phenomenological, autoethnographic, and situated approach influences the methodology and is applied in practice, particularly when discussing body-based methods.

I want to address the paradox that this research project aims to de-centre the human while still being very human-focused. This is because denying I am a human would be strange, and, as discussed earlier, the research is situated and autoethnographic. The question is more about what kind of human and designer I am. Through practice, especially in the experiments I conducted in France, a version of a human (and designer) emerges that is deeply intertwined with her environment. I will discuss this in the Practice chapter. I also want to clarify why I use the word 'object' instead of 'thing' in the project's title. Ingold argues that the world consists of things, not objects. (Ingold 2010). In the book *Design Things*, a similar argument is made based on the etymology of the Nordic word 'ting', which means both an object or artefact and a gathering of people (Binder, De Michelis et al. 2011). I use the word 'object' despite the term's contradiction to my argument about the entangled relationship between humans and non-human actors, as it captures the frictions central to my inquiry. I will argue that friction and entanglement are essential for design to respond to the current world context.

CORRESPONDENCE AND RESONANCE, DISOBEDIENCE AND ENTANGLEMENT

Earlier in this chapter, I discussed Ingold's description of 'making' as an act of corre-sponding with the world and outlined a context for my research that de-centres the human. Insights gained from looking at the practices of other designers suggested that a de-centring of the human can make design more attuned to the more-than-human world. Being personally immersed in the design and research process and aware of how the designer and researcher influence the outcomes is also important. Viewing design as a collective, social, and relational practice is equally crucial. I will now discuss Ingold's concept of 'correspondence' and 'meshworks' in relation to Bruno Latour's *Actor Network Theory,* Karen Barad's 'intra-action', and Hartmut Rosa's concept of 'resonance'. I am aware that 'resonance' is already being discussed within the Artistic Research community. However, I argue that my research still contributes to the dis-course because it originates from design, not art.

'Intra-action' is feminist theorist and physicist Karen Barad's term replacing 'interaction' to emphasise the inseparability of all 'things'. It describes a mutual constitution of entangled agencies and is central to her agential realist framework. I will not discuss agential realism, as it's a complex physics theory. However, I will use Barad's term 'intra-action' to reflect the mutual, symbiotic relationship in my research (Barad 2007, p. 33).

Philosopher, anthropologist and sociologist Bruno Latour argued that everything in the world exists in networks of relationships that constantly shift. He called this the *Actor Network Theory* (ANT), which posits that nothing exists outside of these relationships and that all factors within these networks are on the same level (Latour 2005). This perspective resembles Tim Ingold's ideas; however, a key difference is that Ingold prefers the term 'meshwork' over 'network'. Ingold argues that 'meshwork', which is a term he borrows from philosopher Henri Lefebvre (Lefebvre 1974/1991), describes the reality of life better than 'network'. In a network, the lines connect and are connectors between points. In 'meshworks', on the other hand, the lines do not connect; instead, they move and grow, with loose ends that entangle with other lines (Ingold 2016, p.132). '(...) when I speak of entanglements of things I mean this literally and precisely: not a network of connections but meshwork of interwoven lines of growth and movement' (Ingold 2010, p. 3). In the *Practice* chapter, it will become clear how Ingold has significantly influenced my research, particularly through his concept of entanglement. The way Ingold writes on correspondence as a way of relating to the

world lingers in me: 'We need it in order not to accumulate more and more information about the world, but to better correspond with it' (Ingold 2013, p. 7).

Could what I seek be called 'correspondence'? Or is 'resonance' a better term?

To 'resonate' is to 'produce, increase, or fill with sound by vibrating (shaking) objects nearby' (Cambridge University Press & Assessment 2025). If something resonates, it also means that it makes you feel an emotional connection; it feels true or meaningful to you. 'Resonance' shares some overlapping meaning with 'correspondence'.

According to sociologist Hartmut Rosa, modernity has made the world calculable, manageable, and controllable. As a result, the world has lost its resonant quality, and humans feel alienated from it (Rosa 2016/2019, p. 44). Rosa describes this alienation as a way of relating to the world, 'marked by the absence of a true, vibrant exchange and connection...' (Rosa 2018, p.1). He proposes 'resonance' as the opposite of aliena- tion, describing it as the movement between being touched and affected by something from the outside, and the emotion that arises as a response to this external impulse. This capacity to feel affected by something and, in return, develop an intrinsic interest in that which affects us, is, according to Rosa, at the core of a positive way of relating to the world. This process establishes a connection that he refers to as 'resonance'.

I read this resonant way of relating to and interacting with the world as very similar to Ingold's concept of 'correspondence', yet there is a significant difference. For 'reso- nance' to occur, there is a need for friction or an external impulse, which is not encom- passed in correspondence, which means a connection between two things (Cambridge University Press & Assessment). Resonance, writes Rosa, 'is not just consonance or harmony (...) it requires difference and sometimes opposition and contradiction in order to enable real encounter' (Rosa 2018, p. 2). I see a clear link between Rosa's argument and 'Discursive Design', particularly 'Adversarial Design', where opposition, contradiction, and friction are essential.

In my project, this friction is referred to as 'disobedience,' and what Ingold calls 'cor- respondence' is what I refer to as 'entanglement.' 'Entanglement' and 'disobedience' emerged as two key guiding principles that shaped my efforts to develop a design practice better suited to today's volatile, uncertain, complex, and ambiguous world.

The Society for Artistic Research (SAR) conference in Porto, 2025, focused on 'resonance', as highlighted in the call:

'At a time when art and culture, local and global policies and events are haunted by societal challenges as vast as they are unpredictable, what can artistic researchers offer in response to these concerns? How can Artistic Research resonate beyond its specific contexts and disciplinary borders? Resonance is a prompt to address the transformative nature of Artistic Research as a connective element that evokes a response and qualifies our experiences as meaningful. However, it can also be understood as a critical tool characterised by reciprocity and mutual transformation. Resonance is a response to personal and global challenges both poetically and through modes of political imagination and transformative meeting spaces. Getting into resonance is to create a relation between Artistic Research and the world that requires questioning and answering, but also the ability to change and be changed' (Society for Artistic Research & i2ADS – University of Porto 2025).

The approach to acting and being in the world reflected in this call corresponds with my own ideas. Especially the description of Artistic Research as 'a critical tool char- acterised by reciprocity and mutual transformation', and that resonance requires 'the ability to change and be changed.'

DISENTANGLING

Before delving into Chapter 3 (which outlines the research methodology and methods) and Chapter 4 (which discusses the practice), I want to explain how the research is rooted in my experiences as a furniture designer. I will use the design process of the Total Eclipse lamp as an example, as it illustrates well what I love about being a designer, as well as what I find problematic. This will serve as the foundation for the practice experiments within the PhD project. If I borrow Carl diSalvo's concepts of 'tracing' and 'projection', 'disentangling' is 'tracing', while 'exploring' and 'reflecting' are forms of 'projection' (DiSalvo 2009).
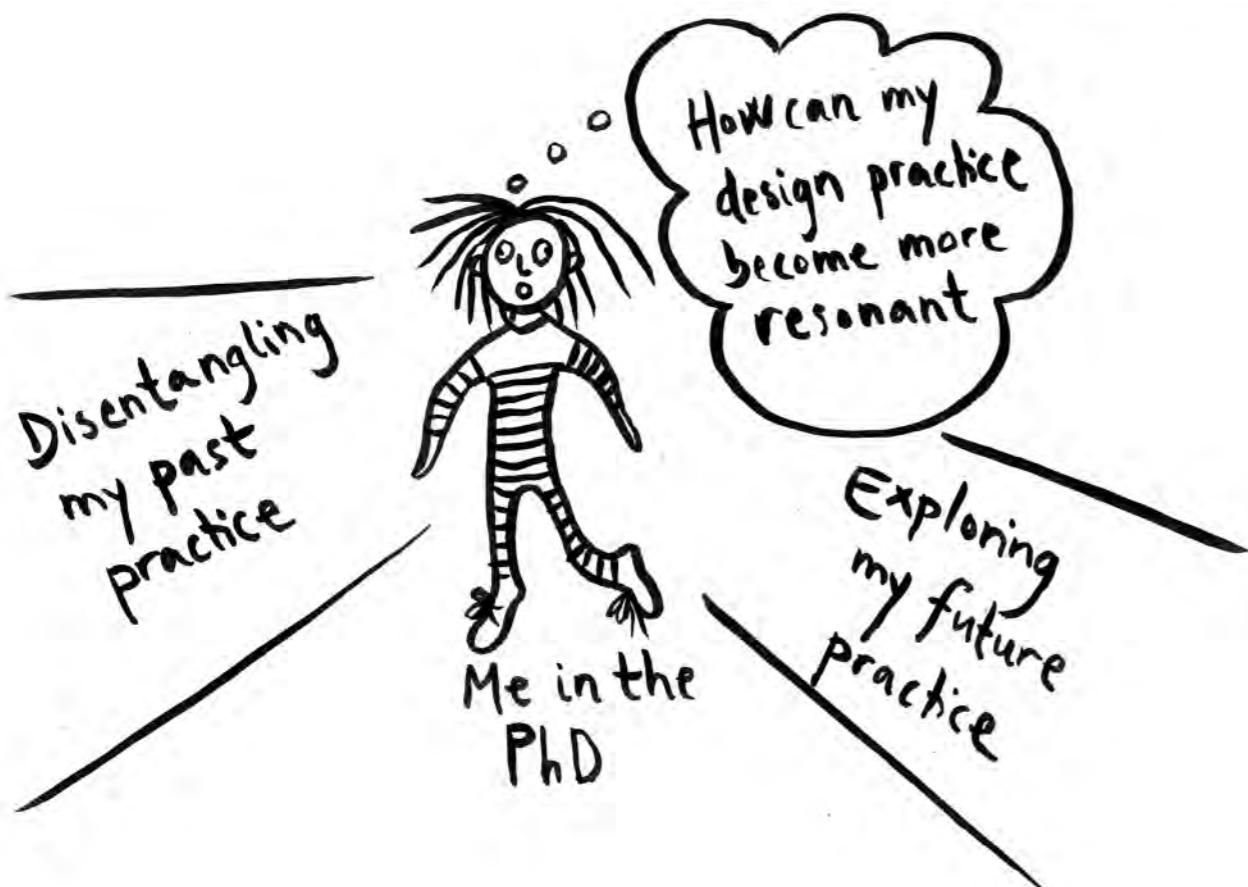
DISENTANGLING THE DESIGN PROCESS OF *TOTAL ECLIPSE*

In 2012, I was invited to join a group exhibition. The initiative came from *Klubben,* an association for and by Norwegian designers established in 2011, with the goal of creating meeting places for newly founded product and furniture designers (Edin 2024). The invitation included a cardboard box with small items intended to inspire the creative process for a piece that would become part of an exhibition in Oslo called *The State of Things.*
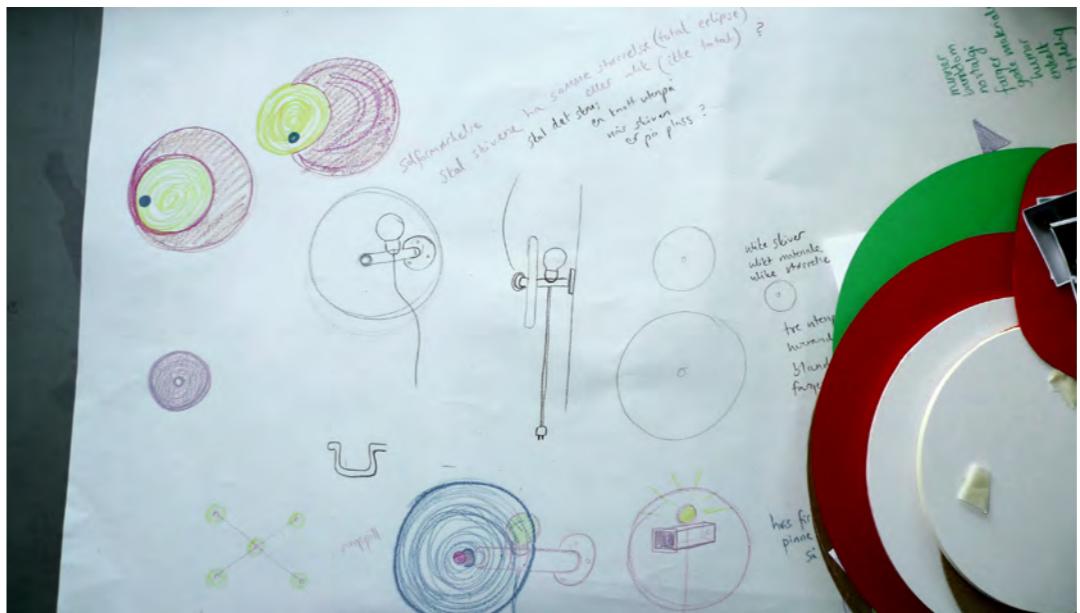
Among all the items in the box, a brass coin and an old black-and-white photograph of people watching a solar eclipse caught my attention. They inspired the idea to create a lamp where the light could be adjusted by moving the 'moon's' position in front of the 'sun'. I began sketching and experimenting with shapes and colours, and making models from paper, cardboard, and wood.

A range of solar eclipse lamps in various colours, sizes, and materials emerged from the process, and I selected two of them for further development. Having decided on the materials, sizes, and shapes of the lamps, I created technical drawings for the people manufacturing the glass and metal parts. I worked on making the movable parts function, how the lamp would be mounted onto the wall, and which light components to use. Finally, two prototypes of Total Eclipse were completed and exhibited in Oslo. This marked the first of several events I later attended that were organised and arranged by Klubben.

After the exhibition, I made adjustments, and at the *International Furniture Fair* in Stockholm, two new prototypes were showcased as part of *The State of Things* exhibition. During the exhibition in Stockholm, I was invited to showcase the lamps at another group show promoting Norwegian designers—this time in New York and Los Angeles. I was also invited to take part in an exhibition in Paris. A French journalist wanted to write a piece about me, as she found it interesting that the inspiration for a lamp came from the astronomical phenomenon of a solar eclipse.
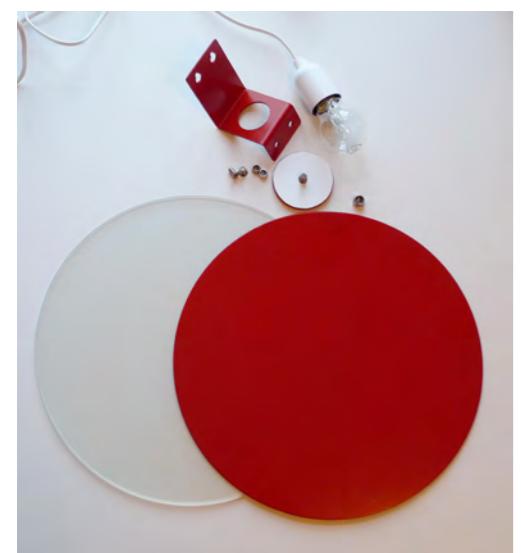
After participating in all the exhibitions, a Danish design brand showed interest but later withdrew from further collaboration. Another manufacturer, this time Norwegian, was interested, but after several adjustments and compromises, they too eventually cancelled the cooperation. The failed attempts to land a deal with an external manufacturer led me to consider producing the lamps on a small scale myself. However, at present, the *Total Eclipse* lamps only exist as a few exclusive prototypes.
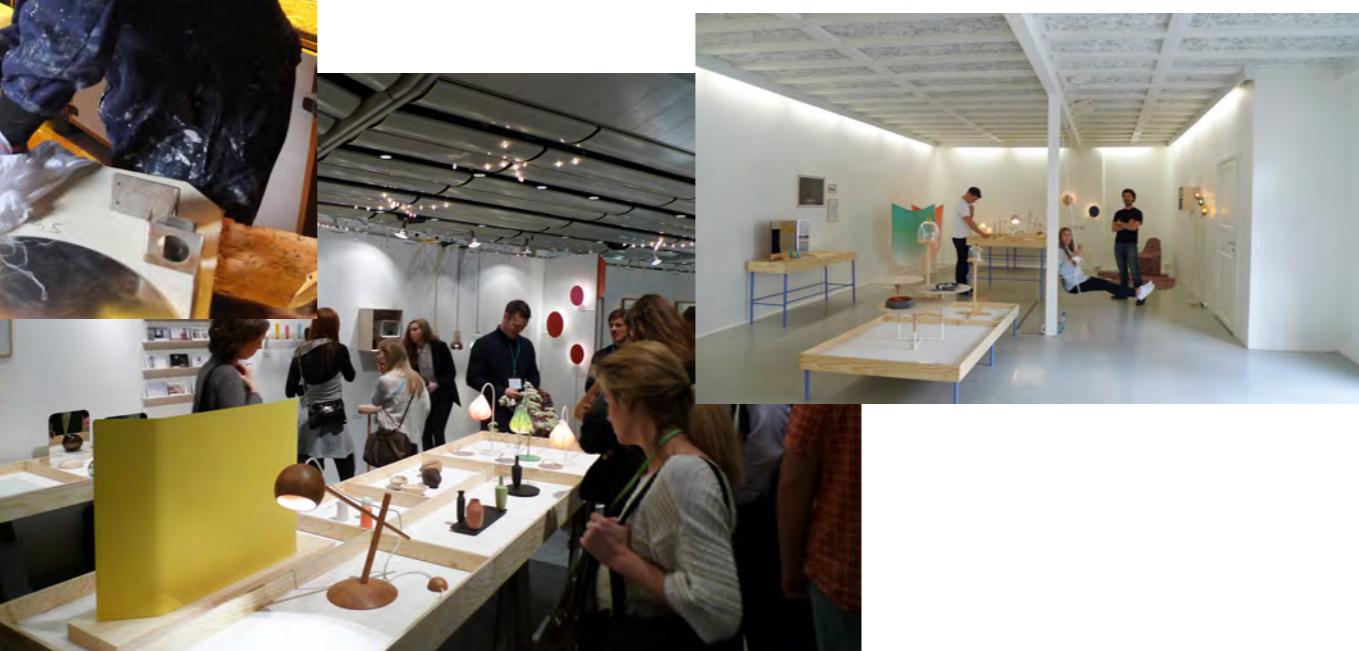
I loved the playful spirit of the invitation and the design brief that allowed for plenty of artistic freedom. I also liked the idea of a group exhibition showcasing the works of many designers starting their creative journeys from the same point. I enjoyed the initial stage of the design process, where I was free to experiment and explore the concept without worrying about practicality. I aimed to create a tactile and poetic experience for the person interacting with the lamp. Much of the playful energy from the myriad variations was lost as I left behind most of the lamps in favour of only two. The transition from conceptual sketches to technical drawings was time-consuming and required precision and clarity. After some misunderstandings and mistakes, the lamp's parts were completed. I struggled to get the movable parts of the prototypes to work properly.

It was fantastic to see all my effort finally pay off with two working prototypes alongside pieces from other designers. It was nerve-wracking when one of the lamps collapsed, and I had to fix it on the spot, MacGyver-style. It felt good to be recognised and included as a Norwegian designer within the international product design scene. However, I did not feel entirely comfortable in an environment where networking and self-promotion are expected. It was also an honour to be selected for the curated exhibition in Paris, where my pieces were showcased in a more artistic context. As the mounting and dismounting of the lamp was somewhat complicated, it was very inconvenient to have others do this at the exhibitions without my presence. I enjoyed being approached by the journalist interested in the conceptual aspects of my designs, but I ultimately declined to be interviewed (which I regretted afterwards).

It felt unfair to be blamed for the transport mishap of the prototype, which caused the Danish manufacturer to cancel our collaboration. I was pleased when the Norwegian company contacted me because they shared many of my values regarding ethical production. After several adjustments and numerous hours spent on emails and technical drawings, it was disappointing that the collaboration again ended without the lamp becoming more than a prototype. However, they wanted me to change the name and remove the movable feature of the lamp, and they did not appreciate the concept that was important to me. What's not to love about a solar eclipse lamp named after an iconic pop song?

I like the idea of doing things my own way and not having to compromise on what is important to me, but at the same time, the thought of being personally responsible for the production is scary.

THE INSIGHT I HAVE GAINED ABOUT MYSELF AS A DESIGNER

I want to be part of a broader context while maintaining a high level of artistic freedom during the creative process. I enjoy the playful nature of the early stages of designing. I am more interested in the conceptual aspects of a design and human-object interactions than in the practical details or industry modifications. Unpredictable and uncontrollable events occur throughout the process; misunderstandings happen, and people, objects, and materials can all behave unexpectedly, which is both frustrating and quite enjoyable.

I value that design is a field that addresses societal issues, is social, relational, and future-oriented. On the other hand, it is problematic that design is often human-centred, closely tied to market and economic interests, and frequently involves problem-solving for others. The design skills I appreciate the most are the sensitivity towards the world, the ability to materialise things that do not yet exist, and the capacity to discover unexpected connections.

I used this insight as a foundation for the PhD project. A central question that guided my process moving forward was: *What happens if I reorient or break away from (what I consider to be) the problematic aspects of design and expand on (what I consider to be) the valuable skills and aspects of design?*

I focused on two areas:

1. *Design's relationship to waste and (over)consumption*

2. *Design serving as a tool to tame nature and humans*

I will return to these questions after outlining the methodology and the methods employed in my research.

Valnable design skills
- Sensitivity towards the world
- Ability to materialise ideas
- Capacity to discover unexpected Connections

Problematic aspects of design
- Human-Centered
- Problem-solving for others
- Constraints of market and economy

Valuable aspects of design
- Social and relational
- Relates to issues in Society
- Future-oriented

CHAPTER 3

METHODOLOGY

AND

METHODS

In the Context chapter, I situated the research within the realm of 'Artistic Research', the expanded field of Design, and more specifically, 'Discursive Design'. I discussed how ideas from 'New Materialism' and 'Phenomenology', particularly those of anthropologist Tim Ingold and sociologist Hartmut Rosa, influence my work. I related my research to the works of other practitioners, emphasising a decentering of the human in design, and my focus on design as a process rather than a result. I introduced the key concepts of 'correspondence' and 'resonance', 'disobedience', and 'entanglement'. In chapter 2/3, I examined my experiences as a furniture designer within the international design industry and identified points of resonance and dissonance. I will now explain how these perspectives informs my methodology and outline the primary methods I use within it.

Just as Artistic Research provides an overarching context for the project, it also serves as the over-arching methodology. In the following, I will explain what that means. I want to emphasise that within the *Norwegian Artistic Research Program,* which is the context of my PhD project, research is conducted through practice. This means that the digestion of theory and the entire research is 'articulated' and reflected upon through doing and making.
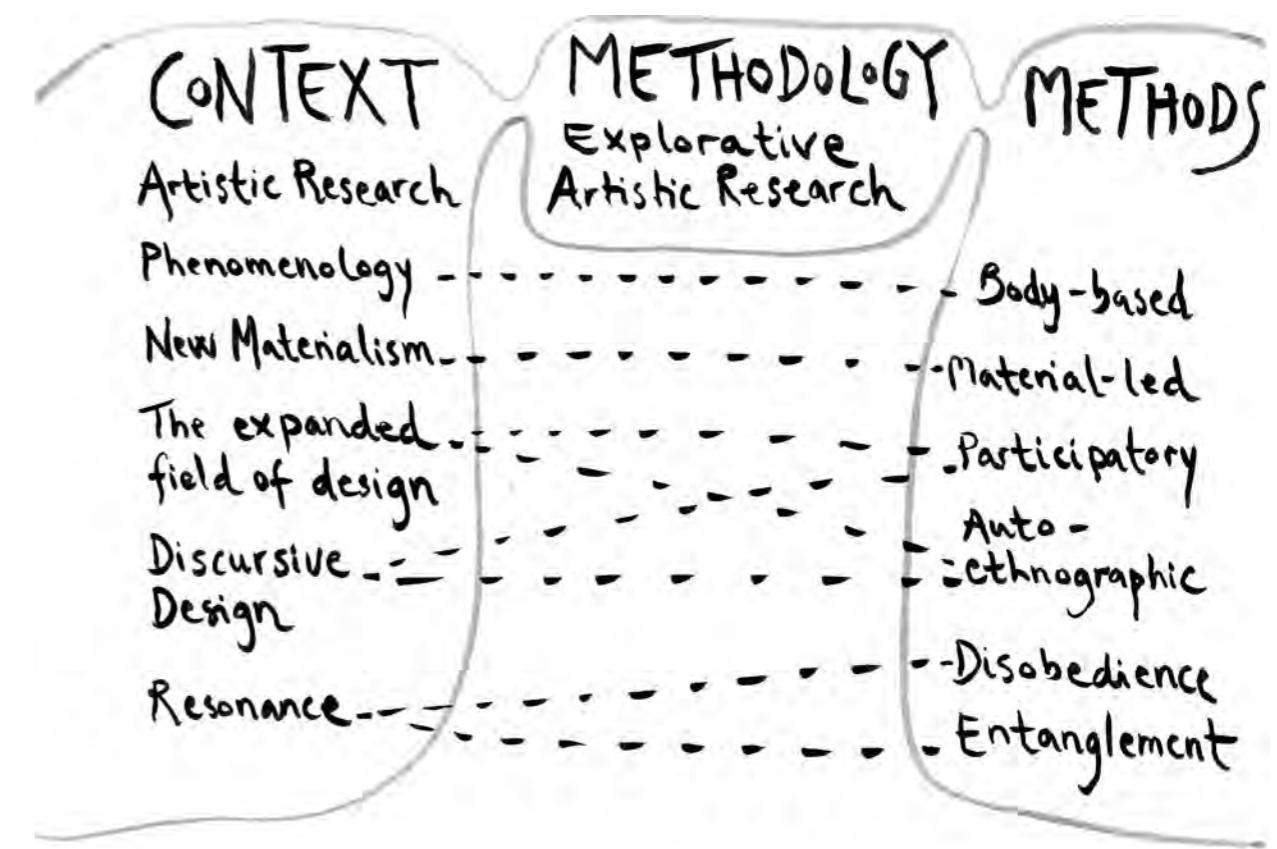
↑ A visualisation of how the context turns into methodology and methods.

EXPLORATIVE ARTISTIC RESEARCH

My approach as an artistic researcher within design is rooted in an openness towards the unexpected. Instead of planning every detail, I let the practice unfold without trying to control it. This approach to allowing serendipity to shape the process moving forward makes my research explorative. Cognitive scientist Ronald A. Finke describes creative work as an 'interplay between serendipity and intentionality' (Finke 1996). Practice-led researcher Maarit Mäkelä describes research as based on both 'accidental discoveries' and 'systematic thinking and doing' (Mäkelä 2016). Both Finke and Mäkela accurately describe the way I allow myself to be a non-judgmental explorer as my practice unfolds. And afterwards I reflect on what I did from a more distant perspective, before I once again return to exploring and making mode with new insights and questions I want to explore. The movement between intuitive reflections during practice and the more analytical reflection afterwards is what Donald Schön calls reflection *in* and *on* action. (Schön 2017). In my experience, this approach provides an in-depth and multifaceted understanding of the subjects of my inquiries that I would not otherwise gain through theoretical research or artistic practice separately. This type of research is known by various names, depending on the context and tradition, including *'Art-Based', 'Practice-Based',* and *'Practice-Led'* research, as well as research *through* design and research *by* design (Riis and Groth 2020, p. 2). My research could be classified under any of those categories. However, none of them fully apply because practice and reflection are inseparable and equally vital in my work, and because theory and writing are as integral to my practice as the other way around.

Furthermore, the outcomes are as much about the insights gained from this back-and-forth process as they are about the designed objects themselves. Since this 'hybrid professional category, which is emerging from the interaction between artistic practice and theory' (Biggs and Karlsson 2010, p. 409), does not yet have a name,

'Artistic Research' is the existing label that most closely describes the nature of my research. Artistic Research is, therefore, the umbrella term I use to describe my research methodology, which encompasses various methods that I will discuss later in this chapter (Borgdorff 2010).

Sketching, diagram-making, and intuitive writing (in the form of field notes)—all done by hand—and photographing are the primary methods I use to document the reflections that occur as I immerse myself in the practice experiments. After, I reflect from a more distant perspective and discover areas I'd like to explore further. These reflections serve as starting points for the next practice experiment in the PhD. When writing this final Reflection, I revisited this material and reflected on the practices, synthesising and connecting the elements.
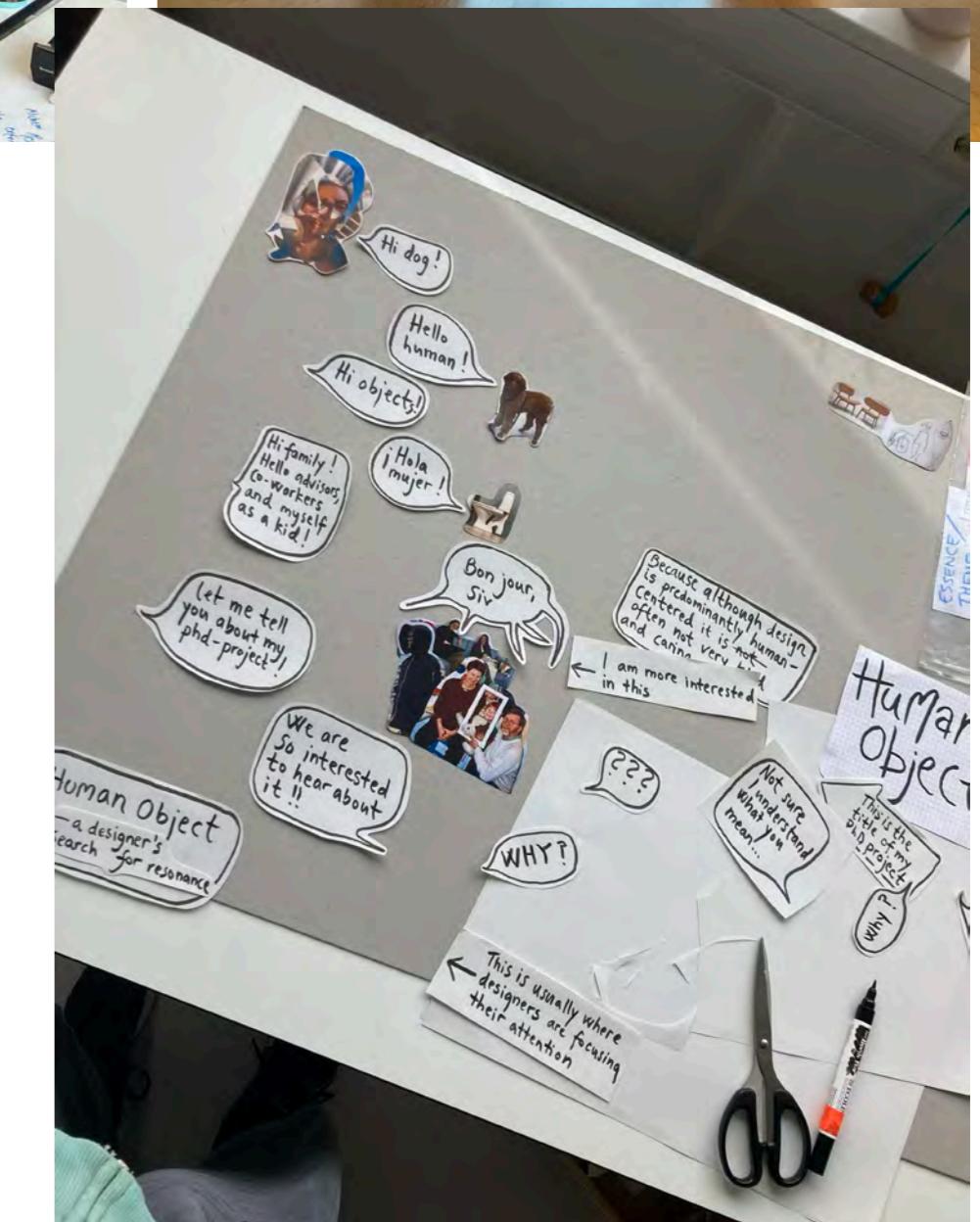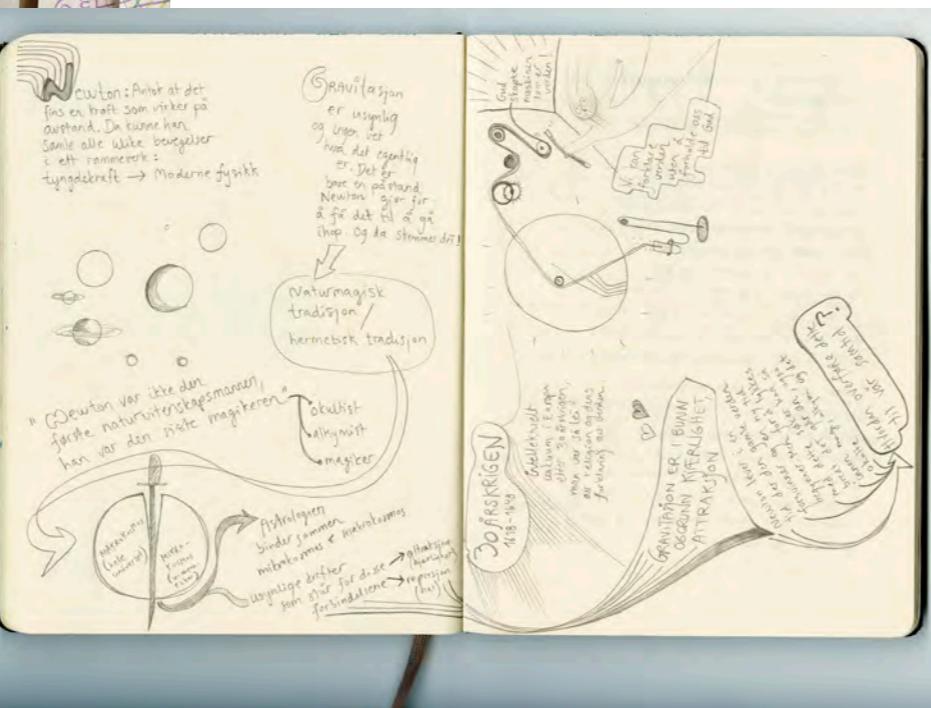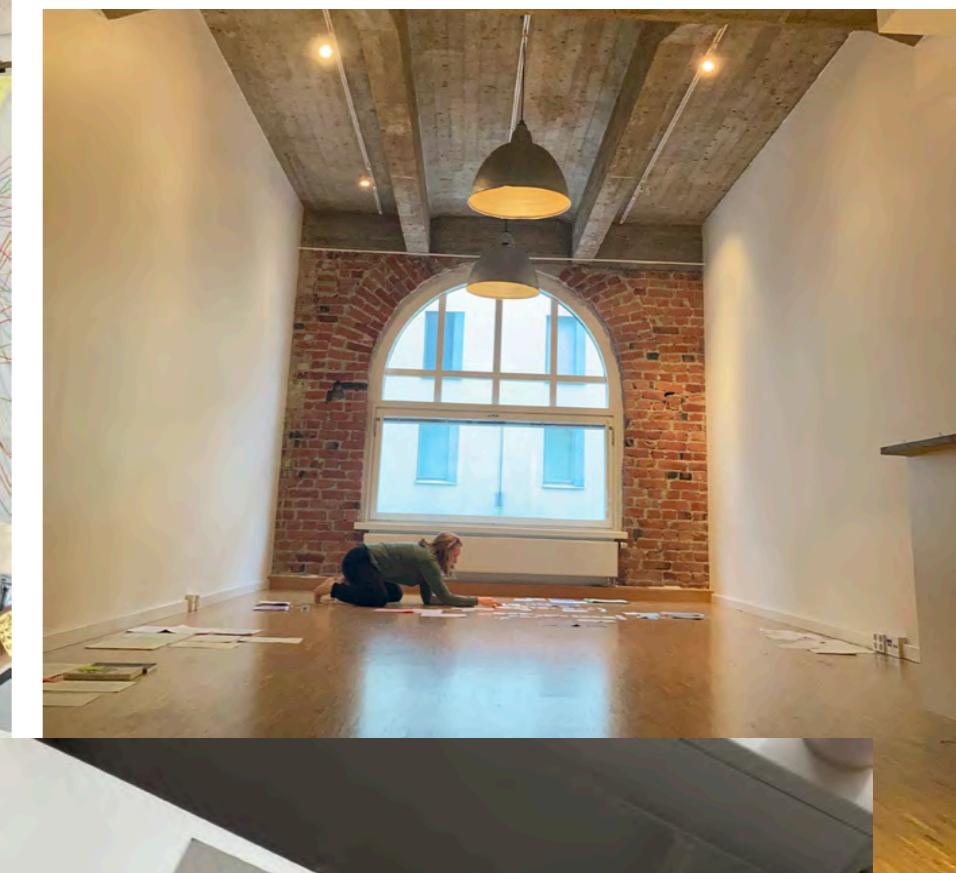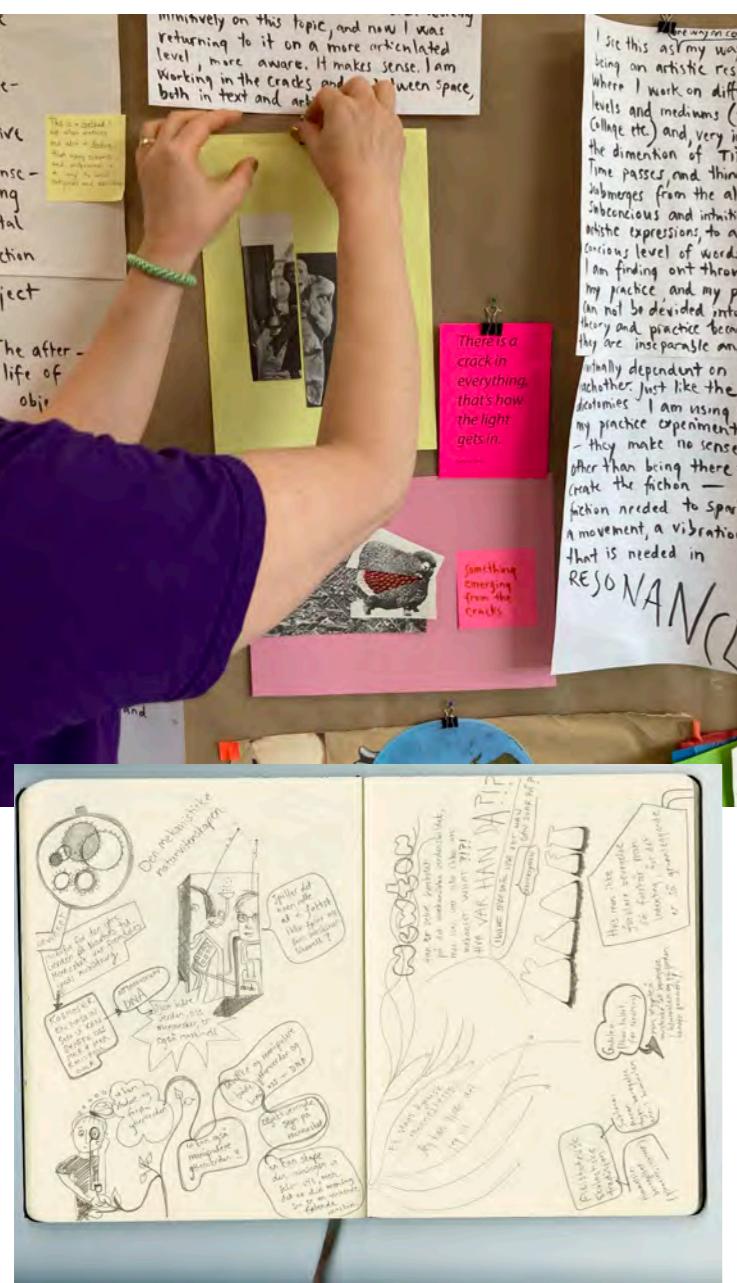
AUTO-ETHNOGRAPHIC AND PARTICIPATORY METHODS

As discussed in the *Context* chapter, design is a situated and relational practice, which is why I explore my personal relationship with objects and invite others to engage with my research. I utilise both auto-ethnographic and participatory methods, moving back and forth between them. In the Practice chapter, I will unfold the various practice experiments that are based on an autoethnographic approach. When I invite others to engage with my research, I also ask them to be situated and personal, which means that the participatory and auto-ethnographic methods are interconnected within my practice. I invite people to collaborate and co-speculate (Lohmann 2018) through workshops, exhibitions, and various events. In the Practice chapter, I will write about this, as I discuss the collaborative practices under the name *Multiplum* (Lier and Rundberg (2023)), as well as the exhibitions and collections of hammers. These are the discursive and participatory elements of my practice.

MATERIAL-LED AND BODY-BASED METHODS

As I write in the Context chapter, the concepts I use in the Reflection were not learned from reading theory and then applied to the research; instead, they were developed through the research process itself. I experienced them intuitively through practice without having the words or theoretical foundation for them. My body knew before my head understood, which underpins the importance of body-based methods in my research. I see materials as alive and experience through my body. Overall, 'New Materialism' guides the material-based methods, while 'Phenomenology' informs the body-based ones.

The main material methods are collecting and bricolage, while the primary body methods are (experimental) drawing and (experimental) movement. I will outline the methods and in which of the practice experiments they are most prominent.

COLLECTING
I collect over time to make sense of a category, notice individual differences and nuances and observe changes that occur as time passes. This is especially evident in *Disobedient Nature, Disobedient Objects, Disobedient Human,* and the Hammer collections.

↑ *The Selfie Project*
24 days from the collection of selfies.

BRICOLAGE (MERRIAM-WEBSTER DICTIONARY)

The bricolage attitude of doing what I can with what I have at hand shapes my entire research. I do this for two reasons: firstly, to avoid wastefulness, and secondly, because I am interested in materials that have a previous life. This is especially evident in *The Useless Machine, Alchemy,* and the various Hammer experiments.
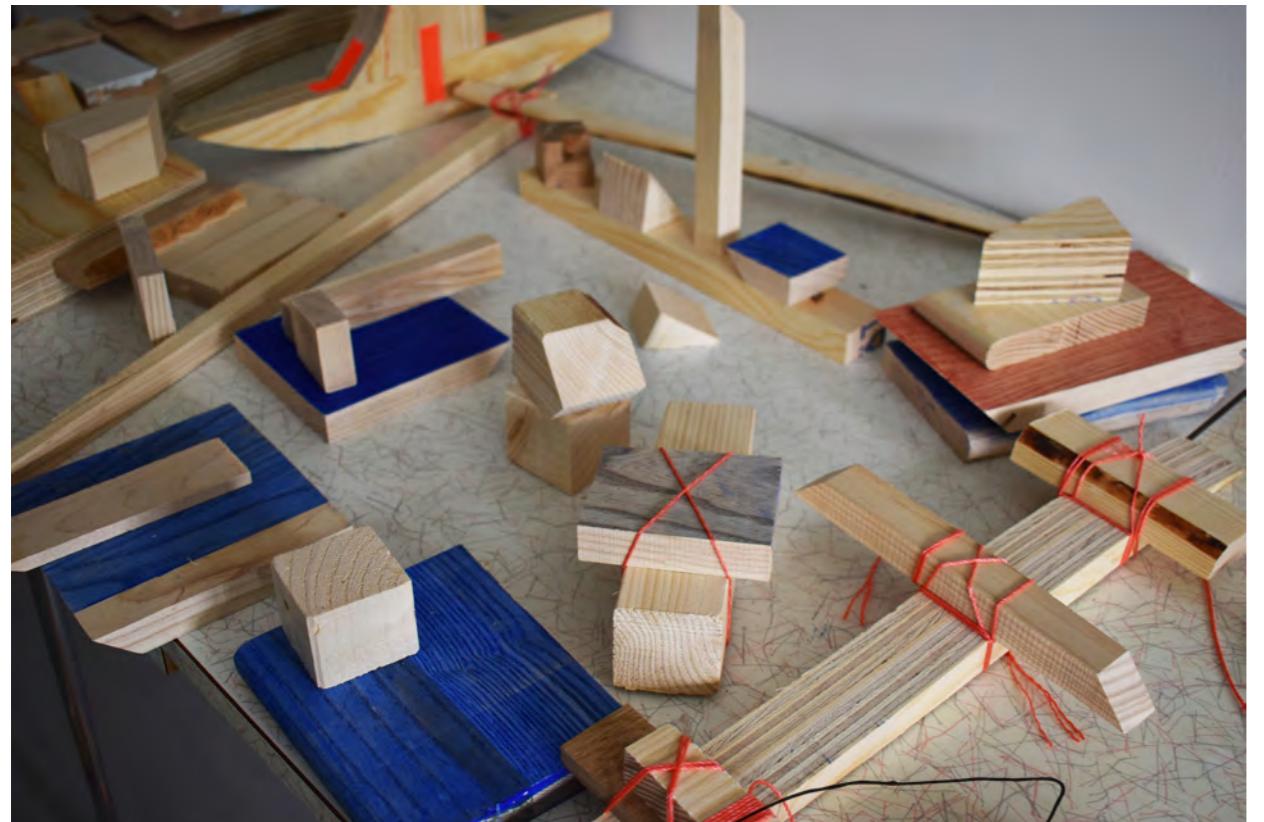

↑ *From The Alchemy project*
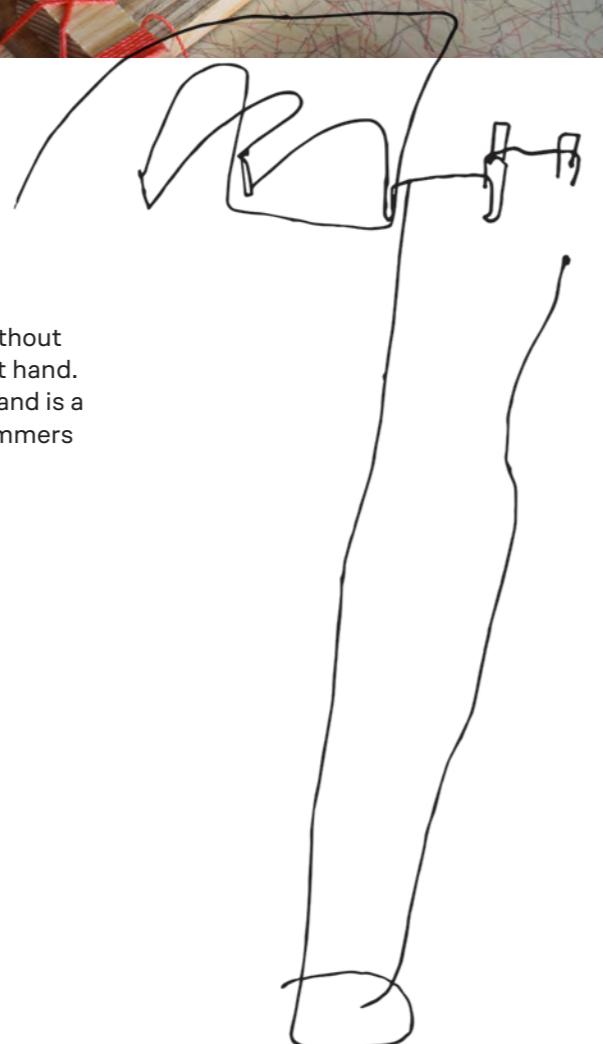
(EXPERIMENTAL) DRAWING

I draw in ways where I have less control, such as without looking at the paper, or using my non-dominant left hand. This is a way to observe truly and to be less skilled and is a method I have used to get under the skin of the hammers and see them as individuals.

→ *Drawing a hammer without looking at the paper.*

(EXPERIMENTAL) MOVEMENT

I physically interact with the situation, objects, and materials by moving my body. This is present throughout most of my practice and is especially evident in the practices during the residency in France, which you can read about in the text 'Entangled in Boisbuchet'.

→ *From one of the practice experiments in France; 'Entangled in Boisbuchet'*

'DISOBEDIENCE' AND 'ENTANGLEMENT'

In the Context chapter, I discussed the correspondence and opposition necessary for resonance. 'Entanglement' and 'disobedience' emerged as two key guiding principles for my research. 'Entanglement' and 'disobedience' can also be referred to as methods, as they describe attitudes of immersion and friction creation. I also discussed 'Adversarial Design', concerned with what is left out of a discourse to create consensus, and the design tactic of 'reconfigure the remainder' (DiSalvo 2012, p. 57). This is what I do in practices where I include all types of hammers without judgment of their functionality. If a person tells me this is a hammer to them, then it is, and can be part of the collection of *Subjective Hammers* or the *Hammers that do not (yet) exist.*

REFLECTIONS ON METHODOLOGY AND METHODS (AND SEGWAY OVER TO PRACTICE)

Methods develop through practice, influenced by the approaches of others, but with my own interpretation. Theory and practice intertwine. I move back and forth between analogue and digital. Bricolage is incorporated into everything I do, I cut-and-paste techniques with text, pictures, materials. I understand through doing, and sometimes, deliberately work slowly and do things in a time-consuming manner. Reflecting on why I use so many different methods, it becomes clear that I am a bricoleur practitioner. As described in the book *Design Things* (Binder, De Michelis et al. 2011), design can be viewed as a form of bricolage, where different materials are brought together, mixed, and configured in various iterations. By 'shifting between

modalities, scales, and materials, different aspects of design to widen the design space, communicating ideas and narrowing down concepts' (Binder, De Michelis et al. 2011, p. 54).

Besides the described methods, establishing dichotomies helps my creative process and is also a method. The above methods can also be viewed as dichotomies.

I experience a space emerging between what appear to be opposites, where the practice grows, things vibrate, and categories blur. I realise that I am engaging with the underbelly of design, often beginning my process where the designer usually considers her work complete. I am activating the fringes by exploring designed objects as they are still being created, and after they have become waste, rather than when they serve their purpose. I call this the 'beforelife' and 'afterlife' of design. (Fig. 4), and the process moves back and forth between these states as I use the discarded objects or materials as starting points for my design work. It is as if I am doing everything except what would be the obvious thing for a designer to do: focusing on designing products that serve a purpose for humans.

I have observed a pattern in my practice: When I try to understand my relationship to an object or material, I tend to employ body-based methods (points towards *Boisbuchet* and *Selfie* project). When I wish to understand the object or material itself, I tend to use material-led methods (points towards *Alchemy* and *Hammer Experiments* before Boisbuchet). In the next chapter, I will unfold the practice, which includes experiments based on an artistic and exploratory methodology that incorporates autoethnographic, participatory, body-based, and material-led methods. Often, these methods blend and are hard to distinguish; however, for clarity, I have separated and labelled them. In some, you will notice that the emphasis is more on the object, often represented by the hammer. In others, my focus is more on my relationship with the object, which is also frequently represented by the hammer.

↓ A visualisation of situations, methods, roles and attitudes and how they intermingle in my practice.
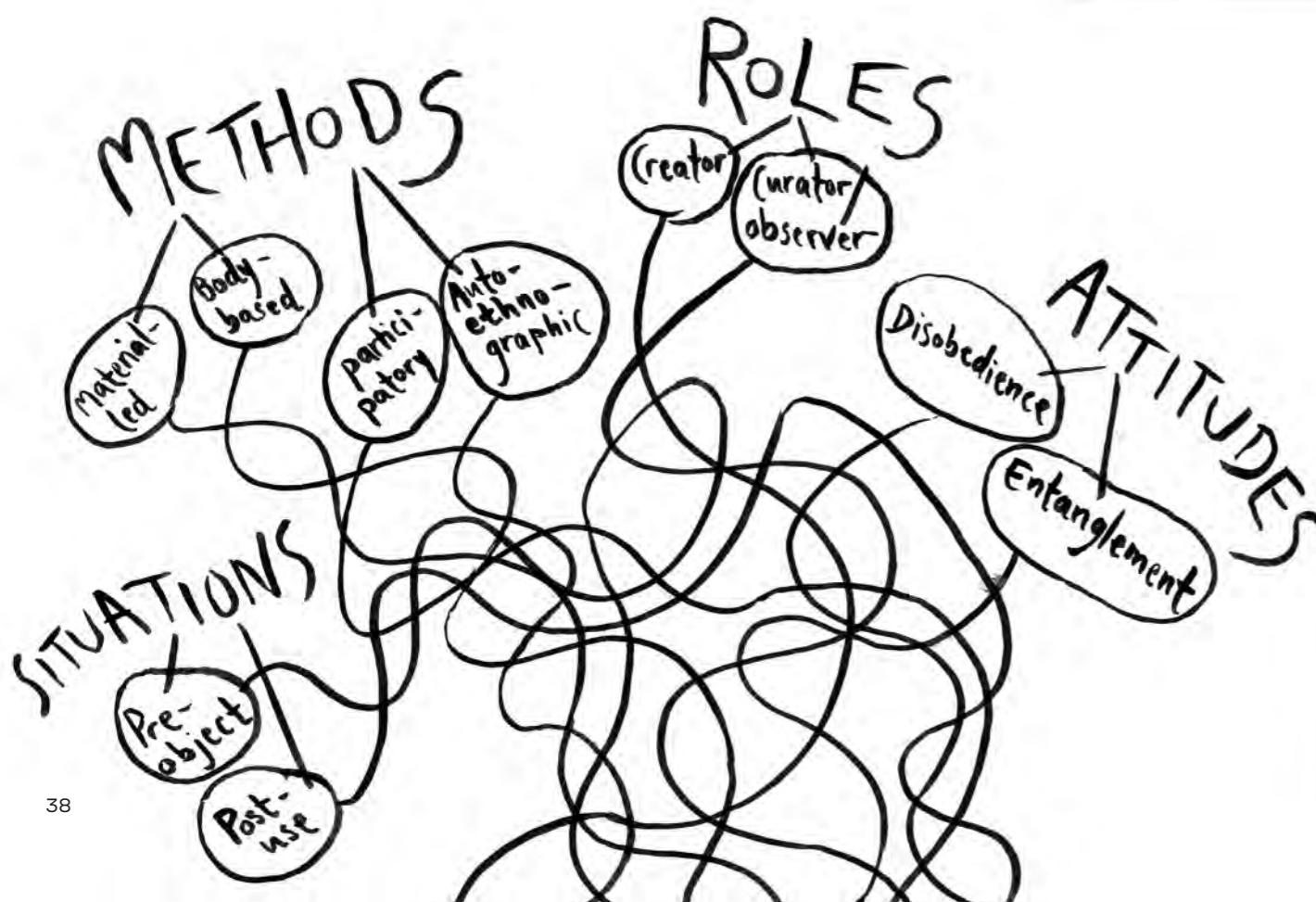
CHAPTER 4

PRACTICE

In this chapter, I will describe my research process; however, first, I would like to provide an overview of how it evolved. The research process unfolds through a series of practice experiments where I deliberately move away from my previous 'designerly' approach and explore it in different contexts. It is about expanding on, breaking with, and reorienting. Sometimes, I stray far from design, adopting methods and theories from outside the field (as I discussed in the *Context* and *Methodology* chapters). However, design remains both the starting point and the conclusion of my explorations.

As discussed in *Chapter 2/3,* I focus on two main areas of critique: design's relationship to material uses and (over)consumption, as well as its role in taming nature and humans. These form two strands within the practice. The strands intertwine, much like the concepts of disobedience and entangle-ment, human and object, and the other dichotomies I discussed in chapter 3. However, the strands are introduced to help the reader navigate my practice. In both strands, I am particularly interested in the leftovers, hybrids, and the (unwanted) things that do not quite fit the mould. The practice experiments involving the hammer will be presented later, as they draw on insights from all the practice experiments, weaving the two strands together.

The *Multiplum! (M!)* collaboration with colleague Ingrid Rundberg is a key part of my research, acting as a satellite that moves between, through and beyond the two strands. I will discuss it after strand 1 and before strand 2.
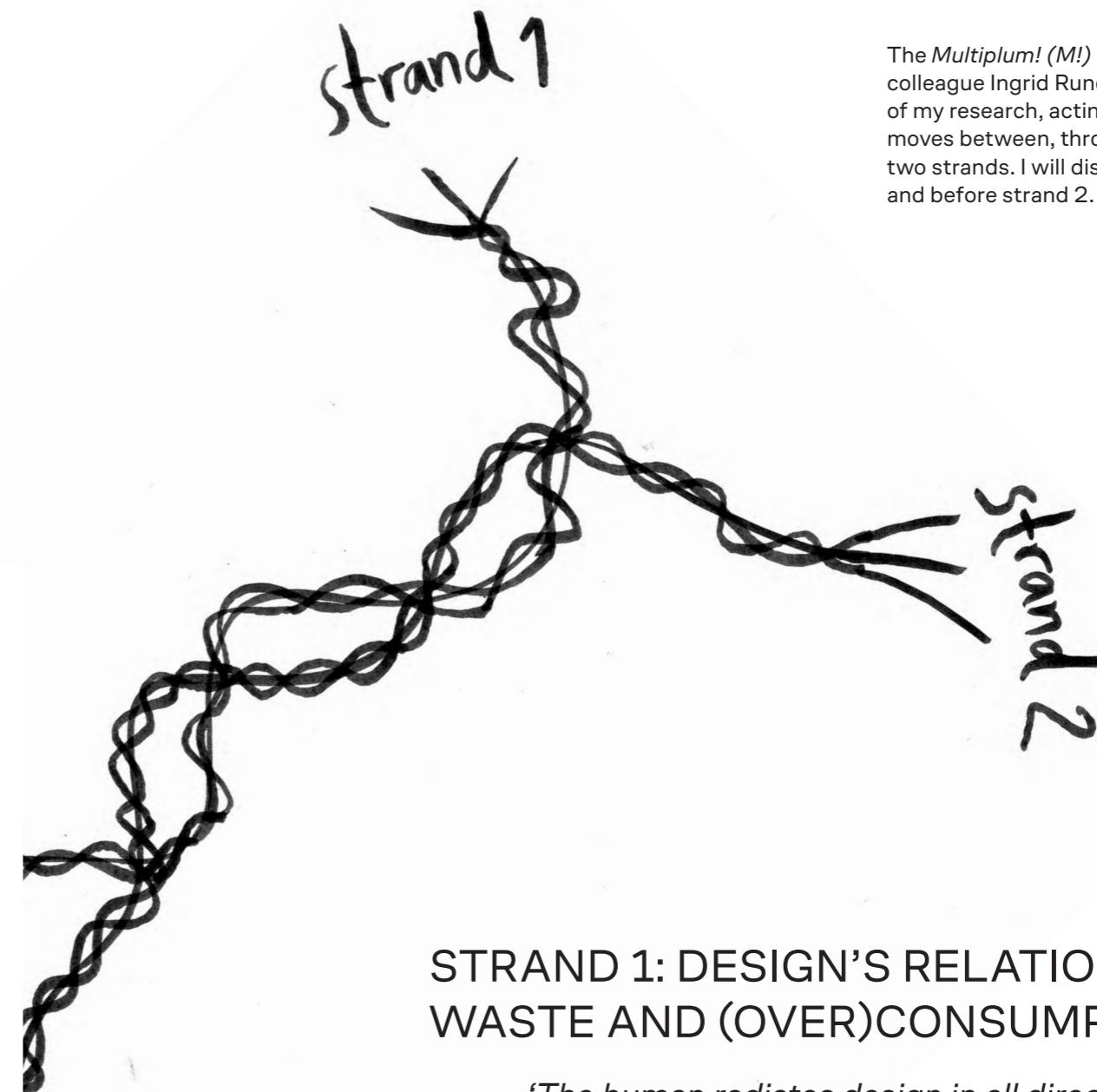
STRAND 1: DESIGN'S RELATIONSHIP TO WASTE AND (OVER)CONSUMPTION

'The human radiates design in all directions. The imprint of the human is in the land, the oceans, the atmosphere, the plants, animals, organisms of every kind, chemicals, genetic makeup, and all frequencies of the mainly invisible electromagnetic spectrum'

(Colomina and Wigley 2016, p. 12).

Wherever humans are present, traces of our existence and consumption are left behind. The word 'consumption' means the act of using up material and destruction by use (etymonline). I live in Norway, one of the world's wealthiest countries (WorldData. info) where it is often cheaper to buy new than to repair. Much of what is discarded could have been repurposed. As outlined in the Context chapter, design is deeply linked to waste and overconsumption. It's insufficient to only consider a design's materials and impacts during creation, production, and use; its 'afterlife' and 'before-life' are equally important. During my PhD, I have reflected on design through the lens of waste in various practice experiments that form Strand 1: *Alchemy, The Useless Machine,* and *Disobedient Prosthesis,* as well as the course *Metamorphosis.* I will now discuss them.

ALCHEMY: THE DESIGNER AS ALCHEMIST

Most of the furniture I have designed is made from wood. This is why, early in my PhD, I started observing wood in various stages around me—from living trees in their natural environments to timber used in designed products, as well as wood waste. Initially, I observed and reflected by taking photographs. Eventually, I started to scavenge wood, mainly from the waste bins at my faculty's workshop, and bring it back to my studio. There, I contemplated its value by arranging and rearranging the pieces. The artistic outcomes of this process are a series of installations and sculptures.

None of the material is altered from its original state when found, and I avoid using fancy, high-tech tools. Some sculptures resemble mosaics and typography, made of wood pieces laid flat on the ground, while others have the pieces assembled with string, tape, or rubber bands and raised above ground. This makes me ponder: Is my engagement and interaction with the material transforming it from waste into something with intrinsic value? Could the designer be an alchemist?

An 'alchemist' attempts to transform ordinary metals into gold (Cambridge Dictionary). 'Solve et coagula' is central to alchemy and means that a substance must be broken down before it can be transformed into something new (Congrains 2021). Although I am not trying to transform waste into gold, I seek value in what has been deemed worthless. My interest in how value of materials and objects shift depending on the context is similar to Mary Douglas's statement that 'dirt is matter out of place' (Douglas 1966). I focus on matter that falls out of place, material that has lost its purpose. Waste has already been 'dissolved' and released from its previous context, labelled as valueless, and is therefore free to be reapplied. This is why waste is attractive in my artistic practice, and why I argue that giving material that has lost its place value again is a form of disobedient alchemy. In contrast to a real alchemist, I am not dissolving the parts to build something new. I want each piece of material that forms part of the whole to be visible.
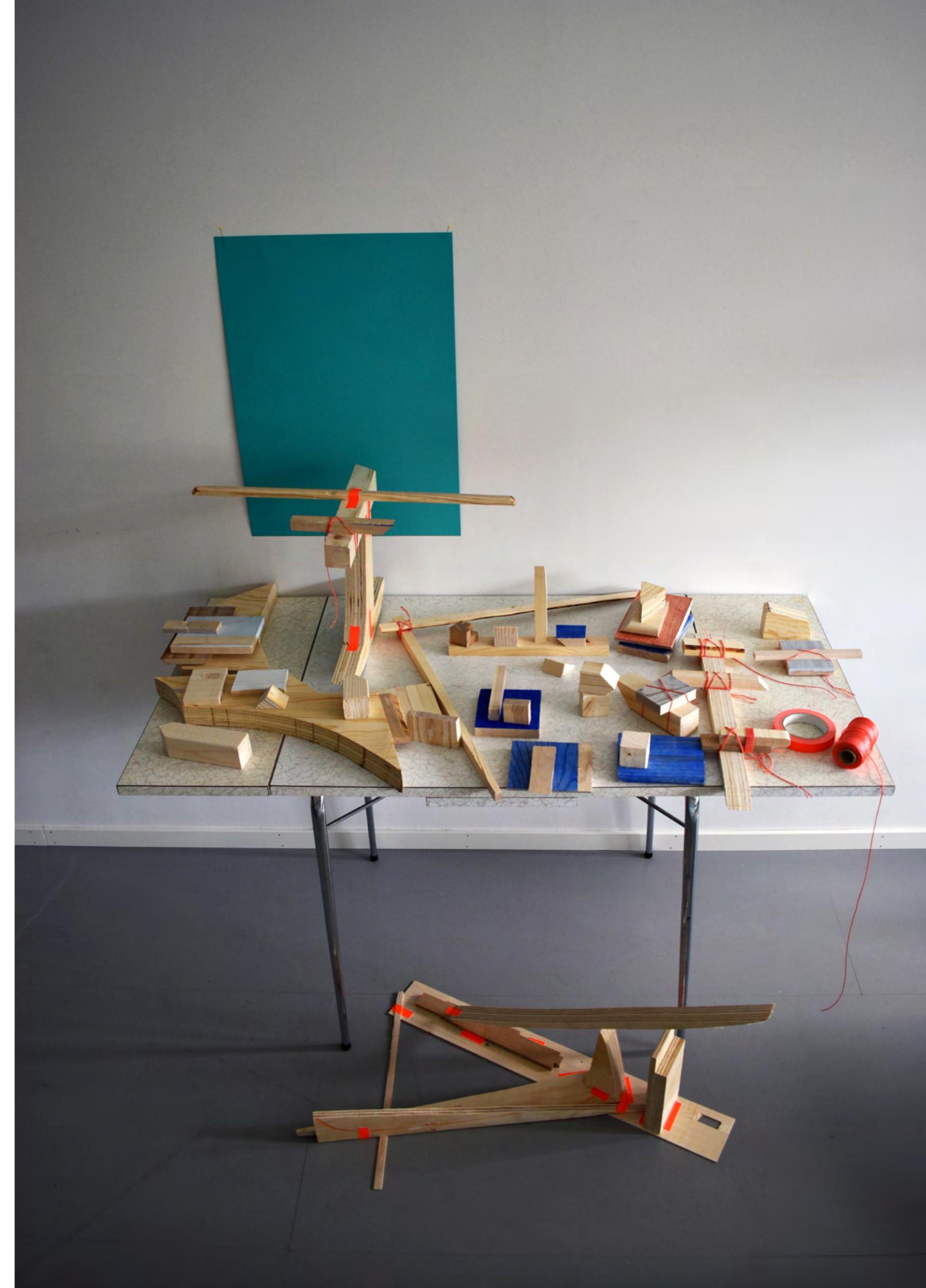
As I began this alchemical process, I did not have a specific goal in mind. In fact, I set a rule for myself to avoid creating anything with a particular function, steering clear of the commercial value typically associated with design. I needed to start from scratch, from the end, based on one of the main frustrations I felt as a furniture designer. My focus was not on upcycling, redesign, or mending, although these are valid approaches I could take. Piet Hein Eek (Fraser 2011) and Paulo Goldstein (Goldstein 2012) are two design-

ers who demonstrate that beautiful things can emerge from fixing broken furniture or creating new pieces from waste, producing both aesthetically pleasing and practical objects from discarded materials. My process involved exploring available waste material without expecting it to become furniture.
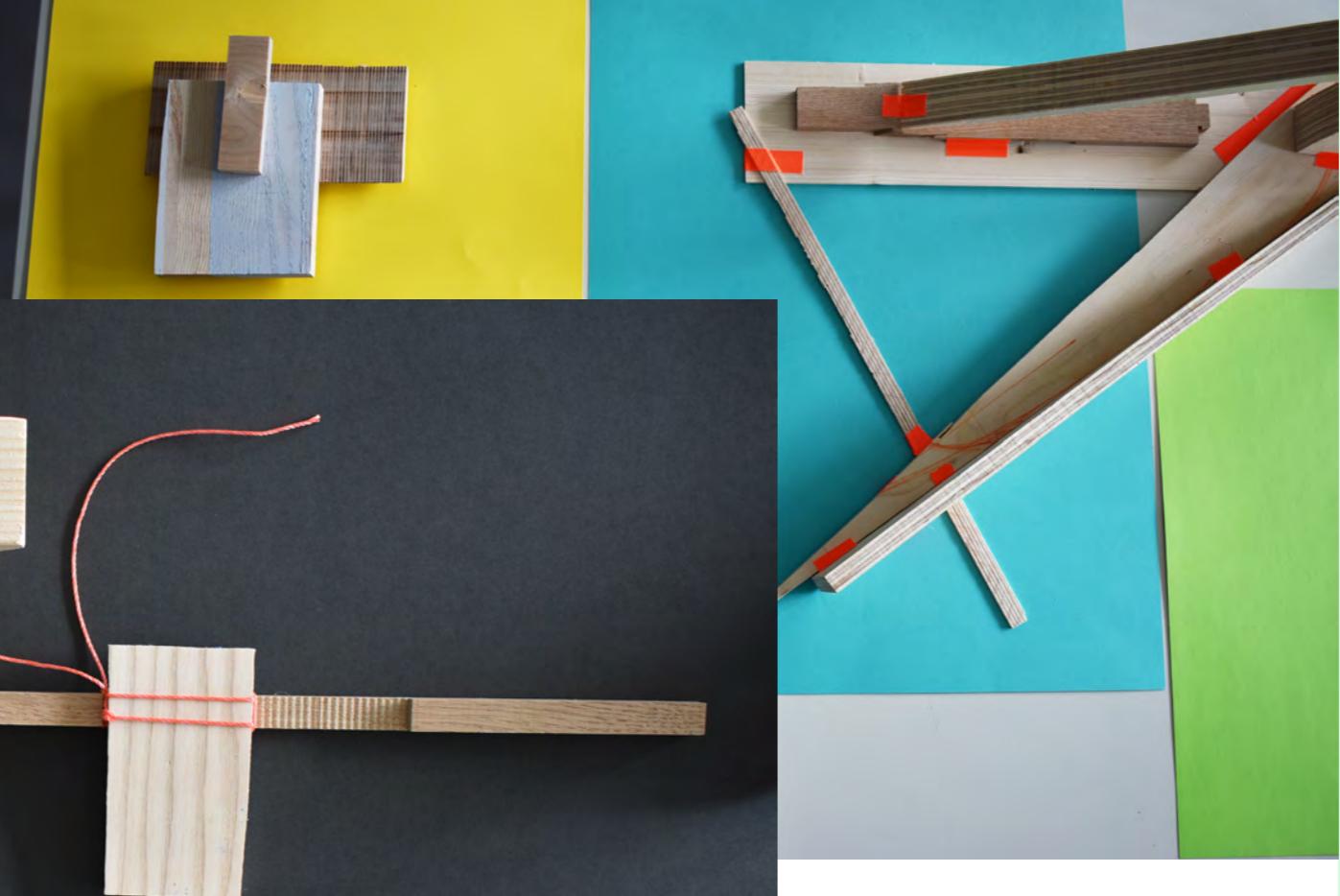
Through *Alchemy,* I established new connections to my background: I became a disobedient designer who does not create functional products from virgin materials – thus breaking with two aspects I felt constrained by in my practice as a furniture designer before the PhD. I realise that as a designer, I must first observe what is present in the situation before engaging with it. It is an act of tuning in. Through *Alchemy,* reflecting on and interacting with waste becomes central to my practice and attitude as a designer and essential to my teaching. This is evident in the course *Metamorphosis – a temporary design lab* I will discuss next.

METAMORPHOSIS

With Siren Elise Wilhelmsen, a former colleague and PhD candidate in Artistic Research, I developed and led an 11-week course for second-year BA students at KMD's Department of Design in autumn 2019. The course focused on exploring possibilities within discarded materials and objects. We established a temporary design laboratory at the Faculty of Fine Art, Music, and Design, providing students with basic tools. BIR (Bergen Interkommunale Renovasjonsselskap), the leading waste management company in Bergen, Norway, supplied the materials. The course culminated in an exhibition at the faculty, showing a wide range of objects, installations, and material explorations.

The course was infused with Siren's and my approach of emphasising the process and learning of a design process rather than the outcome. We reversed the usual order of a design process and started at the junkyard, which could also be called a cemetery of designed things. The students 'un-designed' by dissecting the junk into its various components, discovering the multitude of materials and parts lurking beneath the skin of a designed product, a process similar to that of Thomas Thwaites' *Toaster project* (Thwaites 2011). Unlike Thwaites, who proceeded with his research process to make his own toaster from scratch, the students in the *Metamorphosis* course allowed new ideas to grow from the ruins.

↓ →
The students disassembling
the objects from BIR.
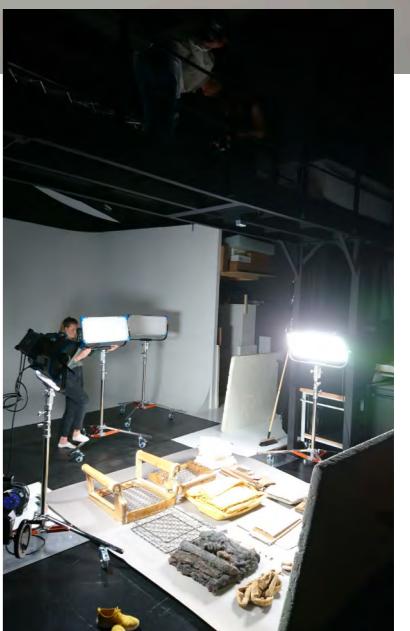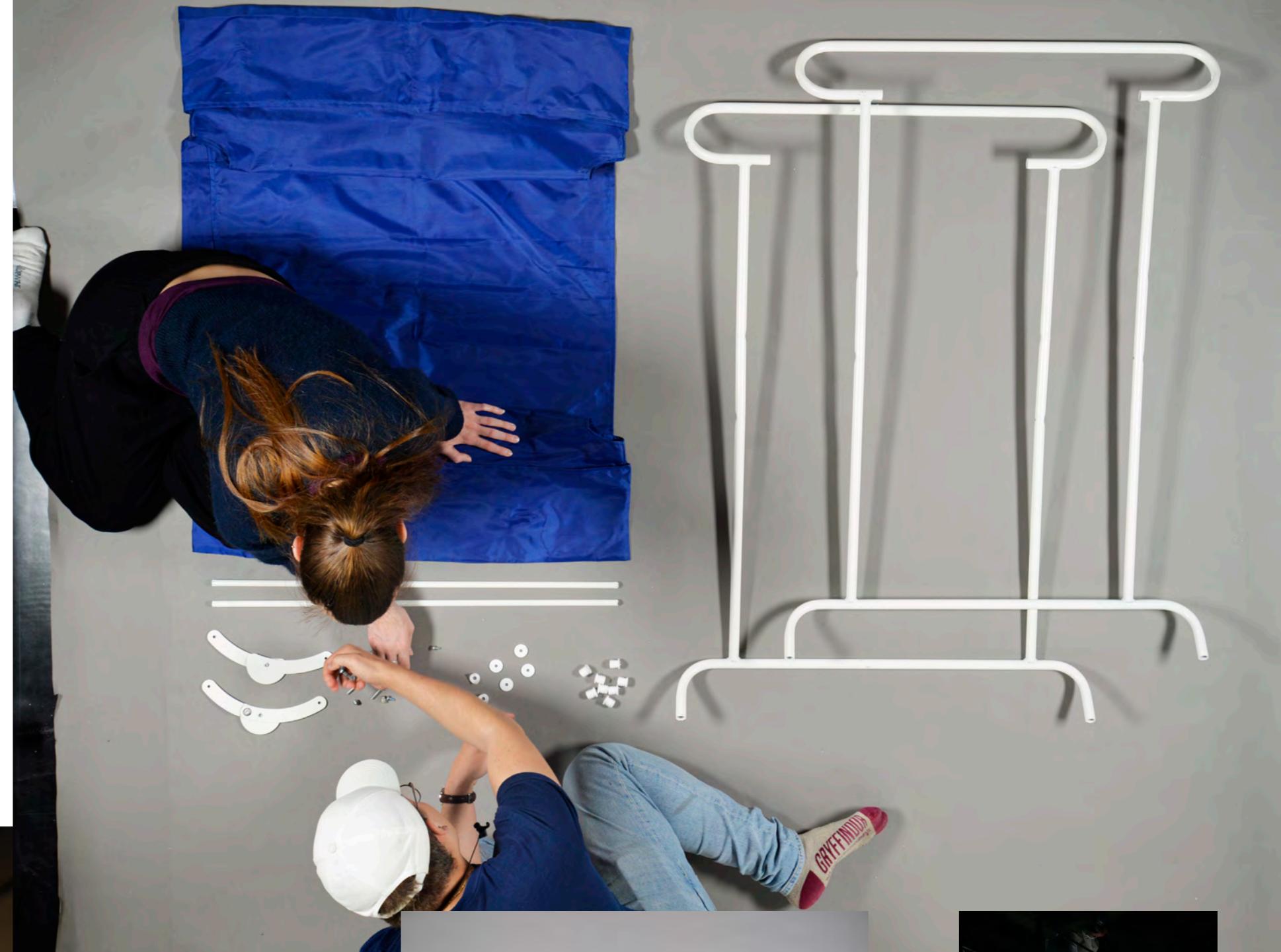
It was fascinating to observe how the
'alchemical' process unfolded when I was
not the one undertaking it. Although
Siren and I tried to inspire the students
not to focus on making finished objects,
they were surprisingly product-oriented.
Some students showcased material
experiments and more open-ended works,
but for the most part, the final exhibition
displayed either finished products
or close to them. This offers valuable
insights into how a course is designed
and taught. It also suggests that a course
within the framework of design education
carries certain expectations. Perhaps our
aim to communicate the impact design-
ers have when engaging with societal
challenges such as (over)consumption,
waste management, and resource usage
was presented in a context too abstract
for the students. Maybe we imposed too
few constraints, making it uncomfortable
for them to operate outside a more
traditional design context.

← ↖ ↑ ↗ →
From the final exhibition.

All photos on this spread
by Jane Sverdrupsen

VERSCHLIMMBESSERN

Through *Alchemy,* I moved away from furniture design and questioned the need to create purely functional objects. This inspired my subsequent practice experiment, which, like *Alchemy,* took place early in my PhD process. This time, I wanted to challenge the idea that any problem can be solved with a designed product, so I built a machine that complicates the act of moving a suitcase with an apple inside. The German term for when you try to fix something but end up making it worse is 'verschlimmbessern' (GermanyinUSA). This perfectly describes my engagement with this machine, where I am closer to Flusser's definition of the designer as 'someone who is artful or wily, a plotter setting traps' (Flusser and Cullars 1995, p. 50).

When creating *The Useless Machine,* I follow the same approach as in *Alchemy:* I use simple tools and avoid cutting, painting, polishing, or other modifications, allowing the material to express itself freely. Making becomes a negotiation with the materials, which seem to have voices needing to be heard, and we do not always agree. This disagreement creates friction that impacts the outcome. Unlike *Alchemy,* where I avoided creating functional objects, I now create something that is deliberately dysfunctional and impractical.

I disobediently borrowed the name 'Useless Machine' from Bruno Munari's wonderful 1930s installations, which, like mine, had no clear utilitarian purpose (OEN Design , Munari 2008 (1966)). I was inspired by Ilmar Hurkxkens and Fabian Bircher's *Der UngenauBot* (Hurkxkens) ('Ungenau' means inaccurate in German), and Simone Giertz's *Lipstick Robot* (Giertz 2016), which, disappointingly, performs banal activities and demonstrates the limits of technology. Although my machine is analogue, it questions functionality and human-object interactions. A device that complicates obtaining an apple is not very useful, nor is a robot that is supposed to feed the cat but misses its target, or a machine that smears lipstick all over your face. It is precisely this flawed functionality that is their function, as they raise an important question: *Could it be that we, in our quest to make life easier and more comfortable, create devices that complicate acts that are, in reality, quite simple?* The way the machine fails to perform its banal function raises another question: Am I in control of the machine, or is the machine in control of me?

← ↖ ↑
The Useless Machine

The Useless Machine is my first installation and video performance, expanding my scope as a designer. I express disobedience towards my furniture design background while reaffirming my desire to remain a designer. With the *Disobedient Prostheses,* I continue to be a disobedient designer, creating disobedient objects; yet I become more physically entangled. Although it seemed as though I was working in the same spontaneous and intuitive manner when creating the *Useless Machine* and *Disobedient Prostheses* as I had during the *Alchemy* practices, I realise something in hindsight: *The Useless Machine* and *Disobedient Prostheses* reflect my critique of conformity, pointless activities, and the culture of busyness. In both cases, I intentionally worsen the situation through design instead of solving problems and making the situation more comfortable.

Three years later, I revisited the questions that *The Useless Machine* had raised and once again started a practice experiment with leftover materials. This time, I attached the materials to my body with tape and ropes. This was during a tough time in my life when I experienced health issues, which explains why I ended up creating prostheses. Insights from Alchemy (the utilisation of waste materials) and The Useless Machine (the creation of useless devices) merged with the idea that designed objects are extensions of the body in this experiment. The Disobedient Prostheses were born. Unlike traditional 'prostheses' that help, these only make things worse. (Oxford Reference).

Reflecting on my practice in *Strand 1,* I realise that without a preset context or function, I have more freedom to explore my relationship with the situation and materials. I begin all the practice experiments in this strand with a specific situation, materials, and simple tools, remaining open to what unfolds during the creative process as I engage physically. The friction between my intentions and the desires of the material or object is something I continue to examine in subsequent practice experiments, especially with the introduction of the hammer. Before I delve into that, I will discuss *Strand 2,* where my focus is on critiquing design being used as a taming tool. But first: *Multiplum!*

MULTIPLUM (M!)

These practices and events span the PhD project and are done in collaboration with Ingrid Rundberg. Rundberg started her PhD at the same time as I did, in October 2018, and our shared interest in knowing more about critical design practices evolved into a collaboration we called Multiplum! (M!). Note that the following text is co-written with Rundberg, and since she has completed her PhD, it has already been published as part of her Dissertation. M!'s activities spanned many activities and were a multifaceted experiment that we hope to continue in the future. For our PhDs we chose to write about the Design & Wine (D&W) events.

M! emerged out of sheer joy and curiosity, based on our view of design as a collective process of sharing, learning, and exploring. Based on the idea that design is a verb, we focused on activities and created playful and informal settings in which discussions around design practices and theory could unfold. While we came up with many different ideas, Design & Wine was our most important activity. In this chapter, we describe the Design & Wine activity and its background, and briefly outline how Multiplum! influenced our overall PhD projects work. We also mention our main takeaways: thoughts on design as play, power structures, and whether working anti-hierarchically in a design project like this is even possible. We collaborated closely, which is why we chose to write this text together. For more information about Multiplum! (Lier and Rundberg 2023), scan the QR code to see the project overview at Research Catalogue.

↑ Scan code to view the Multiplum! project at Research Catalogue.

The word 'multiplum' comes from the Norwegian expression 'minste felles multiplum', or 'lowest common denominator'. Multiplum is a brilliant word: in Norwegian, it has a lively and charming quality, with something rhythmic and elastic about it. The M! team didn't have any problems generating ideas and content. Over the years, we tested a lot of different concepts and mediums, such as podcasts, and public information videos. Our primary activity, however, was the concept D & W, a series of evenings during which we brought together design students and colleagues for informal conversations on design. We wanted to design a situation in which things could unfold dynamically, and that would facilitate conversation and mutual learning. According to Carl DiSalvo, "publics arise from, and in response to, issues that are qualified by the context in which they are experienced" (2009, 50). The context of D & W was design education, but several traditional elements of design education were subverted. D & W took place in the evening, and participants were offered crisps and wine (non-alcoholic alternatives were available). Participation was entirely voluntary, and the topics for the evenings tended to be loosely defined. All of this allowed for dynamic conversation and facilitated learning. The name 'Design & Wine' more or less to the letter describes what the activity was about: discussing design while drinking wine. We invited Bachelors, Masters, and PhD students as well as colleagues and other peers from our networks who might be interested in talking design while sipping wine. Three D & W evenings in total were held, each with a different topic and outcome. Here is a brief description of the three events:

DESIGN & WINE #1: CREATING A COMMUNITY BY SHARING

The first event had no set theme, but we asked people to bring a book that meant something to their design practice. When people had sat down with a glass of wine and some snacks, we asked everyone to discuss their book and the reason they had chosen it. The conversations unfolded spontaneously. Some talked about inspiration, others about philosophy, the fictional narrative, and criticism. Even though almost 25 people were present, discussions were still intimate and personal. We are convinced this evening was the bravest of the three, because the form was free and no one was an expert. As the evening drew to a close at midnight, most participants practically had to be chased out of the venue, as an alarm would otherwise have gone off! A successful event, in other words.

DESIGN & WINE #2: INVITING THE FAMOUS

For our second D & W evening, we invited Thomas Thwaites to talk about his practice. Thwaites is known for his playful, curious, and intelligent approach to design and speculation. Both of us consider him a bit of a rock star, known for works like *The Toaster Project* (2011) and *The Goat Man* (2016). Both of us were rather starstruck when he agreed to participate. Thwaites presented his practice via Zoom. The fact that he wasn't physically present affected the dynamic, as it was harder for participants to actively interact with Thwaites. Some did ask questions, but this evening was more traditionally hierarchical than the first one, in the sense that an expert addressed an audience that just sat and listened. This was our most traditional and formal D & W event.

DESIGN & WINE #3: A Q&A WITH DESIGN THEORISTS AND PRACTITIONERS
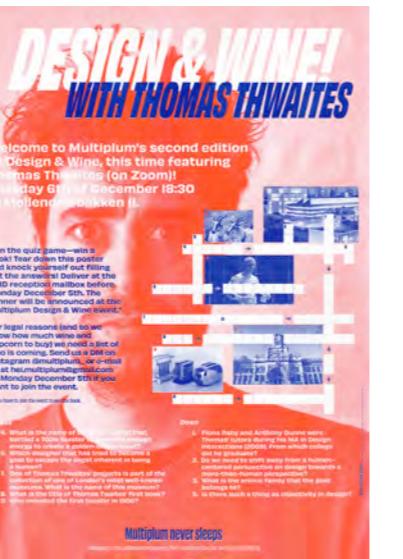
For the third edition of D & W, we invited Stephanie and Bruce Tharp, authors of the book Discursive Design: Critical, Speculative, and Alternative Things (2018). There was also a third, secret guest: Julia Lohmann, the founder of and designer behind the Department of Seaweed (Lohmann 2017). To strike a balance between keeping the audience engaged without pressuring anyone, we designed a handheld question basket. Members of the audience could put questions in the basket to submit them to Lohmann and the Tharps. The evening was presented as a Q&A, not just for the audience but also for the Tharps, who could ask audience members questions in turn. The rather informal event touched upon everything from complicated theoretical matters to more direct questions like why designers always wear black.

As we organised this third and final evening, we were assisted by a fourth person, Amy van den Hooven. Participation increased with every D & W event. The first evening was attended by 25 people; by the third evening, that figure had gone up to 40. Several of the same people attended all three events.

We primarily used posters and social media to invite people to D & W. Multiplum!'s communication style was welcoming and innocuous, disarming and upbeat. To directly communicate with participants, two out of three posters included a crossword puzzle. Those who had correctly filled in the puzzle could win a prize. The first poster referred to multiple design theoretical perspectives, but in a playful way. The same happened on the poster for the third evening, which portrayed the Tharps in the everyday act of taking out the bins. In general, Multiplum! (and the D & W events) had a maximalist attitude to visual language. We built a simple, zero-budget interior in the room in which the D & Ws took place. D & W had its own bar and branded beverage packaging. To break up the traditional hierarchy and setup of a lecture room, we opted for a small room. With two dozen participants sitting closely together, the room felt pleasantly crowded. The atmosphere was intimate, and people seemed truly present in the moment.

M! was a play: with words, concepts, hierarchy, objects, patterns, uniforms, identity, and communication. D & W turned into a kind of salon, where students, colleagues, and ¬ acquaintances could gather to discuss design in an informal, personal, and direct way. As organisers, we wanted all participants to feel welcome and to dare to comment and ask questions, regardless of their status (student or part of the faculty). Our goal was to encourage participatory and collective learning. As an investigative project, D & W led to new experiences and knowledge at the intersection of design, community-building, and design education. Anja Groten writes that while organising an event isn't a typical design practice, its importance lies in creating an understanding of the inter-social dimensions of a design practice (Groten 2020). This is reflected in the way Multiplum! operated and the ways we organised and hosted the D & W evenings. M! was consistently anti-hierarchical, an approach we implemented at all three D & W evenings. Our practice showed us how traditional ways of teaching (with students listening to an expert lecturer) can be dissolved. At the same time, we also learnt how easy it is to slip back into this traditional lecture form. This became evident at the D & W with Thomas Thwaites, during which participants clearly grouped themselves in a conventional way. Another question we take with us to our overarching PhD projects is whether D & W was as harmless and inviting as we want to believe it was. Perhaps a disarming and inviting approach is intimidating for some? Both of us are interested in design theory and reading; perhaps that interest radiates power?

STRAND 2: DESIGN SERVING AS A TOOL TO TAME NATURE AND HUMANS

Throughout my PhD, I used my phone to record observations of objects, nature, and myself. This practice has deepened my sensitivity to my environment and self, and the artistic outcomes are three photo collections or visual timelines. All focus on things that don't quite fit or challenge obedience, adhering to my self-imposed rule of not modifying images for spectacle. This approach is outlined in the Methodologies and Methods chapter and permeates most practice experiments in the Human Object research project. Strand 2 comprises three collections that explore disobedience from the perspectives of nature, objects, and humans.

→ There used to be a wave power station at Turøy on the West Coast of Norway. It was crushed by the waves.

DISOBEDIENT OBJECT

It was a beautiful summer day in Helsinki, and I was taking part in an Artistic Research workshop. My supervisor, Julia, suddenly found herself unable to get up from her chair because her dress was completely caught. The rest of us tried to help her free herself from the chair's tight grip, but it was impossible, and in the end, she had to crawl out of the dress to escape from the chair. The incident was absurd and funny, and it made me ponder: Is it possible that the chair was tired of being sat on?

The incident in Helsinki stayed with me. Whenever I see objects that are broken, out of place, dysfunctional, uncomfortable, or otherwise failing to serve their intended purpose, I consider them disobedient. I see them as living their own lives, free from serving human needs, and I photograph them. This is a way of observing how discarded or un-tamed objects find their place in the world after the designer has done her part. It shows how the decentering of the human (outlined in the *Context* chapter) appears in my practice. It is also linked to my critique of how design is closely connected to capitalist consumer society and the negative effects of product design, as I discussed in *Strand 1.* In *Strand 1,* I played a more active role in discovering potential in discard-ed materials and creating installations. Whereas In *Strand 2* I mainly observed and photographed them. My role was now is to decide what to include and what to exclude from the picture frame.

Many objects in the collection would typically have been considered waste left behind, similar to the alchemical process I described in *Strand 1.* In *Alchemy,* it was about matter out of place, while in *Disobedient Objects,* it is about objects out of context. By imagining objects as having had free will, they became alive, and humans were de-centred.

In *Strand 1,* I reflected on how my need to rebel against the world of furniture design industry led me to become a disobedient designer who did not create functional objects from virgin materials. Perhaps I was now projecting this same disobedient attitude onto the objects I observed? *The Disobedient Objects* had transformed my view of my surroundings, and I will probably always see an object like a shoe or a mattress in the street not as some-thing misplaced but as an object that has escaped its owners to live an independent life. I could interpret them as things that are no longer cared for and try to care for them by repairing them. Instead, I choose to leave them alone and photograph them, possibly encouraging a change in how we see our possessions.

← ↖ ↑ ↘ Four disobedient objects. More can be found in the publication *Na(cul)ture.*

DISOBEDIENT NATURE

While collecting observations of wood in my surroundings, as described in *Alchemy* in *Strand 1,* and considering the *Disobedient Objects,* I realised I was increasingly drawn to what did not fit into either of those collections. There is an in-between space that arises as nature and culture intertwine, which is difficult to label as purely natural or entirely human-made. I observed how materials change through natural processes, such as the rusty iron plate that looks like an iPhone (bilde), or the bottle I pulled up from the sea while snorkelling (bilde). The iron rods that break free from within the concrete structure and go from being functional, integrated, and hidden parts of a larger structure into liberated entities that 'grow' freely, similar to the roots and branches of a tree or plant (bilde). The pictures illustrate what I see as a human pursuit of engaging in conversations and reciprocal interaction with nature, a form of resonance, such as the chair made from a tree in the woods near Mount Fløyen. Conversely, there are also observations of human interaction failing to engage harmoniously with nature, a form of dissonance.
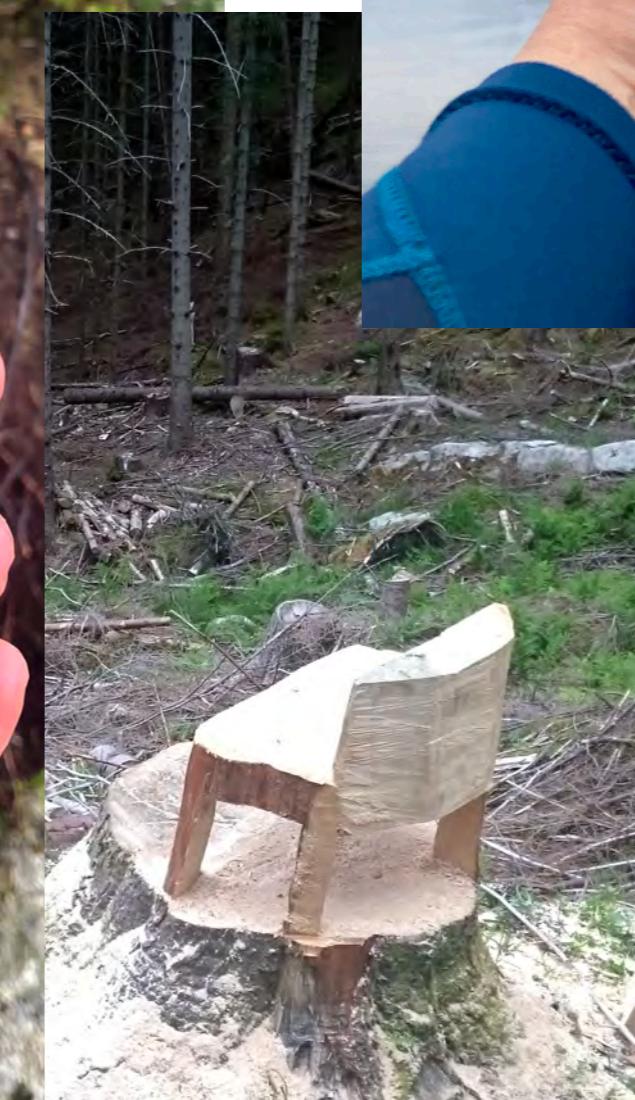
← Examples of disobedient nature. More can be found in the publication *Na(cul)ture.*

Observing over time has deepened my understanding of how culture influences nature and vice versa. The two photo collections mentioned above together illustrate the afterlife of design. They demonstrate that the designer's responsibility and the life of a designed object do not end once it has been produced or consumed. It continues to exist and has a lasting influence on humans and the environment. Together with my friend and colleague Amy van den Hooven, I juxtapose images from the two collections, discovering new layers and alternative meanings. We discover connections in terms of shapes, materials, and expression between nature and culture. The book *Na(cul)ture* presents the outcome of this process and is one of the artistic outcomes of my PhD. It is a visual pondering and co-pondering on where nature ends, and culture begins.

DISOBEDIENT HUMAN

On 1 June 2022, I took a selfie during a hike. The next day, I took another one, this time at home. This marked the start of *The Selfie Project.* Initially, it was a personal endeavour, not connected to my PhD, but over time, that changed.

People usually want to look their best in selfies to get likes and comments. The selfies in this collection are different: I don't fix my hair, face, makeup (if I'm even wearing any), clothes, or anything else. I simply take a photo of myself in whatever situation I find myself, prompted by a reminder that appears on my phone at 2 PM each day. It took me some time to understand the point of having my phone filled with pictures of my own face. Despite my doubts and embarrassment (I find it quite awkward to take selfies in public), I persisted, my gut feeling telling me that something interesting would eventually emerge. In February 2023, I printed the 246 selfies I had collected on 5 x 7 cm paper and arranged them on the wall, side by side, covering nearly the entire circumference of the room. Standing in the centre, surrounded by all the selfies, I observed a vulnerable and honest timeline of myself unfold. The images show me in various contexts, both indoors and outdoors: at home, in parks, at work, or by the sea, as well as in uneventful settings such as elevators, waiting rooms, and bathrooms. Sometimes the selfie captures me just after a shower, with a towel still wrapped around my wet hair, or as I'm on my way to buy groceries. Other times, I am travelling, working, reading, hiking, doing crossword puzzles, or visiting family and friends. Most pictures show me looking serious, as I tend to be alone in those moments, and it doesn't seem appropriate to smile at my phone. There are some exceptions where someone was with me when I took the selfie, which made me a bit self-conscious, hence the silly smiles :-).

As I study the printed selfies in the room, I see myself from the outside and simultaneously recall a surprising amount of how I felt in the moment they were taken. Despite the generally neutral facial expression in most of them, I still notice happiness, fatigue, anxiety, warmth, anguish, and delight shining through. A conversation with a friend made me realise that *The Selfie Project* is, in fact, very much related to my research. The title of my PhD is Human Object, and I have been particularly focused on objects. I have collected, created, and distorted objects. I have been close and even physically entangled with them. I have tried to find out what the objects themselves want when they do not have to serve a human purpose. Through the selfies, I am shifting the focus from object to human. The narrative of a human (me) entangled with objects and environments unfolds, much like it does to any other object that forms part of my research. The difference is that I am both the subject and the object; both the researcher and the thing being researched.

I wrapped up the collection on 30 May 2025. Over three years, I have gathered 1081 selfies, and they make me ponder: *Which one shows the true me? How many versions of me exist?*

→ Re-assembling

The Selfie Project is literally a *'self-study'* (Bullough and Pinnegar, 2011), which feels extremely private to share. Yet I chose to do it because it shows a human behind the façade. Although not as extreme as Tracey Emin's selfie project (Barber 2024), it shows that life is imperfect and that humans are complex. With *Na(cul)ture,* the line between nature and culture blurred and became untameable, now the same happens with me. With the *Disobedient Objects,* I observed untamed objects, and now I observe the untamed me. As my friend so accurately said: 'In a way, you are a disobedient object.'

In all practice experiments within Strand 2, I have collected observations over time by taking snapshots. This has heightened my sensitivity and prompted me to see these everyday moments as a loss of human agency and a de-centring of the human. I have observed objects that are detached from human life, experienced growth, decay, and fluctuations within their categories. I experienced resonance and dissonance, and through the frictions and entanglements, a space emerged in between. Reflecting on these collections makes it difficult to separate human, object, and context, leading me to ponder:

Where does nature end and culture begin?

What is the difference between a human and an object?

Where do I end, and other(s) begin?

In the *Disentangling* chapter, I asked myself what would happen if I reoriented or broke away from (what I consider to be) the problematic aspects of design and expanded on (what I consider to be) the valuable skills and aspects of design. I also articulated two areas of focus, which became two strands: (1) *Design's relationship to waste and (over)consumption,* and (2) *Design serving as a tool to tame nature and humans.* Through my practice across those two strands, I have explored objects, nature, culture, and myself. I have expressed my critique of design's link to waste and over-consumption, and I have done the opposite of using design as a tool to tame nature and humans. Revisiting the diagram from the *Disentangling* chapter, I see that Strands 1 and 2, in different ways, address the aspects of design that I articulated as problematic. I have explored design as a practice that addresses societal issues. The process has helped me deepen my sensitivity towards the world and increase my awareness of myself, contexts, materials, and objects.

Additionally, I have sharpened my ability to discover unexpected connections. The future-oriented and social aspects of design, as well as the designer's ability to materialise what does not yet exist, are positive qualities I have not focused on so far. The practice that follows will emphasise the social and relational aspects of design and the designer's skill of materialising what does not yet exist. But I need a focus for the process, which is currently too broad. I welcome the hammer into the project.

↘ The problematic aspects I focus on in the two strands

○ Strand 1   ● Strand 2   ○ *Alchemy*   ○ *Verslimmbessern*
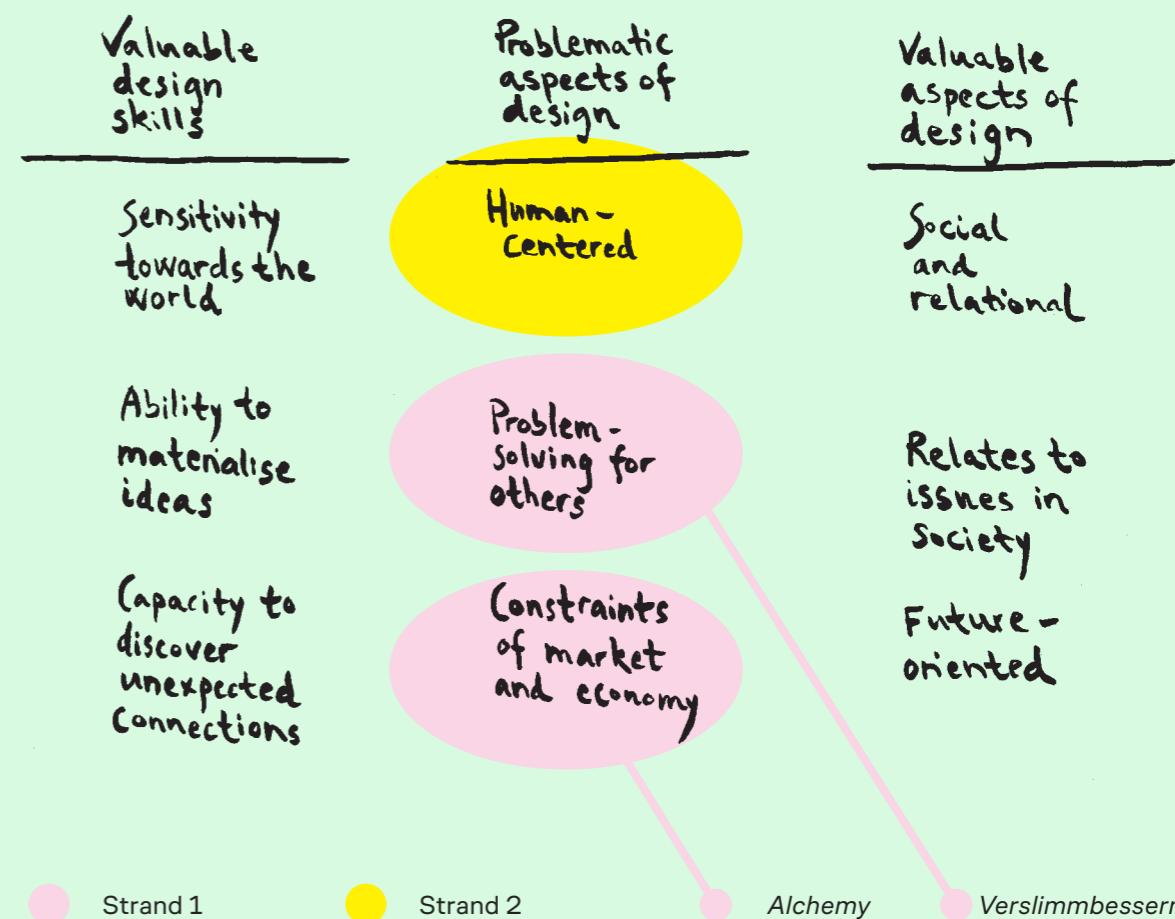
THE HAMMER

The 11th International Conference on Artistic Research in 2020 (Society for Artistic Research 2020) quoted Bertolt Brecht's in its call for contributions: 'Art is not a mirror held up to reality but a hammer with which to shape it'. This inspired me to use the hammer as a symbol for any designed object, and the act of using a hammer as a metaphor for the design process. My application was accepted, and I began preparing for my planned presentation, which I titled Divine hammer - reimagining the power of design (Lier 2020). The conference, scheduled to take place in Bergen in March 2020, was, of course, cancelled due to the COVID-19 pandemic. What an irony that the conference titled 'The Crisis Collective!'-which was about the connection between Artistic Research and current societal challenges —was cancelled due to a global pandemic. The year after during the SAR conference in Vienna, participants who were supposed to have presented in 2020 were invited to 'speculate on the past of a future that couldn't happen' (Society for Artistic Research 2020). I created a cartoon-style narrative of what I had planned to present the year before (Lier).
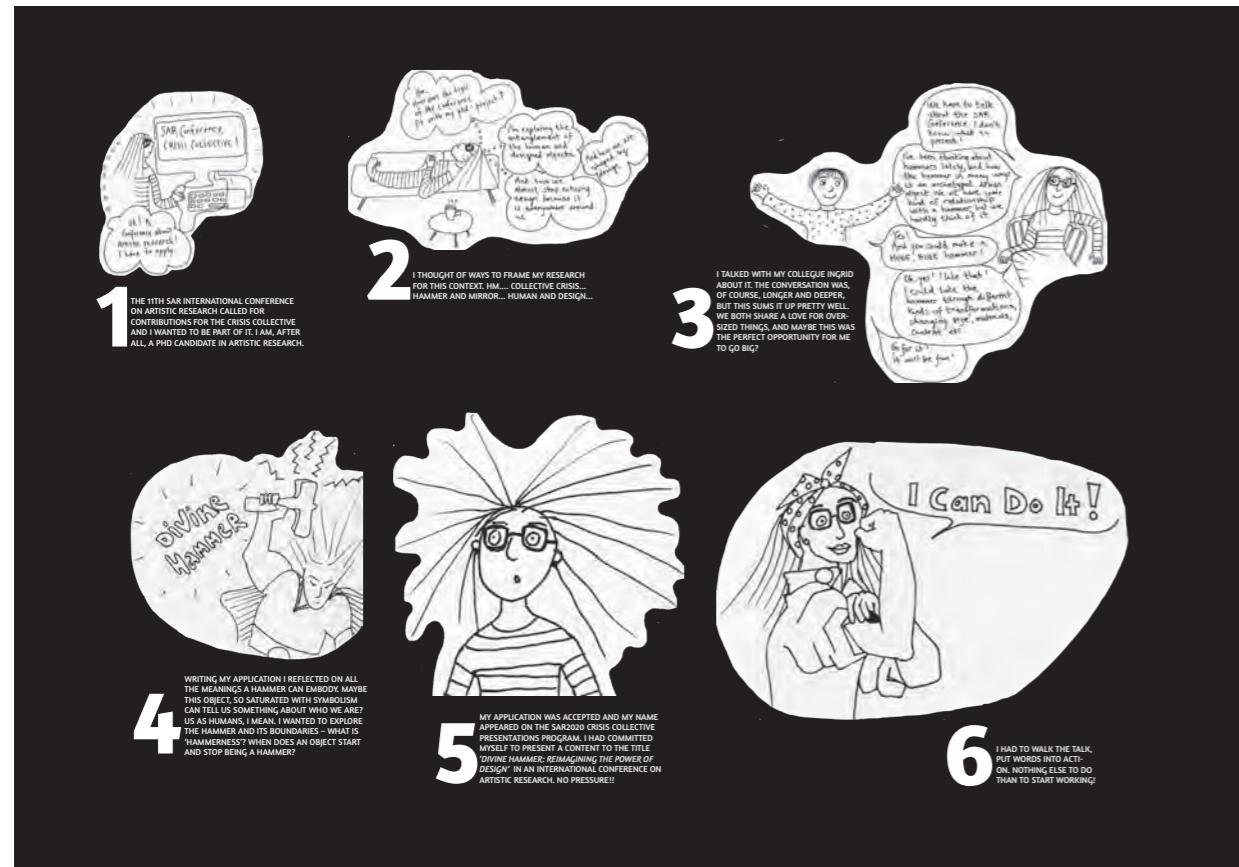
Although the conference in 2020 did not take place, working towards my planned presentation provided direction for my research and marked the beginning of a series of practice experiments, where the hammer was invited into my practice. I also held two exhibitions at the Faculty of Fine Art, Music and Design, where the hammer was the main character. In the following, I will discuss the hammer practices; however, first, I will explain why the hammer is a perfect object for my research.

↑ From the exhibition in 2020.
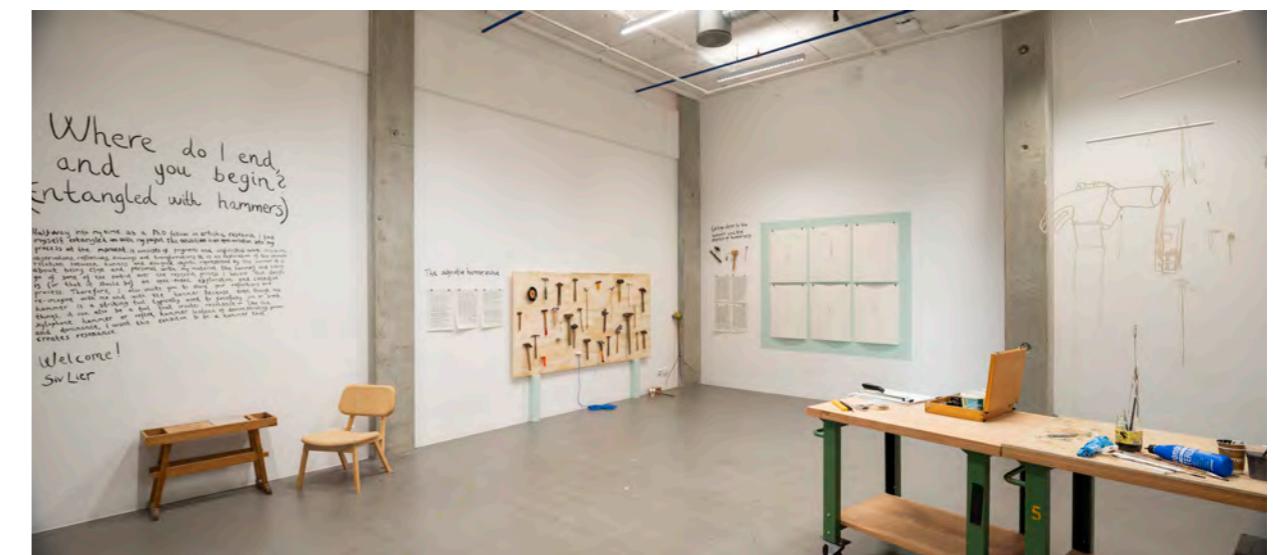
↑ From the exhibition in 2021.

INTRODUCTION TO THE HAMMER

A hammer is often seen as a tool to drive nails, acting as an extension of our arm that provides force. But what interests me is not just its function, but how its strike sends vibrations through our body, as a reminder of the cost involved in applying force to something. The hammer is an object that we use to shape the world around us, and in return, we are being shaped by it. Could the hammer be a suitable object to explore the human-object relationship?

In what follows, I will discuss why the hammer is a suitable lens for examining the feedback loop between humans and objects, and how this fosters my particular interest in hammers, where the vibration between human and object is intense. I will begin with a brief overview of the evolution of the hammer and present a selection of the many different types of hammers that exist today. Afterwards, I will discuss what I believe is missing from the discourse surrounding hammers (and design), and how I aim to discover and express what is lacking through my practice.

WHAT IS A HAMMER?

The earliest known use of the hammer dates back to approximately 3.3 million years ago, when our prehistoric ancestors used a hammer stone to break other stones into tools for cutting and killing (Harmand, Lewis et al. 2015). This suggests that the hammer may be the oldest human tool.

Around 30.000 BC, we placed a stick on the hammer stone to increase force and comfort. The hammer became stronger and more reliable as metal replaced stone, first with the introduction of soft metal bronze around 3000 BC, and later as iron replaced bronze as a tougher and more durable material around 1500 BC. The claw hammer also emerged during the Iron Age, making it easier to remove and reuse nails (Haus of Tools).

The specialisation of labour during the Industrial Revolution (1760-1830) led to the creation of hammers designed for specific tasks. The development of the hammer continued with technological, material, and design advancements throughout the 20th century, including the integration of synthetic materials to reduce vibrations and improve comfort and precision.

Today, we have a wide variety of specialised hammers used for different crafts and professions, including blacksmiths, masons, jewellers, geologists, archaeologists, and medical doctors. The butcher uses a hammer to tenderise meat, while the sledgehammer is used for demolishing concrete and drywall. There is the repoussé hammer, which shapes metals, and the shrinking hammer, which thickens them. A judge wields a hammer in court, and in music, we find the hammer dulcimer, marimba, xylophone, mallets, and the hammers inside a piano. Some hammers are designed to target specific groups, like toy hammers for children and the pink power hammer, which aims to appeal to women, in contrast to the masculine language used when promoting sledgehammers (Dahl 2018).

Compiling an exhaustive list of hammers is not my aim in this PhD, and the hammers mentioned are only a small selection of the many types that exist. This is even before considering hammers from the worlds of sport (the hammer throw), weaponry (hammer as a nickname for a pistol), pop culture (the superhero Captain Hammer and the musician MC Hammer), mythology (gods like Hercules, Sucello, and Thor who all use hammers), political ideologies (the hammer and sickle used by communism), and hammers from non-Western cultures.

WHY THE HAMMER?

The hammer is a familiar object found in many variations. Despite differences in shapes, sizes, materials, and uses, most hammers feature a head attached to a handle, similar to the hammers used more than 30.000 years ago, when humans placed a stick on a hammer-stone. The hammer is one of humanity's oldest and most vital tools, linking us to our history. Although a hammer is a physical tool, it also serves as a metaphor for 'a person or agency that smites, beats down, or crushes, as with blows of a hammer' (Oxford English Dictionary). The hammer is ambivalent, serving both practical and symbolic purposes, and is used to create and destroy. Unlike many objects crafted for specific uses—such as the chair that invites sitting—the hammer is versatile; it encourages us to shape, create, change, repair, or destroy. It is a designed object made for design itself. Furthermore, beyond its role as a tool for driving nails, the hammer is also part of us; we possess a bone in our inner ear called the malleus, also known as the hammer bone. The wide breadth of applications implies that the hammer provides an excellent lens through which to explore how humans shape the world through design and, at the same time, are shaped by it. In my research, I focus on handheld hammers because they connect the individual directly to the object, acting as an extension of the arm, more so than mechanical and large machine hammers. As my research context is Norway, I will concentrate on Western hammers.

RESEARCHING THE HAMMER – SEARCHING FOR 'HAMMERNESS'

'Fully forged, high-quality hammer that is gentle on the body. The well-balanced hammer produces maximum force in relation to weight and enables professional users to work in a relaxed posture thank to its patented, ergonomic and vibration-dampening rubber grip'

(Biltema).

'Achieve greater control when striking stone and less arm fatigue with our round Portuguese hammer. Our sculptors' mallets are very versatile. They will allow you to do everything from roughing to detailing. (...) Our hammer for stone will allow you to flow through your sculpture without resistance. (...) Work as long as you want without having to stop due to fatigue'

(Rock & Tools).

The descriptions above of the carpenter's hammer and the sculptor's mallet highlight how functionality, comfort, safety, and ergonomics are key considerations when designing hammers. The Biltema ad also state that the dead-blow hammer '...effectively dampens the recoil that wants to throw the hammer back after a hammer blow' thus emphasising user comfort (Biltema). However, the initial focus in the text on the person using the hammer shifts to also include the thing that is being hammered and describes the hammer as an ideal tool when 'you want control without double blows and where you do not want to damage the workpiece. E.g. when joining wooden structures, sheet metal direction or chiselling and carving.' This suggests that the hammer can be a caring, considerate, and friendly tool. It makes me ponder:

How can I explore 'hammerness' beyond a human perspective?

How can design, represented by the hammer, still serve human needs without damaging nature?

I need to ask the hammer for help to find out.

↑ Example of collected hammer from the publication «The Hammers».

EXPLORING THE HAMMER

To understand the essence of the hammer, I have explored it through various practice experiments. I have used a range of techniques and materials, including (experimental) drawing, laser-cutting, ceramic works, and bricolage, as well as opening my process for others to join via exhibitions, workshops, events, and collections. I have engaged in conversations with and about hammers. I have built hammers, tied or taped myself to them, danced around with them, and even shared a bed with one. Below, I will share what I did and what I discovered through various practice experiments, including collecting hammers, becoming friends with them, and imagining hammers that do not (yet) exist. In the book *The Hammers,* which is part of the artistic outcome of my PhD, all the practice experiments involving the hammer are presented.

COLLECTING HAMMERS

My research on hammers revealed (not surprisingly) that the category we call 'hammer' covers a wide range, with hammers being common and available in various types, each designed for a specific purpose. However, I wonder: Do we truly see the hammers for what they are, beyond their practical use and how they serve us? Just as I want to be recognised as the person I am, not merely a human being in general, what if we imagined the hammers want that too? Could this change in perspective help us appreciate the hammers more?

I began collecting hammers from Finn (FINN.no), flea markets, shops, at work, and from my parents' basement, among other places. I invited members of my community to share with me the hammers that matter in their lives, along with the stories of those particular hammers. The collection includes non-functional, sentimental, lost, homemade, and unconventional hammers. People share humorous, absurd, emotional, and frustrating experiences with hammers. All hammers and hammer stories are presented in the Subjective Hammers collection in the book The Hammers, with the pictures numbered 1 – 43.

The collection of Subjective Hammers provided a clear direction for my research: instead of studying hammers in general, I focused on the hammer as a unique individual. I also opened my solitary work and invited others to participate and contribute. I realised I was drawn to the fringes of the category, towards the less conventional hammers, those that challenge the definition, and particularly the disappointing (or disobedient) hammers and the vibrating hammers.

Martin Heidegger philosophized with a hammer and said that 'the more efficiently the tool performs its function, the more invisible it becomes' (Heidegger 1977). For Heidegger, an object becomes a thing when it can no longer serve its standard function. As Bill Brown writes in his essay *Thing Theory:* We begin to confront the thingness of objects when they stop working for us: when the drill breaks, when the car stalls, when the window gets filthy (Brown 2001).

↑ → Examples of collected hammers
from the publication «The Hammers».

BECOMING FRIENDS WITH THE HAMMER

Alongside the social practice of collecting hammers and hammer stories, I engaged in a personal practice of getting to know the hammers that people had shared with me. I did this through various drawing experiments, including left-handed drawing, drawing upside down, and drawing without looking at the paper. The act of drawing forced me to truly observe the hammer and notice its irregularities and peculiarities. The handmade meat hammer began to resemble a big-headed creature more than a tool. When I draw by hand, I can control the pressure of the pencil as I work, resulting in drawings that are imperfect and reveal the traces of my hand. What happens if I feed these drawings into a computer? Pictures 143–160 in the book *The Hammers* show examples from this process.
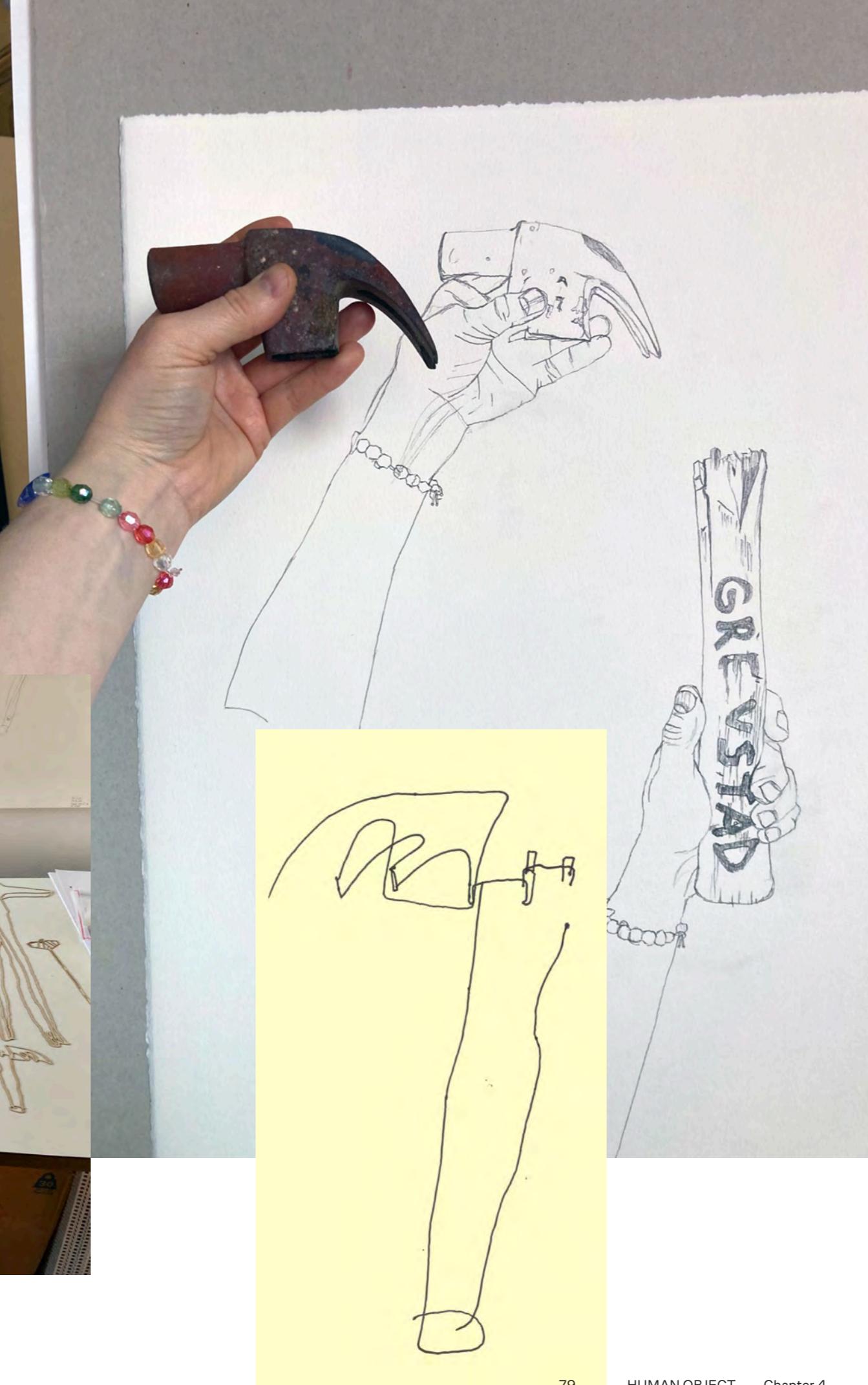
All these experiments involve less control than usual. They are similar to how Camilla Groth (Groth 2022) works blindfolded with clay. Drawing in ways that intentionally diminished my skills felt like handing some control over to the hammer I was using; it was as if we became equal partners or friends. I view the experimental drawing as a form of deep observation, inspired by 'Deep Observation' (Oliveros), as I fully immerse myself to discover the individual beyond the archetypal.

I have explored the individual hammers and my relationship with them, and I have invited other people to do the same. What if I stop focusing on the actual, existing hammers and instead imagine hammers that do not (yet) exist?

IMAGING HAMMERS

Most of the hammers I have explored so far are objects used for striking and are designed to fit the human hand in terms of size, shape, and weight. But what happens when the hammer is too large for the hand? Or when it is made from materials that are too soft to create any impact, or that break during the act of striking? I have created several dysfunctional hammers by modifying their usual size, material, colour, and context, using whatever materials I had at hand. They are disobedient bricolage hammers, based on insights and reflections from earlier practice experiments.

Through the practices in *Strand 1,* I realised that waste is disobedient and that objects can be disobedient, which is why I now use waste and leftover materials when crafting the hammers. In the book The Hammers, pictures 107-142, you can see some of them and the process of creating them. The fictional narrative I created with the *Disobedient Objects* inspired me to imagine hammers that go beyond what we think a hammer can be. I want to further explore a positive vision of what hammers could be. Building on the positive experience of having others contribute to the collection of Subjective Hammers, I again invited people to co-imagine hammers with me. As part of my 2021 exhibition *Where do I end, and you begin? (Entangled with hammers),* I organised a workshop where visitors could craft the hammers they wished existed in the world, providing them with (waste and leftover) materials and basic tools. The collection of hammers grew in real time at the exhibition, allowing new visitors to see the contributions from others. All hammers are presented in the collection of *Hammers that do not (yet) exist* in the book *The Hammers,* with the pictures numbered 44 - 106. Pictures 143–170 in the same book are from the 2021 exhibition.
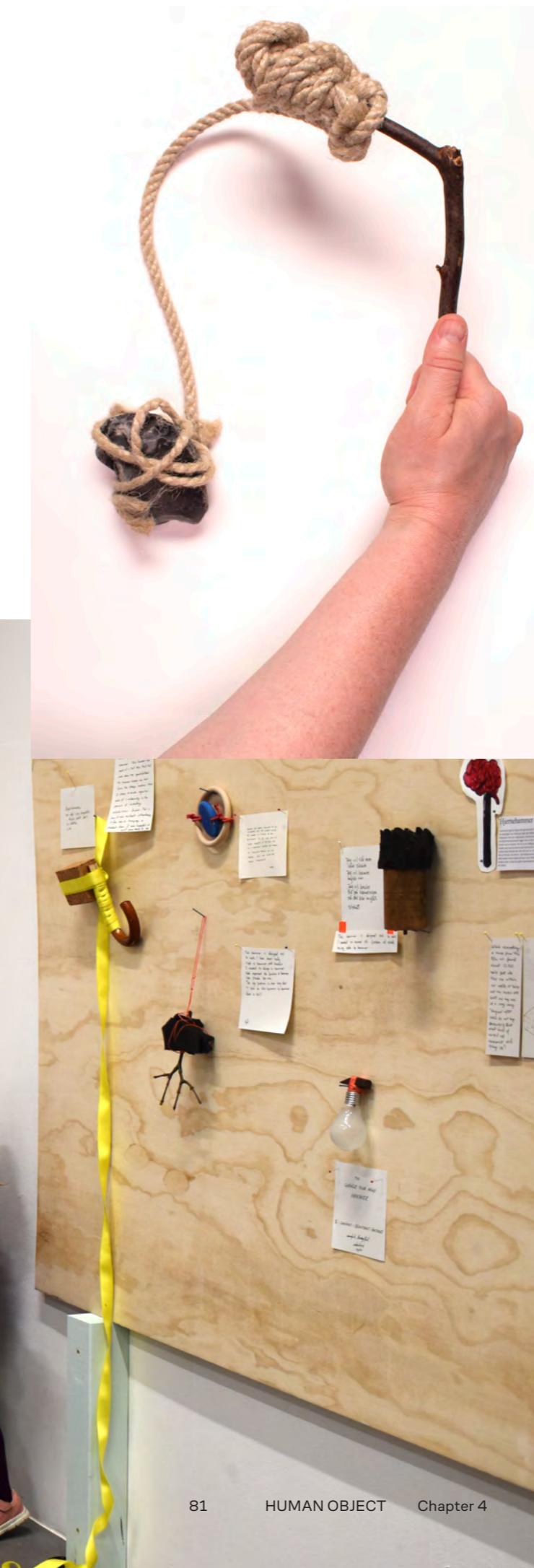
Inviting visitors to imagine and create hammers within the context of my exhibition had a significant impact on the ideas and outcomes. Poetic hammers with utopian functions, focusing on relations and dreams, came to life. The exhibition space became a place of co-imagining, with more engagement than my first exhibition, where I did not have a hammer-creation-station. This is where the discursivity of my practice research lies.

I began my research on hammers in a broad sense before narrowing my focus to Subjective Hammers. My interest gravitated towards the edges of the hammer category, specifically towards the more unusual types, and those that resonate, vibrate, and recoil. I intentionally de-skilled myself to encourage a change of perspective and avoid being the dominant force in the situation, which helped me remain attentive and tuned in with the hammers. I invited people to participate in my research, which reflects my perspective on design as a social activity with an emphasis on the process rather than the outcome. Essentially, I initiated a discursive process and conversation with and about hammers, resulting in the hammers transcending from being objects to becoming individuals.

Thus far in the research process, my focus had been on the hammer itself. Recognising how much the context and my presence influence the design of the hammers made me curious and eager to explore this further. I also wanted to investigate how the hammer impacts and influences the person using it. In the practice experiments that followed, the focus shifted from the hammer to the person using it. From the hammer to the hammerer. The entanglement between me and the research deepened.

ENTANGLED IN BOISBUCHET

The previous hammer experiments made me realise that I am interested in the vibrations that occur when using a hammer, and how much the context influences the outcome. I wanted to explore this further in a different setting and use the hammer as a prop to guide an exploratory process of seeking resonance with the environment. I wanted to explore how hammers can emerge from a specific context, and what happens when I use the same hammers in that same setting.

In autumn 2021, I participated in a residency in France at Domaine de Boisbuchet, a cultural centre and creative community for designers and architects (Boisbuchet). It offers workshops, exhibitions, an architectural park, and a library, all set within 150 hectares of lush countryside in South-West France. This provided a new context for my hammer explorations, and I will now discuss the practice experiments I did during the three weeks I was there (Lier 2021). However, I would like to start by sharing some helpful information with the reader.

Since working with waste and leftover materials had become second nature, I did not bring any materials or tools (apart from my sketchbook and a GoPro camera) to Boisbuchet, choosing to work solely with what I found on site. In the practice experiments that I will discuss, three actors are involved: me, the hammer, and the context. The practice takes place within the meshwork between us.

I employ both material-led and practice-based methods, with entanglement and disobedience serving as conceptual frameworks. These methods and frameworks intertwine, and new meshworks arise.
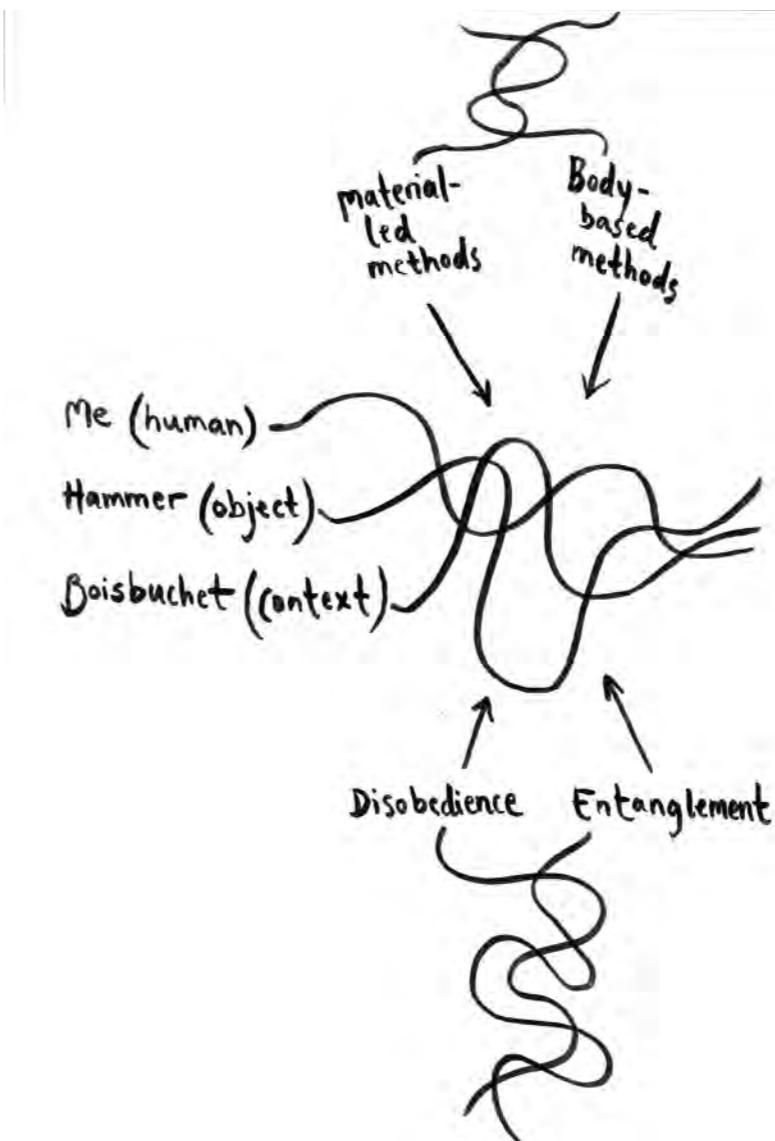
Although I respect the entangled nature of the practice, I have divided my time during the residency into three phases for clarity: Landing, Interacting, and Resonating.

LANDING

I spend my first few days in Boisbuchet settling in and connecting with the place and its people. I share meals and conversations with the other residents and immerse myself in what, to me, is a new environment. I observe spider webs trapping the morning mist and ivy clinging to trees and fences. I see a lizard trying to become invisible on the stone façade of the castle, and a tree that seems dead yet has a thriving branch—almost becoming a tree of its own. The workshop has an abundance of materials and leftovers, including bamboo, cork, plastic, rope, textile, metal, and leather. In my eyes, the entanglement of nature and culture is at the core of this place; sometimes nature takes over the show, other times culture dominates. I like these encounters of friction and harmony between the natural and artificial at Boisbuchet. I notice traces of previous artistic activities, including pavilions, materials, and installations. I visit the aged castle, which houses an impressive collection of Vitra furniture, and wander between the shelves filled with art, design, and architecture books in the library. I move around the property, sometimes on a rusty bike, other times running or wandering. I swim in the river and the lake, which I later learn is artificial. By taking my time, immersing myself in the environment, and being present, I feel a sense of belonging in Boisbuchet. I feel at home among the kind, curious people who are interested in creating and sharing in this beautiful yet strange place, filled with harmony and contradictions, dissonance and resonance. I am especially drawn to places where I sense a sense of friction and contrast between culture and nature: A pavilion made of bamboo called Le Manège (meaning 'merry-go-round' in French), a Japanese Guesthouse, the adjacent bamboo forest, and the surrounding wild woods.

After having landed in Boisbuchet, it is time to interact with it. I want to bring with me the attitude of being attentive to the situation and listening to what the place has to say into the next stage. Based on previous hammer practices, I will once again explore the context together with the hammer. But I do not want to start with existing hammers. I want the hammers to grow from the context; create hammers that communicate with specific locations, which is why, in the text phase, I will tune into each particular situation and space before I make the hammers from the leftover materials I find in the workshop or scattered around the property outdoors. And then, I will step by step and carefully test the hammers, and change them along the way if needed.

In the next phase, I will unfold the practice experiments and reflect on how both the hammer and I changed. The process is presented in the book The Hammers in the section titled "The Human Hammers," with pictures 171-279. I will refer to images from that book, including stills from the video recordings of the practice experiments.

↑ The Bamboo Pavillion (Le Manège)
→ The japanese guesthouse with the bamboo forest next to it, and the wild woods.

INTERACTING

THE BAMBOO PAVILION AND THE BAMBOO FOREST

The pavilion made of bamboo is the first setting I want to explore, as it feels like a free and open space where I could enjoy beginning my exploration. I quickly notice that the pavilion is in a state of decay, which prompts me to consider how I can connect with this place in a non-intrusive way and avoid contributing to the decay. How can I invite the context and the hammer to become equal partners with me in the situation?

Pictures 196-201 in *The Hammers* show the practice experiments from this situation.

I decide to make a hammer that is not harmful and that reflects the context in which I will use it. In the workshop, I find bamboo, string, and textiles, all of which are leftover materials. I make the first of many hammers and take it back with me to the bamboo pavilion. I attach a camera to the head of the hammer, a GoPro on my body (chest, ankle, head, knee), and set up a camera on a tripod to record the entire room. I remove my shoes for better contact with the floor and start to move around the room with the hammer. (Pictures 171-177 in The Hammers). I notice how the lightness and length of the hammer make my movements long and slow, which makes me ponder: What would happen if the hammer was heavier or had a shorter handle?

I return to the workshop, where I craft a new hammer with a shorter but thicker bamboo handle and a cork head. I go back to the pavilion to test it. This hammer is surprisingly heavy, forcing me to use both hands and move slowly. I end up hitting the air and the floor, worried that the heavy hammer might cause damage if I used it on the more fragile structures of the pavilion. (Pictures 178-183 in The Hammers).

Next, I craft a hammer with a Styrofoam head and a rope handle, and I notice my movements becoming more playful and less forceful, as this object completely fails to meet my expectations of what a hammer should be. I try to lift it from the floor by swinging the rope, but the rope is too long, and as I use my body to shorten its length, I am literally tied up with the hammer, making it hard to walk. I am trapped and entangled with this disobedient rope hammer (Pictures 184-187 in The Hammers).

As I sit outside the pavilion, I notice a bird in the tree beside me. The bird uses its beak to strike the trunk, as if the beak was hammer and the bird itself a food-finding and nest-building hammer. I think of the new pavilion that is being built in Boisbuchet at this very moment—materials arriving in large trucks from Germany. I can hear loud noises from the big, muscular men drilling into the ground to create a solid foundation for the building with what looks like oversized screws. The building site is filled with optimism about what is supposed to be a very eco-friendly and innovative material. Despite good intentions, there is, in my view, something invasive about the situation that may perfectly illustrate the contrast between man's construction activity and that of the bird. If the building activity were to be represented by a hammer, there is definitely a difference between the human hammer and the bird hammer. The bird with its embodied hammer and the men with their motorised power hammers. The contrast makes me ponder: what kind of hammer am I? My experiments in Boisbuchet so far suggest that, for me, the hammer is an object I use not to destroy, build, or hurt but to help me enter another state of mind and connect with my surroundings. A tool that helps me step out of my head and into my body, moving from my cultural self towards a more intuitive, uninhibited, natural version of me. Sometimes it feels as if I almost merge with the hammer. Could this suggest that I am in the process of becoming more like the bird with an embodied hammer? And if so, what can this tell me about myself as a designer?

Observing how the context of the bamboo pavilion influences the type of hammers I create, and how the hammer's characteristics affect my behaviour, sparks my curiosity to explore other environments at Boisbuchet. I am drawn to the tiny bamboo forest beside the traditional Japanese guesthouse, which seems out of place in the French countryside. It has an air of colonialism and appropriation. Again, I make a bamboo handled hammer, yet this time with a straw head. And like I did in the bamboo pavilion, I set my camera on a tripod, taped my phone to the hammer, and attached a GoPro to my head. I enter the forest.

The hammer camera captures the rattling sound of dry leaves as I make my way through the forest, hammering bamboo straws with my bamboo hammer. I get hurt by branches while trying to reach the densest part of the forest, and eventually, I have to give up and leave. The hammer camera offers an intimate, close-up view, while the outside camera provides an overview. Dressed in black, I am almost invisible as I fade into the darkness of the woods. Although footage from the hammer camera shows me pounding inside the forest, this is not visible from the external camera, which films from outside. It's as if the bamboo forest remains untouched by my personal struggles within it.

INSIGHTS FROM THE BAMBOO PAVILION
AND THE BAMBOO FOREST

I make and use hammers that adapt to the surroundings without causing harm, either because they are made from non-harmful materials or because of the way I use them. The various cameras I use capture different perspectives of the same situation, shifting the focus from solely the human to also include the perspectives of the context and the hammer. The different hammers influence my behaviour, and variations of myself emerge. A more creature-like version of myself is brought to life in the spacious bamboo pavilion, which invites free movement. In the dense bamboo forest, on the other hand, my movements are restricted, and a more dominant version of myself emerges. I find it intriguing that even this dominant version of myself creates and uses hammers that are non-harmful. I will further explore the dominant version of myself in the wild woods.

THE WILD WOODS AND THE JAPANESE HOUSE
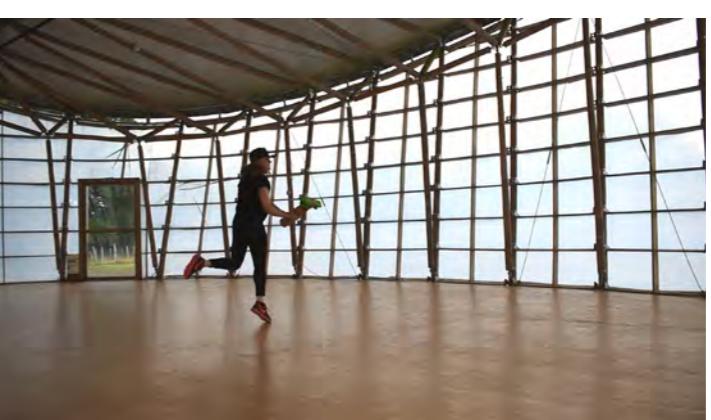
I bring my cameras, fabric, rope, and hammers from previous experiments, along with two carpenter's hammers, and enter the woods. I set my camera on a tripod and place the GoPro on my knee, facing towards my body, then grab my hammer. Pictures 232-251 in the book The Hammers show photos from the practice experiments, including stills from the video performances.

The pink braided plastic hammer provides a colourful contrast, while I almost blend into the woods with my green outfit. In contrast to my experiments in the bamboo pavilion, where I was careful not to harm the architecture, I am now more concerned about not damaging the fragile hammer, and I strike the tree trunks softly. It is as if I am imitating hammering, causing no harm to the trees. I replace the homemade braided hammer with two traditional carpenter's hammers and wrap myself in pink fabric. I look like some strange forest creature. Now I am the colourful contrast. The trees are covered in moss, making my hammering quite harmless. After a while, I unwrap myself from the pink fabric and tape the two carpenter's hammers to my hands, then hammer forcefully on a fallen tree. Similar to what happened in the bamboo forest, a 'power' version of me emerges. I become Siv Hammer-hands, a version of myself I find quite uncomfortable to confront. What happens if I bring the creature and power versions of myself to another setting?

The Japanese Guesthouse is old and fragile, seemingly plucked from its original setting and placed here. In fact, that is precisely what happened: it was built in Japan in 1863, then dismantled and reconstructed in Boisbuchet in 2008. It appears out of place and reminds me of colonialism, which is why I enter the house with the most French objects I can imagine: baguettes and a hammer painted with the typical white and blue stripes of a Breton sweater.

Although it was still daylight, I managed to scare myself imagining ghosts lurking in the dark corners. The house is definitely haunted. I aim to enter this peaceful, minimalist space with a stark contrast—a chaotic, vibrant, free-spirited presence. I set my camera on a tripod and took photos of myself dancing and jumping with a homemade hammer and pink fabric wrapped around my striped outfit. I defy the Japanese guest house's invitation to behave calmly and composedly within the harmonious interior. Pictures 211-226 in The Hammers show the process.

I lower the camera's shutter speed to capture more movement, and in the photos (227-229 in The Hammers), I resemble a ghost. In that moment, it felt as though the hammer's purpose was solely to serve as an object of interaction as I moved about. Reflecting on it later, I realise I became a poltergeist. 'Poltergeist' originates from German and means a 'beating or knocking spirit,' referring to a 'noisy, often mischievous ghost believed to cause unexplained noises such as rapping' (Merriam-Webster Dictionary). What a strange symbolism that I become a poltergeist in a house originally built without nails. I have a sense that something outside my control has been set in motion.

INSIGHTS FROM THE JAPANESE HOUSE AND THE WILD WOODS

Reflecting on the Japanese house and wild woods experiments together, I realise something: I entered the wild woods thinking I was a creature, but became a dominant person. Conversely, I entered the Japanese house believing I was a dominant person, a contrast, yet I ended up becoming a creature.

In all the practice experiments I conduct during the residency, I make and use hammers that relate to the context, both in terms of the materials they are made from and how they are used. I explore how hammers can emerge from a specific context and what happens when I use them in that same setting. This intuitive process involves breaking with the idea that design is about constructing according to a plan, as discussed in the Context chapter. I become a malleable tool that the hammer and context are allowed to shape. I move, dress, and behave in ways

that either attempt to disobey or become entangled with the context. I capture my explorations through various camera perspectives simultaneously. Reflections and insights emerge during the experiments, guiding me from one to the next. Although I try different approaches, I realise I do not want to alter, reshape, or destroy the context. In some experiments, this attitude manifests as gentle, non-harmful hammers; in others, it is evident in the careful way I handle the hammer. Sometimes I feel powerful and dominant; other times, I feel liberated and uninhibited. It is as if different facets of me come alive and manifest

as personas. The hammer becomes a subject, an individual, such as the one with wheels parked by a traffic sign. Perhaps the hammer shaped me more than I shaped it? The hammers I used did not permanently alter the environment, and I left France without any of the hammers I made. They belonged to the contexts in which they were created (although I did bring one of them with me to Paris for a few days after the residency).

RESONATING

As time passed, new layers of meaning and insight unfolded, and I realised that 'resonance' is the word that describes everything I did in Boisbuchet. Instead of using the hammer as it 'should' be used, I inter-acted with it as a prop or partner to help me access different states of mind and get out of my head and into my body. I resisted the forcefulness of the ham-mer and ended up changing the hammer and my be-haviour instead of altering the surroundings with the hammer. I moved, dressed, and behaved in ways that disobeyed or entangled with the context. Through exploring the 'intra-action' (Barad 2007) between myself, the context, and the object or material, a collection of strange and surprising hammers and ver-sions of me emerged that I could never have imagined beforehand. It is as if different facets of me came to life, materialised as personas. Perhaps they were the synthesis of me embracing the contradictions

and frictions that a human consists of. And that they, in addition to revealing something about me, might tell something about the different aspects of being a human. Could the different ways to use a hammer symbolise various approaches to being a designer? Are my explorations with the hammers a search for the kind of human and designer I want to be?
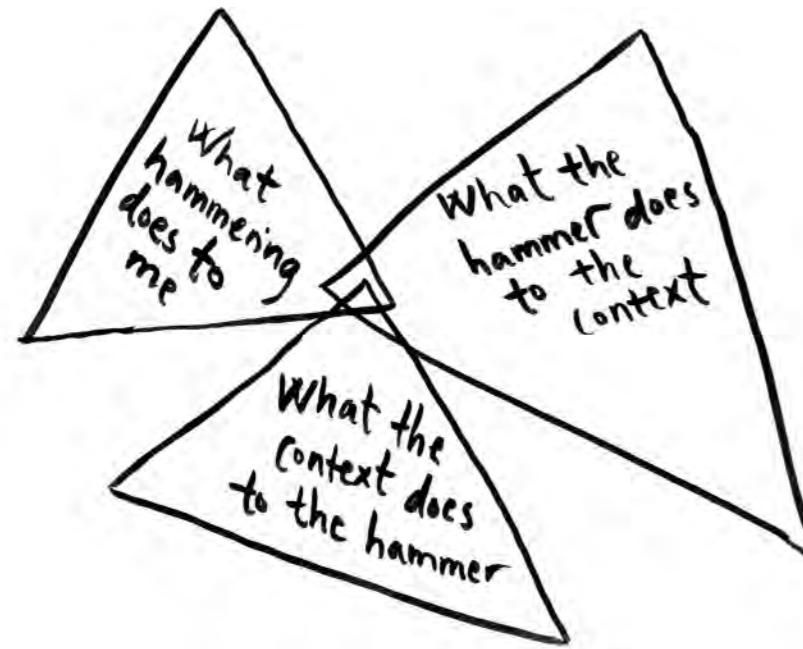
My experiments at Boisbuchet made me realise that rather than asserting dominance and power, I prefer to playfully engage and feel the entanglement between myself, the hammer, and the environment. Although the hammer is a striking tool typically used to forcefully join or break things, it can also be a tool that creates resonance, like the hammers in the world of music. And even though design can be defined as changing existing situations into preferred ones (Simon 2019), it can also be understood as the human pursuit of resonance with the world.

CHAPTER 5

INSIGHT

AND

OUTCOME

93

DESIGN AS RESONANCE

Throughout the research process, I have remained committed to being a designer who cares for and engages with the more-than-human world. I have aimed to contribute to the field of design through a practice that is conscientious, relational, and sensitive to today's challenges. I call this a 'resonant design practice' and see design as seeking resonance with the world.

In the *Context* chapter, I discussed Hartmut Rosa's theories of resonance and Tim Ingold's concept of correspondence. Rosa's emphasis on the need for differences and oppositions alongside harmony for resonance to occur (Rosa 2018, p. 2) aligns with my own reflections and practice, leading me to see 'resonance' as a more suitable term than 'correspondence' to describe the kind of design practice I aspire to. 'Correspondence' means matching or being equal (Thesaurus.plus). As I write my final reflections on the research process, I experience an epiphany: I realise that the words 'responding' and 'co-responding' are subtly hidden within 'corresponding'. And if I add the letters 'E' and 'R', the words 'pondering' and 'co-pondering' appear.

This means that almost everything needed for resonance to happen is embedded within the word correspondence. Responding instead of reacting involves a pause between impulse and action, which is essential for design to become more resonant. When we 'co-respond', we respond collectively as a community rather than merely as individuals, which I also see as vital for resonant design. Pondering, a synonym for reflecting, is a crucial element in a resonant design practice because it allows things to simmer and take time. When we 'co-ponder', we do so collectively as a community.

Although correspondence encompasses (literally) almost everything needed for resonance, it lacks a crucial element: opposition or friction. Correspondence is what I have called entanglement in my practice. Differences or oppositions, on the other hand, I refer to as disobedience. Both disobedience and entanglement are essential for resonance within a design context to occur. Too much entanglement makes the design process uncritical, while too much disobedience and friction become intolerable. In my practice, I have explored how the hammer might symbolise the friction or vibration necessary for resonance. That hammer is a metaphor that extends beyond tools; both people and objects can be hammers. The vibrations caused by the hammer might represent the (unintended) consequences of the design we introduce into the world. Sometimes, a gentle and careful hammering is needed; at other times, a rougher approach is more suitable. With the hammer, I aim to create moments that open up alternative ways to engage with objects.

As I discuss in the Context chapter, I am aware that resonance is a topic already present within the Artistic Research community. However, my research contributes to the discourse because it originates from design, not fine art. Unlike Rosa, who is a sociologist writing about resonance, I am a designer reflecting on resonance through my Artistic Research process, engaging with the materials and contexts with my body. My contribution lies in my practice, which suggests what resonance can be within the context of design.
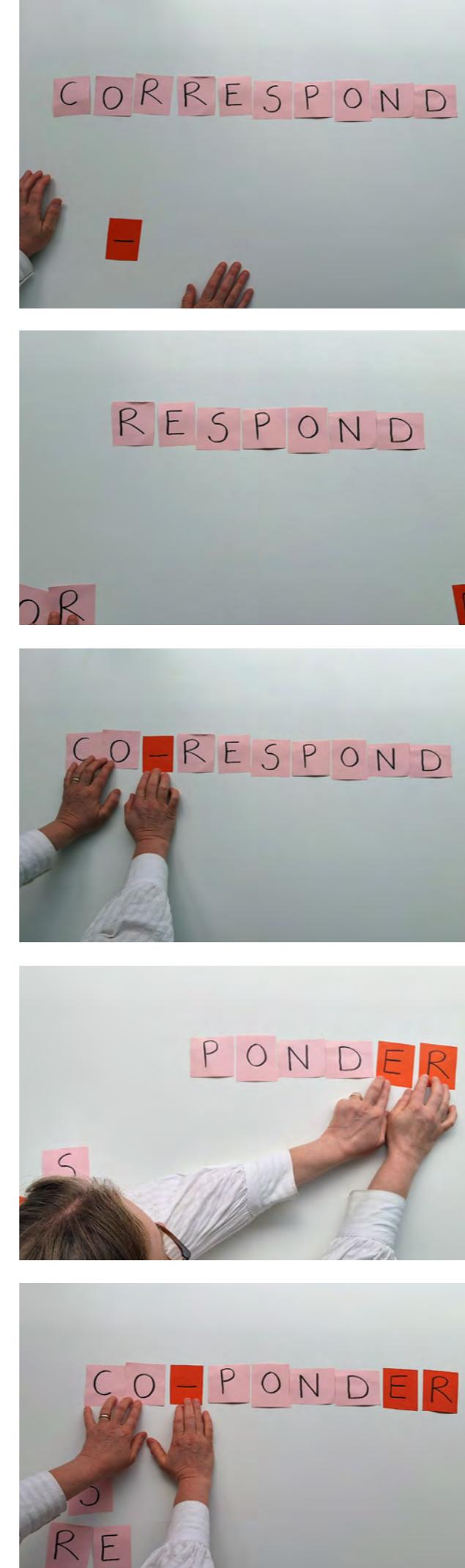
HOW RESONANCE APPEARS THROUGHOUT THE PHD AND WHAT I DISCOVERED

I began my PhD research by drawing on my experience as a furniture designer. In the Disentangling chapter, I wrote that I prefer my designs to be part of a broader context while maintaining a high level of artistic freedom during the creative process. I also expressed that I enjoy the playful and conceptual aspects of the design process and am more interested in exploring human-object interactions than in creating functional objects for mass production. I mentioned that unpredictability is both a frustrating and enjoyable part of the design process. I identified the skills I value most as a designer, along with the aspects of design I appreciate. I also articulated what I find most problematic within the field of design. I asked myself what might happen if I reoriented or broke away from the troubling aspects of design and expanded on what I consider to be the most valuable assets of design. I will now revisit the list from the Disentangling chapter and share the insights I have gained through my research process. Through the practice experiments, I have expanded on the skills and aspects I value from design (highlighted in green in the sketch below) by exploring them in contexts beyond the traditional realm of design. I have moved away from the problematic aspects of design (highlighted in pink in the sketch below).

DESIGN SKILLS

I have deepened my sensitivity to the world, including both the natural and built environments. I have also become more conscious of the presence of others in the situations I experience, whether human or non-human. I remain more open to what unfolds naturally, rather than planning things in detail.

I have expanded and redirected my ability to translate ideas and concepts into physical objects that others can experience and interact with. We perceive and understand the world through our bodies and senses. This underlines the importance of *Artistic Research.*

I have developed my ability to discover unexpected connections and combine ideas and knowledge from diverse fields.

THE POSITIVE ASPECTS OF DESIGN

I have expanded on the social and relational aspects of design (informed by participatory and relational design practices as outlined in Context) and focused more on the design process than the outcome. I have invited the hammer, as well as other people, into my research through exhibitions, workshops, and *Multiplum* activities, especially the *Design and Wine* events.

I have reoriented design's engagement with societal issues (informed by Discursive Design outlined in *Context*) by seeking to spark reflection rather than solve problems.

I have reoriented the future-oriented aspect of design (especially informed by Tim Ingold's writings as outlined in Context). Instead of designing profitable futures, I have explored alternative, preferred and multiple futures.

THE PROBLEMATIC ASPECTS OF DESIGN

I have broken with design being human-centred (informed by New Materialism and practitioners such as Julia Lohmann and Thomas Thwaites, discussed in Context). In my practice, objects and environments become alive and are not there to serve human needs.

I have broken with design's focus on problem-solving for others. My practice is highly subjective and based on my personal observations and experiences; sometimes, I observe a situation without altering it. I have distorted functionality or complicated problems instead of solving them.

I have explored waste, leftovers, and discarded items, focusing on the pre- and post-life of designed objects, rather than their role as functional parts in a human's life.

I have moved away from design's close link to market and economy by focusing on the individual and unique pieces rather than standardised ones.

A RESONANT DESIGNER

Through this Artistic Research PhD project in design, I have explored what happens when I focus on resonance in my practice. My choice was guided by a sense of urgency, and I share the process and insights to invite fellow designers to further expand on resonance within the field. I have explored 'resonance' and 'dissonance' with materials, objects, contexts, and situations—natural and cultural. I examined resonance with myself as a multi-layered, changing organism that influences my design actions, and with others—both humans and non-humans—in a relational, process-oriented way. I have interacted with materials not as form-receiving entities but as someone to communicate and collaborate with. I have looked at objects, including hammers, as if they were living organisms.

Design is a practice that responds to specific contexts or situations, and much of what is needed for design to be resonant is already in place. However, we must expand on the concept of resonance, and I will now articulate the traits of a resonant designer based on the insights gained from the research process.

A resonant designer is present. She shows up and attunes herself to the context in which she is part.

A resonant designer is aware. She can both become entangled with and challenge the situation.

A resonant designer is critical. She questions what is taken for granted.

A resonant designer is humble. She accepts not knowing the answer.

A resonant designer is subjective. She is aware of her biases and open to different perspectives.

A resonant designer is curious. She goes beyond what is considered the limits of the discipline, and puts herself in new contexts.

A resonant designer is open-minded. She is ready for serendipity and unexpectedness.

A resonant designer can materialise her ideas and make them accessible to others.

A resonant designer is honest.

A resonant designer is playful. She turns things upside down, scales up and down, changes materials and situations.

A resonant designer is patient. Sometimes things unfold slowly, and she can allow them to do so.

A resonant designer is impatient. Sometimes, things cannot wait and must be done without overthinking.

OUTCOMES

This PhD's outcomes include the Reflection, the practice experiments, and the exhibition. The practice experiments are discussed in the Reflection, and some are additionally presented as printed books: 'The Hammers' and 'Na(cul)ture'. As I write this, the exhibition is still in progress and will take place in Room 61 at the Faculty of Fine Art, Music and Design from September 24 to 28, 2025. The following is the text on the walls of the exhibition:

This exhibition is part of my PhD in Artistic Research, exploring the entangled relationship between humans and designed objects. Drawing from my furniture design background, I investigate design's connection to resources, (over)consumption, and its influence on shaping nature and humans. My practice involves spontaneous interactions with (waste) materials, objects, and leftovers in various contexts. I invite the oldest known tool that has always been part of human life into the research: The hammer. I use it as a cultural prop to reflect *on* and as a companion I reflect *with*, asking: Could the hammer be a metaphor for design? Could ways we use the hammer represent different design approaches?

The exhibition's centrepiece is an object-creature-furniture-organism made from leftovers from KMD and surrounding areas, symbolising time, growth, and degrowth. It explores function, dysfunction, value, friction, resonance, and dissonance, reflecting my view of design as an ongoing, collective process. All the works involved in the research process are present in the exhibition as books, objects, and other visual and textual materials. Visitors are encouraged to touch and engage with the exhibits. Take a seat, observe the research, and become part of the installation as you view the shadow cast by the Human Object.

→   An exhibition in the making.
Photo: Ingrid Rundberg

EPILOGUE

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DESIGNER

Throughout the PhD, I have expressed a designer's mindset characterised by a personal and relational engagement with the world. I have expanded on the concept of resonance, where the design process unfolds as an intra-action between the designer, the context, and others (including people, organisms, objects, and materials). The emphasis has been on the process of attunement and the reflections that emerge from it, rather than on the outcomes. As an artistic researcher, I have been able to explore this way of being a designer more freely than I could in the world of furniture and product design. This freedom has been a privilege, but it has also felt uncomfortable and scary at times, because when everything seems possible, it can be hard to find direction. My research has led me (far) away from designing furniture for the industry. As I see design as a liberal art, being a designer means being an artist to me. And even though it seems unlikely at the moment of writing this that I will return to the design industry, I know in my heart I will continue to make, draw, collect, observe, move, think, write, discuss and be a designer who reflects on and with design.

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