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Between Rigid Frames: Gender and the Politics of Chair Design

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Abstract

This thesis uses the chair—an object often regarded as neutral and universal in design and everyday life—as a lens to critically examine how gendered power relations shape design practices, materialize in objects, and influence how bodies take shape, move, and relate. Drawing on feminist and intersectional theory, cultural and critical studies, phenomenology, design theory, and material culture, the study combines these perspectives with qualitative research among emerging chair designers. It reveals how normative assumptions embedded in dominant design processes, forms, and functions contribute to the marginalization of diverse bodies and lived experiences. Since gender appears only marginally in chair design discourse—which primarily centers on sustainability amid the climate crisis—this thesis positions sustainability as a critical entry point to examine and challenge how prevailing design narratives obscure deeper structural inequalities, especially those related to gender. By reframing sustainability through the lens of social justice and gender inclusivity, the thesis advocates for design practices that are situated, collective, context-sensitive, and rooted in care—approaches that embrace complexity, invite discomfort, foster (un)learning, and challenge entrenched norms to respond more attentively to the diversity of bodies, recognizing that all bodies are different in how they engage with and relate to chairs.

Kurzfassung

Diese Arbeit nimmt den Stuhl – ein Alltagsobjekt, das im Design und im Alltag häufig als neutral und universell gilt – als Ausgangspunkt, um kritisch zu untersuchen, wie geschlechtlich geprägte Machtverhältnisse Designpraktiken prägen, sich in Objekten manifestieren und beeinflussen, wie Körper sich formen, bewegen und in Beziehung treten. Dabei verbindet die Studie feministische und intersektionale Theorien mit kultur- und kritischen Studien, Phänomenologie, Designtheorie und materieller Kultur und verknüpft diese Perspektiven mit qualitativer Forschung unter aufstrebenden Stuhldesigner*innen. So wird deutlich, wie normative Annahmen, die in dominanten Designprozessen, -formen und -funktionen verankert sind, zur Ausgrenzung vielfältiger Körper und Erfahrungen führen. Da Geschlecht im Diskurs um Stuhldesign – der vor allem im Kontext der Klimakrise unter dem Aspekt Nachhaltigkeit geführt wird – eine marginale Rolle spielt, nutzt die Arbeit Nachhaltigkeit als kritischen Zugang, um aufzuzeigen, wie vorherrschende Designnarrative tiefere strukturelle Ungleichheiten, insbesondere in Bezug auf Geschlecht, verdecken. Dafür wird ein Verständnis von Nachhaltigkeit verwendet, das soziale Gerechtigkeit und spezifisch Geschlechterinklusion mitdenkt. Vor diesem Hintergrund plädiert die Studie für Designpraktiken, die situativ, kollektiv und kontextsensibel sind, auf Fürsorge basieren, Komplexität annehmen, Unbehagen zulassen, (Um)lernen fördern und etablierte Normen hinterfragen.

Contents

1. Introduction: Sketching the Frame

Writing this thesis, I have spent countless hours sitting—on many different chairs. So many, in fact, that I can barely recall them all. Most often, I worked seated on a blue-painted wooden chair with four legs and a backrest, or a cantilever chair made of black-coated metal with a wooden seat and back. For a long time, chairs faded into the background of my awareness, taken for granted as mere objects. More recently, however, they have become uncomfortably present—not merely as objects, but as material manifestations of power: expressions of norms, hierarchies, and relationships between bodies, identities, and environments. This growing awareness is what I seek to explore in this thesis.

That the chair would become the central object of my research was not always certain, but in hindsight, it feels inevitable. With a background in design and a current focus on gender studies, I initially set out to investigate the broader entanglements of gender and design. Although gender and design profoundly shape one another, it is striking how rarely design research engages deeply with gender (Brandes, 2017, p. 9). For a long time, gender in design was framed primarily through binary, market-driven logics (Brandes, 2008, p. 189). More recently, critical perspectives have emerged—exposing the absurdity of gendered design (Ehrnberger et al., 2012), challenging the myth of neutrality (Tang, 2022), and highlighting how design both reflects and reinforces societal structures (Place, 2023). While these interventions are powerful and necessary, they remain relatively rare, underscoring the need for further exploration at the intersection of gender and design.

This inquiry into chairs is both theoretical and personal. It is shaped by my own encounters with design and the ways design practices can exclude, hierarchize, or make assumptions about bodies. What intrigued me most was how power materializes through design—and how design, in turn, sustains and reproduces those structures. No object seemed more fitting to explore this than the chair. It is a design classic, a cultural signifier, and a symbol of authority. Chairs can organize spaces, signal belonging or exclusion, and carry social codes. Across millennia, they have mirrored and reinforced the norms of their time: including some bodies, excluding others, inviting, arranging, and disciplining. Although chairs are omnipresent, they often disappear into the background of daily life. It is precisely this everyday invisibility that makes the chair such a powerful object of study.

This thesis does not focus on chairs by prominent designers whose work already shapes much of design discourse and fills museum collections. Instead, it highlights contemporary practitioners whose contributions have received less visibility—many of them emerging

designers not yet widely recognized. By centering their practices, I aim to bring forward perspectives often overlooked and explore how chair design can—whether intentionally or not—challenge and reimagine normative narratives, fostering designs that thoughtfully include diverse bodies and needs.

1.1. Positioning Myself

My interest in chair design and the power structures embedded within it—gender being one important aspect—stems from my lived experience navigating a design field shaped by Western educational and professional norms that often reproduce hierarchies across multiple dimensions. I identify as a white, able-bodied woman, a positionality that influences how I experience and engage with these dynamics. Since entering the design field at the age of fourteen, design has been a constant presence in my life. While I initially worked in two-dimensional analog and digital formats, my practice gradually expanded into three-dimensional work—folding, binding, and later working with materials like wood and metal. This shift led me to explore furniture-making, including chairs, which revealed how power and identity manifest both physically and symbolically through objects.

Alongside developing my practice, I became increasingly aware of design's institutional structures, especially within education. Co-developing collective learning formats that explored alternative pedagogies revealed how design education itself often perpetuates social and cultural hierarchies. These insights deepened my understanding of design as inseparable from broader power relations.

Before pursuing gender studies, I considered training as a carpenter, hoping to gain hands-on skills and engage with materiality in a new way. However, many local workshops reflected the same rigid, gendered structures I had encountered in design education. While some women- and queer-led workshops existed, they were few, often small, and frequently fully booked. Conversations with others revealed similar patriarchal dynamics in manual trades, which sometimes led practitioners to question their own abilities. These reflections echoed my own doubts and reinforced how gendered power structures permeate both design and craft, creating barriers for those outside dominant norms.

This recognition pushed me to seek alternative ways of engaging with the social and cultural questions underlying these experiences. Although theory was part of my design education, academic reading and writing initially felt unfamiliar and inaccessible.[1] Choosing to study gender studies—rather than pursue carpentry—was therefore a conscious and challenging decision, one that allowed me to explore these deeper questions through critical theory.

[1] To enhance the clarity and flow of the writing and to correct any potential grammatical errors, I used ChatGPT (version 4.0) as a writing support tool. All generated content was carefully reviewed and edited by me, and I take full responsibility for the final version of this thesis.

I share this journey not only to trace my personal path but to reflect on the persistent tension between design practice and academia, often framed as a divide between making and theorizing. Many designers feel the need to legitimize their work through academic discourse, as if practical engagement alone were not enough—a pressure I have also felt. My own position is shaped by this tension: while rooted in design practice, I now write from a space that moves between theory and making. This in-betweenness also materializes in a small publication that accompanies this thesis. As a graphic designer, I work through image, text, layout, and color—means of thinking that exceed conventional academic writing. The publication becomes a site where different modes of knowledge meet, offering an alternative format that both challenges and complements the written thesis, and makes visible the constraints and possibilities of navigating these intersecting worlds.

1.2. Thesis Structure

This thesis was developed inductively from the material I gathered—images, narratives, reflections, concepts, and theories—unfolding through a series of interconnected explorations. The foundational framework, introduced in chapter 2, reflects the design process that shaped this work and provides a basis for the accounts analyzed throughout. To examine how considerations of inclusion—particularly in relation to gender—inform chair design processes and become manifest in the resulting designs and embodied interactions, I conducted a qualitative online survey, complemented by expert interviews. Along the way, I plant seeds—ideas drawn from theorists and designers—that may help cultivate more inclusive design practices.

Building on this foundation, chapter 3 examines how the chair is understood in Western contexts, by the study's participants, and within the framework of this thesis. It foregrounds the role of knowledge practices in shaping these understandings, revealing how power relations are embedded in design processes and reflected in the resulting chair designs. This exploration continues in chapter 4, which turns to the historical role of the chair—most notably embodied in the throne as a symbol of power—to trace its entanglements with authority and hierarchy. Against this backdrop, the chapter offers a critique of the dominant heroic designer narrative, questioning how 'good' design is constructed, maintained, and taught.

Shifting focus from the chair as an object to its relationship with bodies, chapter 5 investigates how chairs invite specific uses—mainly sitting—that are shaped by normative assumptions. Using a disability-informed lens, it examines how design limits or creates space for diverse bodies and how those who are ill, in pain, or disabled adapt environments not originally built for them. This perspective resonates with my own experience of chronic illness. Importantly, the practice of resisting these normative uses through "queer uses" (Ahmed, 2019, p. 44), understood here as non-normative, subversive, or repurposed

engagements with design, extends beyond these bodies, offering valuable insights for considering gender in chair design.

Building on these insights, chapter 6 examines how repeated interactions with chairs both reinforce cultural norms and create openings for resistance—focusing in particular on gender and alternative design practices. This line of inquiry expands in chapter 7, where comfort and discomfort are explored not only in physical terms but also as social and cultural experiences. The chapter asks who is granted or denied comfort through design, and how both collective and individual experiences shape design responses. Gender emerges here as a marginal yet meaningful concern—raised primarily by women and queer participants—revealing its contested and often overlooked position within design discourse.

The threads of this thesis converge in chapter 8, where the design process itself becomes the central focus. Since sustainability emerged throughout the research as a more widely shared discomfort than gender, this chapter takes sustainable design as a point of departure. It reframes sustainability as a holistic, non-exploitative practice that necessarily includes social justice and gender considerations. The chapter calls for a decentering of the designer, inviting multiple human and nonhuman voices—including technologies and materials, which already play a central role in sustainable design—to collaboratively shape design outcomes, while maintaining a critical awareness of the assumptions embedded in these processes.

Finally, chapter 9 gathers the threads of this thesis into a reflection on inclusive chair design and the role gender plays within it. Rather than offering definitive answers, it sketches the contours of a design practice that listens, adapts, and remains open to transformation. Returning to the seeds sown throughout this work—some beginning to take root, others still dormant—it gestures toward ongoing processes of reflection, discomfort, and (un)learning.

2. Building the Framework

This thesis adopts a flexible, open research approach grounded in empirical cultural studies and cultural anthropology. It explores the intersections of design processes, everyday objects, and questions of inclusion, with a particular focus on gender norms. Chairs serve as the central lens—examined through their design processes, their resulting forms, and the ways they are used. The research process described in this chapter provided the data needed to address my research question: *How do considerations of inclusion, particularly in relation to gender, influence chair design processes, and how are these influences reflected in the resulting designs and the sitting habits they accommodate or encourage?* This chapter outlines how I conducted this research.

To address this research question, I adopt ethnography as both a research attitude and strategy (Breidenstein, 2020, p. 11), as it closely aligns with design in being research-driven, human-centered, reflexive, and oriented beyond the object itself (Müller, 2021, p. 224). Writing ethnography and conducting cultural analysis also mirror the hands-on nature of designing chairs, both requiring intellectual, sensory, emotional, and collaborative engagement with materials and people (Ehn et al., 2016, p. 100). A key distinction, however, lies in their temporal frameworks: whereas ethnography often depends on long-term immersion, design processes tend to be shaped by time constraints and economic factors (Müller, 2021, p. 224). These shared traits—alongside their temporal and structural differences—underscore the value of ethnography as a research strategy for critically analyzing (chair) design processes and their outcomes.

Ethnography, as I understand and apply it, resists rigid structures in favor of flexibility and attentiveness to specificity. It allows complexity, contradictions, and nuance to emerge, moving fluidly between observation, analysis, and the ongoing refinement of questions and frameworks (Breidenstein, 2020, p. 11). Yet, ethnography carries a complex history. Its disciplinary roots in early 20th-century ethnology and sociology are deeply entangled with European colonialism. In this context, the figure of the 'explorer' emerged—someone tasked with studying so-called unfamiliar societies, often from a distance, through a lens shaped by linguistic barriers and Eurocentric assumptions. Ethnography, once considered an objective means of describing social worlds, was long shaped by the impulse to speak *about* others rather than *with* them—frequently exoticizing them by ascribing generalized cultural traits, beliefs, and practices. Over time, it became clear that many ethnological texts revealed more about the colonial gaze than about the communities they aimed to describe. This realization also contributed to a growing interest in turning the ethnographic gaze toward Western contexts. While the exploratory nature of ethnography

remains, its epistemological attitude has shifted significantly (Breidenstein, 2020, pp. 15–23).

Today, ethnography offers a way to explore the seemingly mundane—an everyday that is itself designed—making visible subtle routines and gestures that often go unnoticed: a glance, an automatic motion, a word left unsaid, familiar tastes, fleeting emotions, details overlooked, or objects that fade into the background. As Ehn et al. note, "By starting in the everyday, it is possible to find surprising connections between small matters and large issues" (Ehn et al., 2016, p. 1). Building on this perspective, this thesis focuses on the chair—as a designed, everyday object—to examine how its materiality and the surrounding processes (re)produce societal norms.

Ethnography is not a single method with a linear protocol but an overarching approach that weaves together observation, interviews, technical recordings, and document analysis. Central to this approach is participant observation (Breidenstein, 2020, p. 38). In this thesis, my approach might even somewhat depart from traditional ethnography: rather than observing participants during design processes or in their interactions with chairs, I focus on exploring their thought processes through writing and speaking. These methods encourage participants to articulate ideas in exploratory, often associative ways, enabling reflection, the tracing of associations, and revisiting of previous statements. In line with Ehn et al., such practices foster analytical distance and enhance attentiveness to the extraordinary within the familiar (Ehn et al., 2016, 41–43).

In addition to written and spoken words, I also work with visual material to further diversify the data and emphasize the visual dimensions of the research—an element central to most design practices (Erlhoff and Marshall, 2008, p. 69). Notably, it was the survey participants and interview partners, not me, who created this visual material. This approach builds on participatory and collaborative research traditions in which participants actively engage in inquiry and reflection, becoming 'experts' in their own right. Especially when working with visual material, this can help dissolve the rigid interviewer–interviewee binary and foster more horizontal forms of dialogue (Saini and Schärer, 2014, p. 329). This type of participatory use of photography, which forms the main visual data in this study, is often formalized as photovoice in visual research (Coffey, 2023, p. 848). Alongside its collaborative function, the act of creating visual material—as with writing and speaking—offers participants a way to momentarily step outside the everyday, to see the familiar with fresh eyes, and to become, in a sense, researchers or 'explorers' of their own worlds (Ehn et al., 2016, p. 37). Given my own background in design, I enter this research not as a neutral observer but as a fellow practitioner, further reinforcing this dynamic.

The data assembled through this process forms the foundation for my theoretical framework and analysis, supporting an inductive, exploratory approach. To work with this material, I draw on principles of grounded theory as developed by Glaser and

Strauss (1967) and later adapted in qualitative cultural research. Grounded theory offers an iterative and flexible toolkit for systematically engaging with qualitative data through coding, constant comparison, memo writing, and the gradual development of categories. Rather than applying predefined hypotheses, this process allows patterns and conceptual insights to emerge from the material itself (Götzö, 2014, pp. 446–452). This aligns closely with the ethnographic and cultural-analytical stance of this thesis: it foregrounds attentiveness to participants' perspectives while examining how these are situated within broader cultural norms and power structures. In this sense, grounded theory supports a research process that is both empirically grounded and theoretically generative. Complementing this, I draw on the so-called bricolage method, which integrates diverse materials—visual content, written texts, and spoken narratives—to develop a multifaceted perspective (Ehn et al., 2016, p. 26). Data was assembled in two phases: an initial qualitative online survey, which generated visual and written material, followed by a second phase of qualitative expert interviews focused on spoken narratives.

2.1. Gathering the Parts

> Data are less like pebbles researchers gather on a beach and more like the beach itself—constantly shifting sands subject to an ever-changing landscape of rolling waves, sun, wind, and human and nonhuman activity. (Ellingson and Sotirin, 2020, p. 821)

By naming this section "Gathering the Parts" and further also using the phrase "Building Components", I draw on the idea that "data are *made* not found, *assembled* rather than collected, and ever *dynamic*" (Ellingson and Sotirin, 2020, 824, emphasis in original). In my view, these terms better reflect my research process, which consisted of countless ideas, conversations, notebook notes, computer files, documents in various clouds, unfinished files, presentations, sketches, books, websites, video material, photos, interviews, sticky notes with questions and reminders, PDFs, transcripts, and endless thoughts swirling in my mind—a rather messy reality. Viewing data not as tidy and finished sets but as *assemblages*[1] makes it clear that I, as a researcher, am an integral component of this process rather than simply the 'owner' of the data (Ellingson and Sotirin, 2020, 820–821).

2.1.1. Qualitative Online Survey

In the initial phase of the study, I employed a qualitative online survey to assemble data. The high accessibility of this method (minimal technical requirements, ability to reach a wide geographical area, anonymity, reduced social pressure, flexibility in timing, language support and reduced barriers for people with physical disabilities) enabled contributions from a broader and more diverse audience (Braun et al., 2021). Especially the anonymity

[1] Interestingly, I also return to the term *assemblage* in chapter 8 in the context of design processes, a connection that was not consciously planned but which retrospectively highlights a clear focus and associated stance in this research.

of the online format was crucial for fostering honest and authentic responses, particularly when addressing sensitive topics such as stereotypes and norms that may be (re)produced and (re)inforced through chair design processes and resulting chair designs. This approach provided a strong foundation for collecting a wide range of candid perspectives, which were further explored and expanded upon during the second phase of the study using qualitative expert interviews.

Building Components

As a designer embedded in a design environment, I recruited participants through various networks, including my professional, educational, and personal connections—friends, former as well as fellow students, colleagues, workshop participants, and email lists from art universities in Germany, Austria, and Switzerland. Additionally, I reached out to individuals I came across during my research process and invited them to join the study. To further broaden the participant pool, I utilized the snowball effect, encouraging additional participation.

Alongside these recruitment efforts, I promoted participation through a short publication that will feature a selection of images and text excerpts submitted via the survey and interview process, along with fragments from my thesis, which I plan to compile upon its completion.

Participants qualified for this study if they had designed chairs in the past or were currently engaged in designing chairs. While participants could identify as designers, this was not a strict requirement. Unlike many other professional fields, design remains largely unregulated, allowing practically *anyone*[2] to claim—or reject—the title of designer (Erlhoff and Marshall, 2008, p. 139). I sought to reflect this openness in the study design by keeping the inclusion criteria deliberately broad.

In total, 12 people participated in the survey. Of these, seven identified as male, four as female (or "F"), and one person chose not to disclose their gender. Most participants (nine) were between 25 and 33 years old. The remaining participants formed a distinct age gap, with two individuals significantly older—one aged 77 and the other 83. One person did not provide any information about their age.

A majority of participants (eight out of twelve) indicated that they had completed or were currently enrolled in a formal design education program. Two reported not having formal training, and two did not answer this question.

When asked about their role in the design industry, many participants selected more than one category. Five described themselves as design professionals, three as hobbyists, and four selected "other," providing responses such as design researcher, artist, anti-designer, subsistence designer, or design student.

[2] I italicize the word *anyone* here to emphasize that, in principle, anyone can claim—or reject—the title of designer, even though in practice this is often much more restricted, as I will illustrate in chapter 4.

When asked about their current position in the design field, the answers were similarly diverse and overlapping. Seven participants identified their role as being in design, one in manufacturing, and one in research. Six selected "other," specifying roles such as interface design, curation, freelance art, illustration, performance, tattooing, amateur design, or attempting to currently form a design union. Notably, several participants occupied multiple roles simultaneously, reflecting the fluid and often hybrid nature of design practice (see appendix A.1.2).

Survey Design

The survey was designed to take approximately 30 minutes and consisted of around 20 questions. Its structure followed a recurring pattern that placed visual thinking at the center. At several points, participants were invited to upload images as a first step—prompting them to articulate their thoughts visually. Building on this, they were then asked to engage with their own visual contributions through written reflection, primarily using open text fields. This method intentionally foregrounds the visual—an essential tool in design practice—before temporarily shifting focus away from it to examine how written reflection might (dis)align with visual representation. The act of writing introduces a form of analytical distance, helping participants to rediscover the extraordinary within the familiar and to view their own work or ideas from a renewed perspective (Ehn et al., 2016, pp. 42–43).

In designing the survey, I deliberately prioritized open text fields over predetermined response options. This decision aimed to encourage participants to reflect on their design processes in their own words, offering insights into their own language and highlighting what they themselves considered relevant and meaningful. Rather than narrowing responses through predefined categories, this approach functioned as a kind of 'wide-angle lens', allowing for a richer and more nuanced range of perspectives (Braun et al., 2021, p. 643). Nevertheless, for reasons of efficiency and comparability, some questions included selection options—such as those asking about participants' roles within the design industry or their current position in the field. Even in these instances, however, participants could choose "other" and specify their own answers. Participants were also free to skip questions they preferred not to answer, though doing so required actively selecting the option "I prefer not to answer." While the survey itself was conducted in English, participants were explicitly encouraged to respond in whichever language they felt most comfortable using to ensure genuine linguistic accessibility.

The survey was conducted anonymously. However, participants who agreed to take part in a follow-up interview, contribute to a small publication, or receive the research results were asked to provide an email address solely for contact purposes. Throughout the research process, participants' data was handled with the utmost confidentiality, and they retained the right to request deletion of their data at any time.

There was no option for participants to go back in the survey, as it was carefully structured with a specific flow, and I had concerns regarding data distortion if such a feature had been available. However, participants had the option to pause the survey (in which case, they were sent a link via email) and continue it at a later time.

For similar reasons, I did not explicitly state that the survey was part of my gender studies degree; instead, I described it simply as research conducted for my master's thesis at the University of Vienna. Initially, I was concerned that explicitly linking the study to gender studies might inadvertently steer participants toward gender-related topics, even if other themes were more central to them. However, as the survey progressed, it became clear that mentioning my gender studies background resonated with participants without causing gender to dominate or bias the responses. In fact, gender-related topics appeared only marginally in the survey, which reinforced my decision to explore this dimension more explicitly in the follow-up interviews by focusing on chair designers who place a specific emphasis on gender, rather than conducting follow-up interviews with survey participants as I had originally planned. Additionally, despite efforts to arrange interviews with multiple survey participants, organizational challenges meant that only one follow-up interview was conducted with a participant from the survey. Further details regarding the interviews are provided in section 2.1.2.

The survey was organized into several thematic sections, although these divisions were not visible to participants. It began by inviting participants to upload an image of a chair they had designed and considered well-designed. They were asked to describe the chair, explain its development context, and reflect on the design process. Participants were also asked to share why they thought the chair was 'good,' whether a full-size prototype had been created, and if the chair had been manufactured and used, with reflections on the sitting experience. The term 'good' was intentionally left broad to allow participants to express their personal standards for well-designed chairs.

Next, the survey focused on participants' sitting habits. They were invited to upload images of chairs they typically use and describe them, including whether their attitude towards these chairs had changed over time and why. Similarly, they were asked to share images and reflections on chairs they enjoyed or disliked using, with follow-up questions about any changes in perspective. This section concluded by asking participants what they considered a 'bad' chair design, to explore how this contrasted with their understanding of 'good' design. Participants were finally given the opportunity to suggest design modifications to the chairs they had previously classified as 'good', either through images, text, or both.

Following these sections, socio-demographic information was gathered to gain a deeper understanding of participants' backgrounds. This included inquiries about formal design education, professional versus hobbyist status, current roles within the design field, and age-factors that influence design culture and individual perspectives. Gender was addressed through an open-text question, allowing participants to self-identify and reflecting the

significance of gender in design norms without imposing fixed categories. While other socio-demographic aspects such as (dis)ability or body size were intentionally excluded to maintain focus, participants had the opportunity to share any additional relevant information via an open-ended prompt. For all questions, options like "other" and "I prefer not to answer" were provided, and the sequence of questions was thoughtfully arranged to gently guide responses. At the end of the survey, participants were invited to share any additional thoughts or insights beyond the structured queries.

Finally, participants were asked whether they would be interested in follow-up interviews, contributing to a small publication with their submitted images and texts, or receiving the completed research results. Image rights were addressed, clarifying the use of uploaded images owned by participants and the researcher's responsibility regarding images without explicit ownership. The full questionnaire is available in the appendix (appendix A.1.1).

2.1.2. Qualitative Expert Interviews

The second phase of the study focused on qualitative expert interviews to explore individual experiences and thought processes in greater depth, with particular emphasis on gender within the context of chair design—an aspect only minimally addressed in the survey responses. The interviews followed a problem-centered approach: an open, dialogical conversation guided by a flexible interview guide containing key topics and questions, which allowed for spontaneous follow-up and deeper exploration (Helfferich, 2011, pp. 35–37). This open-ended, conversational format encouraged more personal sharing of ideas and insights that can be difficult to express in writing. Although I did not have the same technical expertise as the interviewees, my background in design and hands-on experience in wood and metal workshops provided a practical foundation that enabled me to engage with them on somewhat common ground. Being relatively new to theoretical frameworks myself helped bridge the often-noted gap or hierarchical divide between theory and practice, fostering a more balanced and respectful exchange of knowledge. By complementing the structured nature of the first phase, the interviews offered a richer, more nuanced perspective on the subject.

Building Components

As previously described, my original plan was to recruit interviewees through the survey to explore specific topics in greater depth that the survey's scope could not fully cover. However, since gender appeared only peripherally in the survey responses—and given that gender is the primary focus of this thesis—I chose to conduct interviews mainly with individuals who had not participated in the survey but who specifically engage with inclusive design, with an emphasis on gender, in their chair design work. Through targeted research and direct requests, I recruited three of the four interviewees this way and conducted a follow-up interview with one survey participant. This follow-up was important both to gain a general sense of how the survey was received and to address gender more explicitly within this context.

All four interviewees have completed or are currently completing formal design education in Germany and are roughly between 25 and 35 years old. Notably, all interviewees who focus specifically on gender issues in chair design identify as women. While the interviews were originally conducted anonymously, it became increasingly clear during writing that their insights form a core part of this thesis. This prompted me to ask the interviewees afterwards if they were comfortable being named, giving them the opportunity to read the interview transcripts and emphasizing that this would not affect the study, so they could decide freely. All agreed and welcomed being mentioned by name. Consequently, this thesis draws significantly on the knowledge shared by Libi Gurdus, Roya Haupt, Mira Müller, and Florian Bremer.

Interview Design

As previously outlined, the first phase—a structured and extensive qualitative online survey—stood in contrast to the second phase, which consisted of open-ended, conversational expert interviews. These interviews offered participants the freedom to move beyond visual and written responses and encouraged a more associative, exploratory way of thinking—often leading them to discover what they wanted to express as they spoke (Ehn et al., 2016, p. 41). The format also opened up space for a more sensory engagement; while design is often dominated by the visual, other senses—such as touch, hearing, smell, and even taste—play an equally important role in how design processes unfold and how outcomes are experienced (Ehn et al., 2016, p. 14). Bringing these two methods together allowed for a more nuanced and layered understanding of the topic.

The interview with Florian Bremer—the only participant who also took part in the survey—built directly on its findings. It focused on his design process and how questions of gender are situated within it, while also allowing space to explore aspects of his practice not addressed in the survey. Prior to our conversation, he shared a selection of texts, which anchored parts of the discussion in these materials. It became evident that the concept of *meshwork*—discussed further in section 8—is central to his thinking and practice (full transcript available in appendix A.2.4).

The other three interviewees were selected based on their chair designs and/or their design approaches, which engage with inclusive design and, more specifically, with gender in distinct ways. Their projects served as entry points for our conversations, which expanded into in-depth reflections on their design processes as well as broader discussions about structural conditions within the design field. These interviews also provided an opportunity to bring in patterns and observations that had emerged from the survey, offering further depth and nuance to the overall analysis (full transcripts available in appendices A.2.1, A.2.2, & A.2.3).

The interviews took place in March 2025 via video call—either on BigBlueButton or Zoom, depending on participants' preferences—as we were based in different cities. Audio was recorded and later transcribed. The conversations with Roya Haupt, Libi Gurdus,

and Mira Müller were transcribed manually, while for the interview with Florian Bremer, I first generated an automated transcript using the video editing software Adobe Premiere Pro, which I then carefully reviewed and corrected while listening closely to the recording. Due to their open, conversational format, the interviews varied in length, ranging from just under two hours to approximately one hour and fifteen minutes.

2.2. Evaluating the Structure

As noted earlier, my research process was not linear but circular, meaning that data analysis unfolded alongside data collection. This iterative approach allowed me to continuously identify gaps and decide which additional data was needed to achieve saturation. Throughout, I repeatedly revisited familiar topics, striving to view them from fresh perspectives—immersing deeply in the material, then stepping back to gain a broader understanding (Ehn et al., 2016, p. 21).

To guide this process, I drew on cultural analysis strategies that help uncover hidden dynamics and power structures shaping everyday life—such as identifying break points, working with contrasts, focusing on emotions, understanding culture as a learning process, and attending to materiality (Ehn et al., 2016, 27–30). While all of these informed my research to varying degrees, I found learning processes and materiality to be the most relevant focal points. Viewing culture as a learning process allowed me to trace how norms, values, and ideas become embodied in both design practices and material objects—often in ways that feel natural, yet are culturally constructed. This raised key questions for my inquiry: How do designers learn what counts as a 'good' chair? How are ideas of comfort, aesthetics, or inclusivity passed on, challenged, or transformed? At the same time, focusing on materiality enabled me to examine how chairs—as physical, designed objects—mediate and stabilize cultural norms in everyday life.

With these conceptual lenses in mind, I began analyzing the data using MAXQDA, a software tool for qualitative coding and analysis. I started by open coding the survey submissions—breaking the data into meaningful units, labeling recurring themes, and grouping them into emerging categories. Building on this, axial coding helped me examine relationships between these categories and organize them around a central phenomenon shaped by both the initial codes and my research question. This clarified how different thematic aspects fit within a broader framework and informed the focus of the subsequent interviews. I then applied more targeted selective coding to interview transcripts and particularly relevant survey responses, aiming to distill a core narrative that wove together categories and themes into a coherent, nuanced understanding (Götzö, 2014, p. 451). Throughout, I continuously reflected on which aspects were most significant to the scope of the thesis, given the volume of material. To navigate this complexity, I used the markdown-based note-taking app Obsidian to visually map connections between themes in a non-linear, networked format, linking directly to excerpts and notes. As the web of themes grew denser, it became increasingly difficult to maintain an overview. Since

the thesis ultimately required a linear form of presentation, writing became a necessary final step—allowing me to structure, distill, and clearly articulate these interwoven relationships.

A significant challenge in this analysis was how to work with visual material, which makes up a substantial portion of the data. Rather than reducing these visuals to verbal descriptions—which risks abstraction and distortion—I treated them as material in their own right. Including much of the visual material in the thesis helps increase transparency in the analytical process and serves as a corrective (Pink, 2021, p. 154). However, it is important to recognize that visual material often becomes "separated from the world of action in which [it was/is] meaningful" (Banks and Morphy, 1997, p. 16). This separation is especially pronounced in this study, as the artifacts and images were not created specifically for it. Instead, they exist within a context where they are "interrogated and interpreted from a multiplicity of different perspectives" (Banks and Morphy, 1997, p. 16), complicating the analysis. To address this, I invited participants to contextualize, describe, and interpret their submitted visuals, enabling me to situate the images within their intended meanings and better understand how the visual and non-visual data relate to one another (Pink, 2021, p. 155).

2.3. Structural Limitations

A central limitation of this study lies in my own positionality, which is reflected in the data assembled. My professional and social networks are primarily located in German-speaking countries and the United States. Although I attempted to broaden participation through snowball sampling, the study predominantly reflects Western perspectives on chair design processes, outcomes, and use. Moreover, it became apparent that most survey participants and interviewees have a formal design education—primarily in Germany—closely mirroring my own background. As a result, perspectives from individuals without formal training were clearly underrepresented. Additionally, most participants are within a similar age range to mine, which limited generational diversity in design perspectives.

While I have already outlined the differences in anonymity between the two research phases, it is important here to address the limitations these decisions entailed. The first phase—a qualitative online survey—was designed to preserve participant anonymity, encouraging open and honest engagement given the potentially sensitive nature of the topic. The second phase involved direct interaction through interviews, which, by nature, could not be anonymous to me as the researcher. These interviews were initially conducted with the understanding that participants would remain unnamed in any published material. Only later, after reviewing their transcripts, did the interviewees explicitly consent to be named. Acknowledging them felt appropriate and necessary to honor their contributions and expertise. Survey participants remain anonymous, but due to recruitment via personal and professional networks—as well as the public visibility of some submitted designs—their

identities were sometimes still inferable. To mitigate this, I deliberately omitted project titles and other identifying details when presenting the survey data. Still, complete anonymity cannot be fully guaranteed.

The structure and length of the survey also presented certain limitations. While it was conducted in English with the assumption of a high level of language proficiency, participants were free to respond in their preferred language. In practice, nearly all responses were submitted in English; one participant used a mix of German and English, later translating the German parts and noting that English was not their preferred language. Varying levels of language fluency may have shaped how participants articulated their thoughts, potentially influencing the nuance and depth of some responses. Florian Bremer—the only participant later interviewed—noted that the survey was extensive, though his prior project documentation made it easier to respond. This suggests that others, lacking such prepared material, may have found the survey more demanding, which could have affected both the response rate and the level of detail provided.

An illustrative example of this is the option given to participants to revise or improve their chair designs if they felt it was necessary—a gesture meant to acknowledge design as an iterative process. However, only a few participants made use of this opportunity. The reasons likely varied: the effort required to engage in further reflection, the fact that most suggestions had to be made in writing rather than visually, and perhaps also the sense that their original designs already felt complete.

As already mentioned in section 2.1.1, I also intentionally excluded a "back" button in the survey to encourage spontaneous responses rather than revisions. While this helped capture more immediate reflections, it may have limited participants' ability to refine or elaborate on their thoughts. One participant explicitly noted that this constraint made it difficult to engage more deeply with some questions.

Lastly, although the study includes a considerable amount of visual material, it is limited to finished chair designs. The design processes themselves were not visually documented and were instead conveyed through participants' written or verbal accounts. Given the emphasis within design culture on visual representation (Erlhoff and Marshall, 2008, p. 69), the focus on final products rather than process is perhaps unsurprising. Still, this emphasis raises critical concerns: presenting chair designs solely as object-focused imagery—particularly without human presence—risks reinforcing objectifying representations (Pink, 2021, p. 51).

3. Forms of Knowing

After outlining my methodology, I turn to the term *chair*, a concept whose significance extends beyond semantics. How it is defined not only shapes who is included or excluded in design but also influences design practices and reflects underlying power relations. In this chapter, I explore common understandings of the chair in Western contexts, clarify how I employ the term in this study, and examine participants' interpretations—highlighting how definitions and knowledge actively shape design processes and outcomes.

3.1. Defining the Chair

Chairs are everyday objects often taken for granted, yet they carry rich cultural meanings and assumptions. As design historian and material culture scholar Judy Attfield notes, objects like chairs are so embedded in our environments that they often escape notice: "It is only in the naming of things – 'chair', 'car', 'coat', 'toothbrush', 'escalator' – that they assume a particularity that makes them stand out as individual entities" (Attfield, 2020, p. 11, emphasis in original). Yet language alone cannot fully capture their meaning, as it overlooks the roles designers, makers, and users play in shaping meaning through interaction and use (Attfield, 2020, p. 34). This section explores how the chair is understood, defined, and interpreted—both in general Western cultural contexts and specifically by designers engaged in this research. By examining these perspectives, I aim to reveal the layers of meaning embedded in something as seemingly simple as a chair.

In Western society, there is generally a relatively clear and commonly shared understanding of what defines a chair. Galen Cranz, a sociologist and architectural scholar known for her work in body-conscious design, offers the following widely accepted definition: "A chair is a piece of furniture with a back, and usually four legs, on which one person sits" (Cranz, 1998, p. 31).

This definition reflects the kind of mental image many people carry—myself included. Designer Florian Bremer, who participated in both the survey and a follow-up interview, articulates a similar perception: "A chair always has a backrest for me. So if a stool has a backrest, then it's a chair," and expands on it humorously: "If you put two chairs next to each other, you have a bench, and if you stack two benches on top of each other, you get a grandstand"[1] (Bremer, 25.03.2025; appendix A.2.4).

[1] The original reads in German: "Ein Stuhl hat halt für mich immer eine Lehne. Also wenn ein Hocker eine Lehne hat, dann ist er halt ein Stuhl. Wenn man zwei Stühle nebeneinander stellt, hat man eine Bank und wenn man zwei Bänke übereinander stellt, hat man eine Tribüne."

To explore such associations, I deliberately chose the term *chair* in the survey, rather than a more open-ended phrase like *seating option*. While the latter may seem more inclusive, it already carries assumptions about interaction and use that I wished to avoid. By not offering a definition, I aimed to invite survey participants to articulate their own understanding of what a chair is. This choice also gestures toward a broader issue in design discourse: the tendency to focus on the object itself, rather than on the experience or interaction it enables.

Bremer critiques the object-centered focus of design and asks: "Why isn't the interaction considered?"[2] (Bremer, 25.03.2025; appendix A.2.4). For him, seating types such as stools, benches, and chairs are variations of a mode rather than distinct objects. He connects this object-centered perspective to linguistic patterns—for example, in German, nouns like *chair* are capitalized while verbs like *sitting* are not—showing how language reflects and reinforces a design hierarchy that prioritizes objects over activities.

Reflecting on my own upbringing in a Western context, I recognize that my initial mental image of a chair aligns closely with the conventional definition mentioned earlier. And even now, I often catch myself thinking in exactly those terms. By using the word *chair* without further clarification, I hoped to surface the assumptions others bring to it—whether they align with or diverge from this normative image. Some responses remained within conventional boundaries, while others presented more open or experimental interpretations. To illustrate this diversity, I include chair designs from designers I engaged with in the context of this thesis, whether through the survey or interviews. Although only one survey participant explicitly reflected on the term itself, many conveyed their interpretation through design choices, as seen in figure 3.1.

These variations are more than semantic—they have material consequences. This thesis seeks, in part, to contribute to a more expansive understanding of what a *chair*[3] can be: not only as a concept, but also as a designed and used object. By attending to these nuances, I trace how meaning is constructed through design practices, with particular attention to gender, while recognizing that the implications extend beyond this focus. Acknowledging the material effects of these definitions highlights the importance of knowledge in shaping design outcomes: what designers know, assume, and prioritize directly informs what—and for whom—they design. This entanglement of knowledge and creation is further explored in the following section.

[2] The original reads in German: "Wieso geht es nicht um die Interaktion?"

[3] I italicize the term *chair* here to signal a critical distance from fixed definitions of what it should be. For the sake of readability, the term will appear in plain text throughout the remainder of this text.

3.2. The Power of Design Knowledge

Building on the discussion of what constitutes a chair, I turn to the ways knowledge informs and shapes design practices. Understandings of what counts as a chair—and how chairs are designed—are neither neutral nor universal. Instead, knowledge is always situated, emerging from complex social relations, material conditions, and embodied experiences that actively shape design processes and outcomes. As designer, educator, and feminist design scholar Alison Place—whose work I draw on extensively throughout this thesis—emphasizes, "Knowledge is a key component in every decision we make as designers" (Place, 2023, p. 47), highlighting the central role of situated knowledge in design.

However, design knowledge is often framed as universal and objective, even though it is in fact deeply situated and relational. Designer and disability studies scholar Aimi Hamraie underscores this by stating that "knowledge is social, relational, material, and spatially situated," and goes on to argue that "*knowing* both reflects and shapes the world," ultimately concluding that "knowledge, in other words, is a kind of design" (Hamraie, 2017, p. 10, emphasis in original). Building on this, Place emphasizes that design decisions are shaped not only by what designers know, but also—critically—by their *lack*[4] of knowledge (Place, 2023, p. 47). When such absences—particularly those concerning bodily diversity, cultural contexts, or social conditions—remain unacknowledged, the scope of design becomes restricted, often reinforcing exclusion.

In dominant Western design traditions—especially within product design, where chair design is often situated—knowledge is frequently regarded as objective and detached from personal experience. Yet, as feminist and queer design theorist Anna Unterstab points out, much design knowledge is profoundly influenced by the identities and social positions of those who create it. Given that the field remains predominantly shaped by white, cisgender, male, and able-bodied designers, their perspectives and needs tend to set the standards for what is considered normal or valuable (Unterstab, 2023, p. 101).

Such definitions implicitly assume a 'default' user (Place, 2023, p. 47)—a body and set of needs that align with the dominant chair norms described earlier: a single user, four legs, a backrest, and fixed dimensions (Cranz, 1998, p. 31). Those who do not fit this norm are often dismissed as 'edge cases', rendering their needs invisible and perpetuating the false notion that design knowledge is neutral, even though it inevitably reflects the positionality of its creators (Place, 2023, pp. 45–47). This understanding of knowledge as embodied and relational is further articulated when Place writes:

> We all produce knowledge through our experiences as we move through the world. As knowers, we experience the world through our bodies, our emotions, our values, our worldviews, our roles, and our relationships to others. (Place, 2023, p. 45)

[4] I italicize *lack* here to signal that what counts as a lack is always perspective-dependent, based on one's frame of reference.

Place therefore advocates for a design practice that challenges dominant knowledge structures by centering marginalized perspectives. Building on the work of author, theorist, educator, and social critic bell hooks, she proposes the approach of "designing at the margins" (Place, 2023, p. 48). For hooks, the margins are "a space where there is unlimited access to the pleasure and power of knowing, where transformation is possible" (bell hooks, 1989, p. 15). This approach values alternative ways of knowing and doing, creating space for new imaginaries and forms of critical reflection. By centering the needs of the most vulnerable, it not only challenges systems of exclusion but also enriches design for everyone. This theme recurs in chapter 5, where I explore how objects mediate power and care through the concept of *affordances*.

To illustrate how knowledge shapes design, I briefly return to the work of Bremer, whose chair design *Zygmunt* (2022) was strongly influenced by the sociologist and philosopher Zygmunt Bauman. Not only does the chair's name reference Bauman, but Bremer also engaged closely with specific passages from his work during the design process. By drawing on social theory, the project rethinks how design relates to community and material culture. This example demonstrates how insights from beyond the design field can unsettle dominant assumptions and open up new ways of thinking and making.

Taken together, these reflections highlight that design knowledge is never neutral—it is always situated, relational, and shaped by power. My methodology described in chapter 2 responds to this by centering marginalized perspectives, not as exceptions but as essential starting points for rethinking design. The focus on women in a male-dominated field was not predetermined; it emerged during the research, as they engaged most actively with gender in chair design. At the same time, the process exposed the deeper marginalization of those whose experiences fall outside dominant gendered, racialized, and/or ableist norms. While these dimensions lie beyond the scope of this thesis, the aim is to contribute to a broader conversation about whose knowledge is recognized and legitimized in design.

Building on this critique of knowledge production, we can likewise rethink how we approach the chair itself. Rather than assuming it to be a neutral or self-evident object, this chapter has shown that its meaning and form are shaped by specific cultural, historical, and disciplinary logics. These frameworks are far from universal—they systematically privilege certain bodies and ways of knowing. By tracing how design knowledge is produced and legitimized, this discussion sets the stage for the following chapter, which examines the operations of power embedded in chair design practices and material forms.

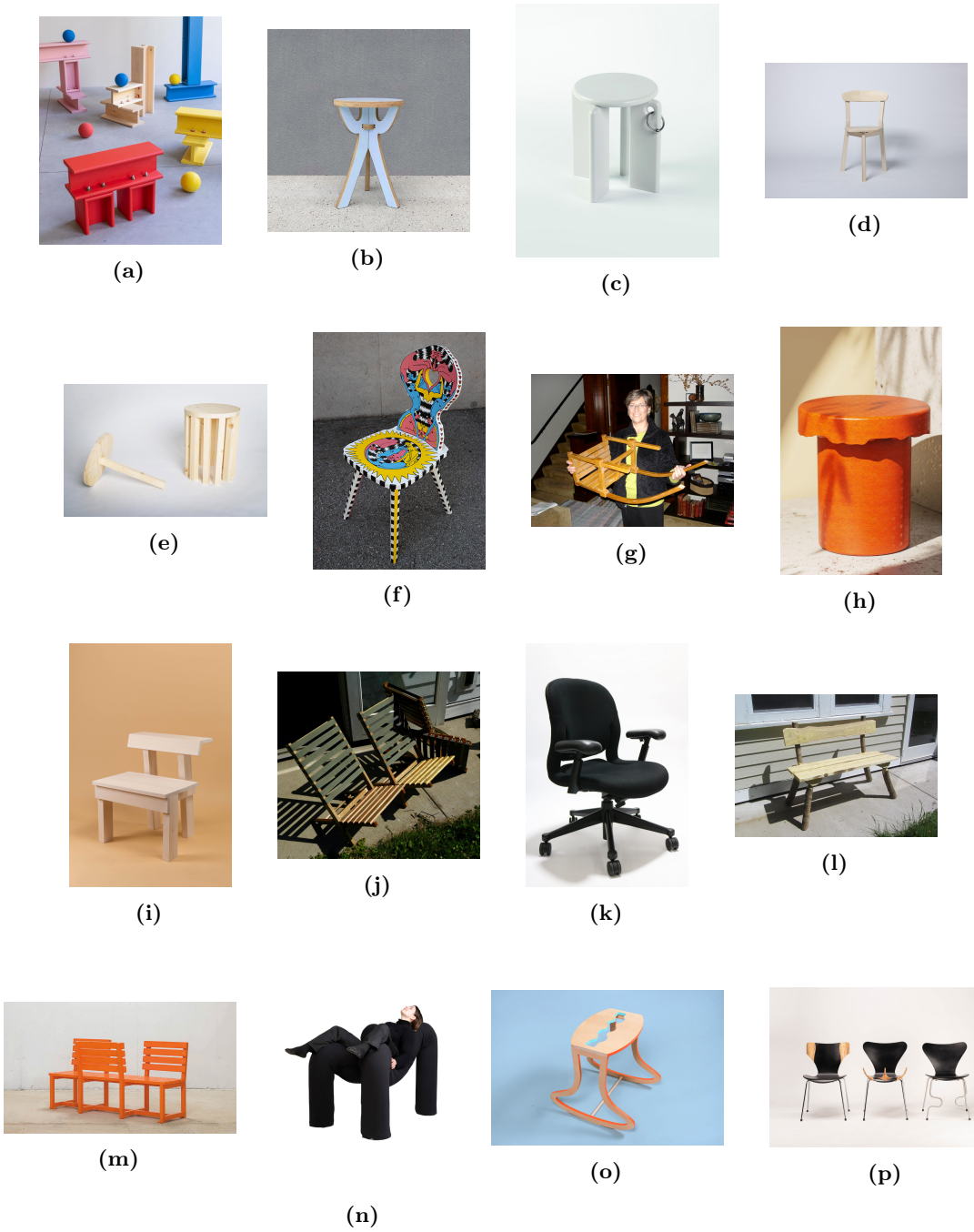


Figure 3.1.: These images illustrate the diverse interpretations of what constitutes a *chair* among survey participants and interviewees. Images **(a)**–**(h)**, **(j)**–**(l)**, and **(m)** were anonymously submitted through the survey (Project: Anonymous; Design & Fabrication: Anonymous survey participants; Photo: Anonymous). Image **(i)** is from Project *Zygmunt* (2022) (Design & Fabrication: Florian Bremer; Photo: Florian Bremer). Image **(n)** is from Project *Spider Chair* (2023) (Design & Fabrication: Roya Haupt; Photo: Roya Haupt). Image **(o)** is from Project *NUA* (2023) (Design & Fabrication: Libi Gurdus; Photo: Libi Gurdus). Image **(p)** is from Project *Undoing Arne* (2024) (Design & Fabrication: Mira Müller; Photo: Mira Müller).

4. Power Carved into Chair Design

While the previous chapter examined how language and knowledge shape design by reinforcing, challenging, or reconfiguring power, this chapter shifts focus to the physical realm, exploring how power is literally inscribed in chairs through their shape, function, and use. It also considers how designers embed these dynamics into material form. Attending to the tangible is crucial for understanding how inclusion—especially around gender—manifests in chair design and influences the sitting practices these objects afford or constrain.

Expanding from this focus on materialized power, designer, educator, and feminist design scholar Alison Place—whose work I have already discussed in chapter 3 regarding the power of knowledge (Place, 2023, pp. 45–50)—offers a valuable framework for examining how systemic inequalities are embedded in, and can be contested through, design. Drawing on Sasha Constanza-Chock—a scholar, designer, and activist working at the intersection of media, technology, and social justice—Place emphasizes that design is never separate from power; it actively contributes to reproducing systemic inequalities. At the same time, she stresses that power in design can and must be harnessed to create alternative, transformative possibilities. This approach underpins my thesis, which intertwines theoretical insights—which can sometimes feel abstract—with concrete examples of design practices that challenge patriarchal power structures in chair design and propose alternative approaches (see chapter 6). In *Design Justice: Community-Led Practices to Build the Worlds We Need* (2020), Constanza-Chock draws on sociologist Patricia Hill Collins's concept of the *matrix of domination* to argue that design plays a key role in reinforcing systemic inequalities. Originally developed in 1990 from the lived experiences of Black women, the matrix describes how interlocking systems of oppression—such as white supremacy, heteropatriarchy, capitalism, and settler colonialism—structure social relations, with different groups experiencing distinct configurations of these forces. Constanza-Chock positions the matrix as a conceptual tool for understanding how power, privilege, resistance, and inequality are systematically organized and distributed—and highlights design's active role within these dynamics (Collins, 2000, pp. 227–232 & Constanza-Chock, 2020, pp. 20–23). Extending this critique, Place notes that design, unlike many other fields, has only recently begun to confront these power structures, making it all the more urgent to examine how dominant norms are both reflected in and reproduced through design practice (Place, 2023, pp. 13–17).

Responding to this urgency, I focus in the following sections on the two systems most prominent in the survey and interview data: heteropatriarchy and capitalism. While

white supremacy and settler colonialism remain foundational to the matrix of domination, their absence from participant narratives likely reflects the scope of this study and the positionalities of both myself and the respondents.

4.1. The Chair as a Site of Power

To trace how these systems operate in practice, I begin with the chair—the central object of this thesis—which serves as a concrete entry point for examining how power becomes embedded in everyday design. Focusing first on the chair makes visible how design, far from being neutral, is shaped by historical and cultural forces that reflect and reinforce social hierarchies. Building on this object-specific analysis, I then expand the discussion to consider how design more broadly is entangled with heteropatriarchy and capitalism, while continuing to use chair design as a tangible example that grounds the analysis.

This dynamic becomes especially clear when looking at the historical development of the chair. As sociologist and architectural scholar Galen Cranz—already introduced in chapter 3—emphasizes, chairs did not arise simply from anatomical needs but from social and political structures shaped by power and status (Cranz, 1998, p. 23). While no records of chairs exist before the Ice Age, evidence of their use begins to appear between 10,000 and 4,000 BCE—a shift also reflected in the German term *sesshaft*, literally related to sitting. Clay models depicting women seated on chairs not only confirm their early existence but also suggest that some societies of this period may have been matrifocal (Cranz, 1998, pp. 32–34). Over time, seating practices, and thus chairs, developed in response to changing political and cultural contexts. In the medieval period in particular, the chair came to embody patriarchal authority, as "the social functions of medieval chairs reflected patriarchal style, power, and authority" (Cranz, 1998, p. 41). For Cranz, this trajectory illustrates that:

> Because of its importance in both matrifocal and patriarchal cultures, we can conclude that the chair—a seat with a back for one person—has been potent enough for influential groups to appropriate it as a symbol of their significance. (Cranz, 1998, p. 33)

This symbolic role points to a larger pattern: over time, chairs have functioned as markers of power and hierarchy, reflecting distinctions of class, gender, and age. Rather than isolating these categories, it is helpful to approach them through the broader framing of social status. Such a framing makes visible how chairs communicate hierarchy in multiple, intersecting ways, while also leaving room to consider dimensions such as (dis)ability—which I explore in greater depth in chapter 5 (Cranz, 1998, p. 50). In this chapter, then, my concern is with how chairs produce and signal social status in general terms. Gender, however, remains the central thread of my analysis, to which I return explicitly in sections 4.2, 4.3, and 4.4, as well as in the chapters that follow.

One of the most striking ways power is encoded in chair design is through its ability to lift the body off the ground—a gesture historically tied to notions of progress, civilization, and cultural superiority. This elevation is more than a functional detail; it carries deep symbolic weight, reinforcing status and hierarchy across societies (Cranz, 1998, pp. 25–26). Cranz illustrates this dynamic vividly with the example of Western tourists encountering squat toilets for the first time: "Though it is an anatomically efficient position for elimination, most visitors feel revulsion, superiority, or some combination of both" (Cranz, 1998, p. 26). Such discomfort stems not from biology but from deeply ingrained cultural norms, which are also evident in the normalization of the right-angled sitting posture. Practiced by only about a third of the world's population, this posture reflects not anatomical necessity but cultural design choices so pervasive that they have reshaped the built environment itself—for instance, window heights are often set according to the eye level of a person sitting on a standard chair, roughly 45 cm above the ground. Taken together, these examples show how chairs embody and naturalize particular cultural values, becoming a global symbol of Westernization and entangled with dominant narratives of modernization and economic progress (Cranz, 1998, pp. 28–29).

> The form of the chair literally expresses high status; it separates, and elaborates the separation, providing distinction, while it legitimizes support of the occupant's whole physical and psychological being. (Cranz, 1998, p. 34)

Closely tied to this symbolic and spatial logic, other design features—such as the backrest, posture, and material choices—further communicate power and hierarchy. The backrest establishes a clear front and back, separating the seated individual from others and reinforcing social order, whereas stools promote more open interaction and egalitarian communication. Posture similarly signals authority: upright or reclined positions communicate different forms or degrees of power, though historical and cultural contexts shape which postures convey dominance. Feminist scholars in the late 20th century highlighted how women's posture—and their interaction with furniture—was often socially constructed to emphasize vulnerability and dependence rather than strength or authority (Cranz, 1998, p. 52). Beyond orientation and posture, elements such as materials, ornamentation, technological processes, and the presence or absence of armrests or upholstery contribute to a chair's symbolic charge. The number, variety, and distinctiveness of chairs in a setting add further layers of meaning, though what is considered prestigious has always depended on the specific social and political contexts of each era (Cranz, 1998).

Many of the characteristics described above for chairs also apply to thrones, which are even more explicitly associated with power. But what, then, distinguishes a throne from an ordinary chair? Etymologically, the difference highlights distinct connotations: while the word *chair* derives from the Greek *cathedra*—a combination of *kata* (down) and *hedra* (to sit)—throne comes from the Indo-European root *dher*, meaning "to hold or support" (Cranz, 1998, p. 31). The throne's origin lies in the practice of being carried, a

privilege historically reserved for a select few, whereas chairs were comparatively more common. Yet even ordinary chairs carry symbolic weight. This is evident in language: for example, a university professor occupies a chair, signaling prestige and the authority inherent in producing and disseminating knowledge. Similarly, leadership positions across various sectors are often titled chair or chairperson (Cranz, 1998, pp. 30–31). Together, these linguistic and cultural traces reveal the chair's deep entanglement with structures of authority and symbolic power.

This symbolic significance began to shift with the Industrial Revolution in the 19th century, which played a crucial role in democratizing chairs. Mass production made chairs more affordable and accessible to a wider population. At the same time, work itself changed—with industrialization, more jobs involved sitting, unlike agricultural labor—further increasing the demand for chairs and embedding them more deeply into everyday life (Cranz, 1998, pp. 44–45).

But why consider the chair's historical role as a symbol of power? Even if the chair one sits on today might not seem problematic, understanding its symbolic past can shift how we relate to it. Mira Müller, a carpenter and designer working at the intersection of speculative, critical, and gendered design, emphasizes this point; I interviewed her and will return to her work in detail in chapter 6, focusing on gendered sitting behaviors. According to Müller, tracing the origins of an object's power opens up possibilities to engage with it differently—to question, reinterpret, and ultimately overwrite the meanings it has accumulated over time. Bringing such structures to light is therefore a crucial step toward creating alternatives or counter-spaces. In this way, this awareness is not only historically informative but also directly relevant to design, encouraging us to imagine seating forms and spatial arrangements less bound by traditional hierarchies (Müller, 20.03.2025; appendix A.2.3).

Taken together, these observations show that chair use is far from neutral or purely functional. As cultural artifacts, chairs are imbued with power and act as complex symbols shaped by historical, social, and political forces. Their design, posture, and accessibility both reflect and reinforce existing hierarchies, while simultaneously evolving in response to shifting social contexts. Cranz underscores this point, noting that "our chair habit was created, modified and nurtured, reformed and democratized in response to social—not genetic, anatomical, or even psychological—forces" (Cranz, 1998, p. 30). Yet the dynamics that imbue chairs with social meaning do not emerge solely from the objects themselves—they are inseparable from the designers who shape them and the structures that grant or restrict their authority.

4.2. Designers in the Circle of Power

While power is embedded in the chair as an object, it is also exercised by the designer, who mediates how that power takes shape. In this light, I examine the designer's role, tracing how historical and contemporary structures—particularly heteropatriarchy—shape who gets to design, whose work is recognized, and how authority is enacted in design.

The exercise of power by designers has a long history, which can be traced to the emergence of chair designers as a distinct professional group in the 18th century. As Galen Cranz notes, chairmaking evolved into specialized crafts involving turners, carvers, joiners, and upholsterers. Over time, principles of ergonomics and aesthetics were formalized and circulated through pattern books, guiding craftsmen—a group that was overwhelmingly male in this historical context (Cranz, 1998, p. 43). As these practices matured, design historian Anne Massey observes a clear divide between makers of unique, handmade pieces and designers aligned with Western modernism, who increasingly prioritized industrial reproducibility (Massey, 2011, p. 149). This transformation accelerated with industrialization, particularly after World War I, when traditional craft lost much of its artistic status and architects emerged as central authorities, directing chairs toward modernist ideals and reinforcing broader spatial, behavioral, and aesthetic norms (Massey, 2011, p. 55).

Building on this consolidation of professional authority, Massey further highlights how the anthropomorphic form of chairs—with legs, arms, and backs—metaphorically inscribes the designer's authority into the object itself (Massey, 2011, p. 9). However, this authority was never neutral. As design historian Cheryl Buckley demonstrates in her pioneering article *Made in Patriarchy: Toward a Feminist Analysis of Women and Design* (1986), the designer was historically constructed as a male auteur, whose vision defined both object and meaning while simultaneously restricting women's participation through social, institutional, and economic barriers. Women were largely confined to the decorative arts, their contributions framed as domestic rather than cultural or intellectual, and even significant achievements were often generalized, sidelined, or absorbed into male-authored narratives (Buckley, 1986, pp. 4–5 & Cranz, 1998, p. 53). Notable examples include Florence Knoll, who strategically aligned with male architects; Charlotte Perriand, whose contributions as co-author of the *B 306 / Chaise longue à position variable* (1928/29) received limited recognition; and Eileen Gray, whose early modernist chairs remain largely overlooked (Marina, 2023, pp. 20–21; Cranz, 1998, p. 53). All three were designers and architects whose careers exemplify how male-dominated authority shaped recognition in chair design.

Connecting this historical perspective to contemporary practice, feminist and queer design theorist Anna Unterstab, alongside the designers I interviewed for this thesis, highlight that chair design—a field typically situated within product design—remains heavily dominated by white, cisgender, able-bodied men. This persistent homogeneity

reinforces the illusion of neutrality and universality, hiding the ways in which design is always partial and shaped by context (Unterstab, 2023, p. 101). The effects of this male-dominated lineage are also evident in the chairs and designers most frequently cited by survey participants. Names such as Bill Stumpf, Egon Eiermann, Marcel Breuer, and Ludwig Mies van der Rohe appeared repeatedly, and even when survey participants referred to specific chairs, these objects remain overwhelmingly associated with male authorship. Iconic examples include the *Wassily Chair* (Breuer, 1925–1926), the *SE68 SU* (Eiermann, 1951), the *Panton Chair* (Verner Panton, 1959), and later designs such as the *Equa Chair* (Stumpf and Don Chadwick, 1984), *Aeron Chair* (Stumpf and Chadwick, 1994), *Humanscale Freedom Chair* (Niels Diffrient, 1999), *Zieta Plopp Stool* (Oskar Zięta, 2005), and *Tip Ton Chair* (Edward Barber and Jay Osgerby, 2011). Even chairs co-designed by women, such as the *Barcelona Chair* (Mies van der Rohe and Lilly Reich, 1929) and the *LCW Chair* (Charles and Ray Eames, 1946), are typically credited primarily to their male collaborators, highlighting how recognition and discourse continue to privilege male authority.

The persistent male dominance in chair design—visible both in the objects themselves and in the designers most often recognized—reflects broader patterns that Buckley revisits in her later work. In *Made in Patriarchy II: Researching (or Re-Searching) Women and Design* (2020), she builds on her 1986 arguments, emphasizing the continued marginalization of women while acknowledging the growing relevance of queer and intersectional perspectives. Buckley also stresses that keeping women at the center of analysis remains politically and historically necessary, cautioning that expanding the category of gender too quickly risks obscuring the specific exclusions women have faced (Buckley, 2020, pp. 21–23). While this focus is vital, an exclusive emphasis can inadvertently reproduce other forms of invisibility, as those whose identities intersect with race, class, disability, and queerness have long been marginalized. Alison Place underscores this point in *Feminist Designer: On the Personal and the Political in Design* (2023), noting that feminist design discourse has often relied on a universalized notion of woman—implicitly cisgender, white, heterosexual, and able-bodied (Place, 2023, p. 3). Similarly, cartoonist Jen Wang highlights how demographic homogeneity narrows discourse: "Especially when designers are demographically homogeneous, only one perspective then dominates the discourse on what constitutes valid design and who creates it" (Wang, 2016).

Building on these critiques, design anthropologist Jacquie Shaw emphasizes that there is no neutral ground in design—every decision is situated (Shaw, 2019, p. 19). Ignoring this situatedness risks framing design as inherently neutral, masking the influence of social and cultural contexts and the power embedded in designers' positions. Recognizing positionality, rather than attempting to separate the personal from the professional, reveals hidden power structures and guides more responsible practice. As Place notes, "acknowledging your positionality as a person and designer is a step toward revealing hidden power structures in the design process" (Place, 2023, p. 17). Designer Roya Haupt, interviewed for this thesis, echoes this perspective, observing that she designs most

effectively for women, people assigned female at birth, and queer communities—groups whose experiences resonate with her own (Haupt, 20.03.2025; appendix A.2.2).[1] While she values co-design across communities, Haupt stresses that affected individuals should also have the opportunity to design for themselves: "I do think it's possible to co-design for other groups [...] but I believe it's incredibly important that those affected have the possibility to design themselves"[2] (Haupt, 20.03.2025; appendix A.2.2). This approach aligns with the distinction that designer and disability studies scholar Aimi Hamraie makes in conversation with Place between designing *for* and designing *with*, emphasizing shared authorship and diverse perspectives over the authority of a singular expert (Hamraie and Place, 2023, p. 61).

Taken together, these insights show that recognizing positionality is central to understanding systemic dynamics in design, since decisions are never neutral and are always embedded in social, political, and cultural contexts (Place, 2023, p. 17). At the same time, Place cautions against attributing these challenges solely to individual bias, highlighting design's deep entanglement with systemic power and oppression. From this perspective, adopting an intersectional approach enables designers to navigate these structures, challenge dominant norms, uplift marginalized voices, and imagine transformative futures (Place, 2023, pp. 1–2 & 131 & Unterstab, 2023, p. 131). It also reflects the recognition that design emerges from collaborative processes and complex systems, making the notion of a solitary designer inadequate (Buckley, 1986, p. 10). Consequently, attention must extend beyond individuals to the cultural narratives and institutional norms shaping practices and outcomes, revealing how power operates through form, function, processes, and broader systems of meaning.

4.3. Norms and Narratives Shaping Form and Function

After exploring the ways power resides in both the chair as an object and the designer as an individual, this section shifts focus to the practice of designing. It considers how dominant social, cultural, and historical frameworks shape both design processes and their outcomes. Using chairs as case studies, I trace how institutionalized standards, professional codes, and aesthetic conventions both reflect and reinforce broader inequalities. Moving beyond formal analysis, the section also examines how practices, habits, and narratives inscribe power into objects and their production, while highlighting how designers—through reflection, experimentation, and resistance—can challenge these norms to produce more inclusive and context-sensitive designs.

[1] The original reads in German: "Ich gestalte einfach am aller besten für ehm Frauen, AFABs, auch für queere Menschen, [...] weil das meiner Identität entspricht."

[2] The original reads in German: "Ich denke schon man kann natürlich auch für andere Gruppen mitdesignen, ich denke das ist ganz wichtig aber das auch betroffene Menschen die Möglichkeit haben selber zu gestalten ist glaube ich so wichtig."

Understanding these interventions requires first examining how design as a practice has evolved within historical and institutional contexts. Although design has shaped everyday life for centuries, its formalization and professionalization are comparatively recent developments, shaping both whose work is recognized—as shown in section 4.2—and which practices are valued, as Sasha Costanza-Chock observes (Constanza-Chock, 2020, p. 14). This makes attention to the design process itself essential, as it both precedes the artifact and often remains hidden in a product-focused field, where its underlying norms and assumptions frequently go unexamined. In line with this insight, design historian and material culture scholar Judy Attfield emphasizes that the term *design* is fundamentally a verb, highlighting its processual character (Attfield, 2020, pp. 13–14). Building on this understanding, Alison Place further argues that design methods—the very core of this process—are structured by power relations from the outset, so that tools, materials, methods, and aesthetics that appear objective or universal are in fact shaped by unmarked norms (Place, 2023, pp. 14–15).

These embedded norms influence not only the practices designers adopt but also how the design process itself is perceived and described. As a result, design tools are often seen as defaults—neutral and independent of the power structures embedded within them—which contributes to the tendency for the design process to be mythologized or presented in simplified terms, as design scholar Claudia Marina observes (Marina, 2023, p. 19). This tendency was also evident in the survey responses, where participants frequently offered only limited insight into their methodologies. For instance, when outlining a workflow—such as "Research, Design, Prototyping, Adjustments, Production, Final result" (appendix A.1.2.3)—survey participants often omitted crucial details, including what was being researched, who was involved, and whose needs or experiences were considered. One reason for this may be that certain practices become so ingrained and habitual that they fade into the background—something I explore further in section 5.2—much like the chairs they bring into being. When methods were described, the emphasis tended to fall on task execution, with survey participants positioning themselves as active agents and materials as passive tools—a dynamic I return to in chapter 8. For example, one survey participant stated: "We built the metal structures for the benches, then ground the wooden piles, painted them orange, and mounted them on the metal structures" (appendix A.1.2.2). Even when initial questions or guiding reflections were mentioned, they often disappeared from the narrative once physical making began, highlighting a recurring separation between thinking and doing—a pattern that contrasts with Place's understanding of design as a continuous process of thinking, learning, and engaging with the world (Place, 2023, p. 2).

Nonetheless, a number of survey and interview participants stood out for the ways they wove critical reflection and research into their design processes. Before examining in more detail two designs explicitly addressing gender, created by designers I interviewed for this thesis (see chapter 6), I first want to introduce two survey responses that provide a preliminary illustration. One survey participant described how their process was guided by

iterative questioning: "Will more support for stool legs increase stability? Does reducing them necessarily lead to instability?" (appendix A.1.2.8). Through experimenting with different leg numbers, lengths, and materials such as wood and sponge, they explored how altering basic parameters could challenge familiar postures and routines. This process of questioning and experimentation is captured visually in figure 4.1, which shows how these design inquiries prompt a reconsideration of conventional chair forms and the habitual postures they encourage. The participant's use of sponge and wood also illustrates how materials relate to design practices: the sponge, malleable and responsive, absorbs traces of each iteration, while wood, once reshaped, eventually solidifies—mirroring how repeated design practices can become established habits over time. The work of another survey participant I want to highlight here, Florian Bremer—whom I later interviewed and who is also discussed in chapter 3—draws on a collection of references—furniture, sketches, technologies, moods—that shaped an evolving visual language. Their process moved fluidly between literary research, sketching, model-making, and hands-on production, with tactile exploration and precise adjustments continuously informing the outcome. In both examples, conceptual and material engagement were not separate phases but intertwined throughout the process, demonstrating how reflection, experimentation, and making operate in tandem.

Figure 4.1.: A demonstration of how questions guiding the design process can challenge conventional chair forms and the habitual postures they promote (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous).

At the same time, even gestures and tools originally intended to challenge conventions can solidify into predictable patterns if not continually questioned, highlighting a central tension between routine and adaptability that became evident in my empirical work. For example, Bremer, who is an experienced designer, described that years of practice have honed his intuitive sense of when to rely on drawing versus material experimentation (Bremer, 25.03.2025; appendix A.2.4). While valuable, this intuition also shows how working habits can become internalized, potentially foreclosing alternatives. By contrast, a newer survey participant noted: "I am still trying to figure out what my design process looks like" (appendix A.1.2.10), emphasizing that design routines are formed—and continuously questioned—through lived experience. Similarly, external conditions can disrupt established methods and open new pathways: another survey participant explained how limited access to resources led them to start with available materials, working backward from scrap wood toward the concept (appendix A.1.2.12). Together, these examples illustrate that design processes, often perceived as fixed, are in fact contingent, adaptable, and

responsive, with moments of improvisation serving as reminders that even routinized practices remain open to challenge and reconfiguration.

But the "rules of the game" (Parker, 1979, p. 682), as historian, writer, and feminist activist Rozsika Parker calls them, do not merely define the design process—they also determine what counts as 'good' design. Galen Cranz shows how these rules, rooted in early 20th-century ideologies and modernist principles, emphasized minimalism, rationality, and innovation—expressed through technological progress, material experimentation, and sculptural originality—often at the expense of comfort, a legacy that continues to shape contemporary design (Cranz, 1998, pp. 49–50). A concrete example is *kitsch*, which by the 20th century had come to signify poor or inferior taste, illustrating how distinctions between 'high' and 'low' culture were defined and policed, shaping wider standards of aesthetic valuation across mass culture (Spohr, 2008, p. 239). Similarly, Cheryl Buckley notes that practices traditionally associated with femininity—such as embroidery, ornamentation, or interior decoration—were often devalued as emotional, decorative, or amateur, despite their intellectual and material complexity. Far from innate, femininity itself is socially and culturally constructed through language, power, and normative expectations, shaping how such practices are perceived and marginalized (Buckley, 1986, pp. 3–7). Consequently, even when women achieved professional success in design, their contributions were frequently framed in terms of emotion and intuition rather than strategy and concept, while their historical association with domesticity further limited recognition—reflecting a broader pattern in which those outside the dominant male designer role are systematically devalued. Buckley captures this dynamic clearly:

> To legitimize this process of cultural coding, the language of design is presented as a universal truth. Exclusive definitions of good and bad design are constructed, based almost entirely on aesthetics. These definitions serve to isolate design products from the material and ideological conditions of production and consumption. Inevitably, these definitions also serve the interests of the dominant group, which attempts to disguise its interests with the mask of universality. (Buckley, 1986, p. 12)

These historical and normative rules are not merely abstract—they continue to shape how designers perceive and evaluate their work. Survey and interview accounts reveal the depth of this socialization, even among those questioning established codes. In my interview with Roya Haupt, she reflected: "I personally like it when objects look like good design—though of course, what even is good design—but when they have a design look," adding, "even though I've obviously learned to see it that way"[3] (Haupt, 20.03.2025; appendix A.2.2). Similarly, survey respondents cited familiar markers of design quality: one highlighted "minimalist design" and "timelessness" (appendix A.1.2.2) as signs of a successful chair, while another described a 'bad' chair as one that "lack[s] overall design"

[3]The original reads in German: "Ich persönlich mag das gerne wenn Objekte nach gutem, also was ist auch gutes Design, aber nach ehm Design aussehen [...] auch wenn ich das natürlich erlernt habe."

(appendix A.1.2.4), without further explanation. These accounts show how the "rules of the game" (Parker, 1979, p. 682) are internalized, subtly shaping designers' perceptions and evaluations—often beyond conscious awareness.

Importantly, these abstract norms also materialize in the concrete dimensions and standards of everyday objects. A clear example is the standard seat height of 45 cm, established in the 20th century—which I already discussed in section 4.1—and still widely accepted in chair design today. Reflecting on this, designer and carpenter Mira Müller noted: "Standardized seat heights [...] are something I learned early on—they're burned into my brain, and I think into many people's perception too"[4] (Müller, 20.03.2025; appendix A.2.3). While such standards may appear to be neutral simplifications intended to accommodate everyone, Cranz observes that they in fact favor an imagined 'average' user—typically tall and male. Highlighting the limits of this assumption, she notes that as early as 1948, researcher Bengt Åkerblom criticized the 45 cm standard as too high and proposed alternatives better suited to the shorter half of the population—often women and children, but also many men. Despite these early critiques, the standard has rarely been revised (Cranz, 1998, p. 102).

However, standardized seat height is just one example of how norms materialize in chair design. Interviews revealed that other widely accepted parameters—such as seat width, backrest height, and reclining angles—also shape both the design of chairs and how people experience them. Reflecting on her experience as a curvy woman, product designer Libi Gurdus explained: "I encountered many chairs that didn't fit my size," adding that she therefore "always [tries] to design chairs a bit wider" (Gurdus, 18.03.2025; appendix A.2.1). Her design choices respond not to abstract ideals, but to embodied experiences of exclusion. Müller observed that many of these standards were established "in a time that was even more patriarchally structured than today" and "have simply not been questioned since"[5] (Müller, 20.03.2025; appendix A.2.3). Taken together, these reflections emphasize the importance of critically re-evaluating what is treated as 'neutral' or 'universal' in chair design and exposing how such standards can reinforce exclusion by obscuring the particular bodies and subjectivities they historically privileged.

Yet, alongside these entrenched norms, some designers actively reclaim qualities long dismissed by dominant design discourse, using them as strategies of resistance. One survey participant, working from a queer design perspective, embraced decorative excess in their chair design to deliberately subvert modernist ideals of purity and restraint. Its ornamental

[4] The original reads in German: "Normierte Sitzhöhen [...] ist ja auch etwas was ich früh gelernt habe ... was Sitzhöhen oder was Tischhöhen sind, das ist irgendwie etwas was in meinem Gehirn einfach richtig eingebrannt ist ... ich glaube in aller Menschen empfinden auch."

[5] The original reads in German: "Zu einer Zeit wurden Normen festgelegt [...] die noch viel patriachaler strukturiert war als die heutige und da wurde etwas übernommen was einfach gar nicht mehr hinterfragt wird. Auch das ist wieder dieser Punkt ... warum schauen wir nicht einfach mal zurück ... wie würde zum Beispiel Sitzen aus einer, aus einer heutigen Perspektive aussehen wenn alle mitgedacht werden?"

character challenges conventional expectations of what a chair—and by extension, what 'good' design—should be. Rather than viewing decoration as mere embellishment, the design becomes a tribute to queer resilience, where body ornamentation, symbolism, and camp converge into an object that holds both protest and pleasure. It invites playful interaction while disrupting binaries such as function versus ornament or utility versus desire, making space for defiance, joy, and plural identity (appendix A.1.2.11). This sensibility resonates with the work of graphic designer Benedetta Crippa, whose practice I return to in section 4.5. Crippa describes decoration as "a humble practice of care for the everyday"—a mode of expression rooted in specificity, shaped by context, and always shifting with time and place (Crippa and Place, 2023, p. 127). In her view, ornamentation is not excessive but a situated act of care, resistance, and relational meaning:

> When I design, I allow myself to bring in colors, shapes, typography, visual elements, and interactions that go beyond what I learned as being 'right' or 'good' and instead operate on an emotional level—what do I want to feel and make other people feel? (Crippa and Place, 2023, p. 127, emphasis in original)

Practices and voices outside institutionalized definitions of design play a vital role in challenging dominant paradigms, as Buckley emphasizes, creating space to question which forms of design are privileged and to revalue those long marginalized (Buckley, 2020, p. 25). Design is thus not limited to 'professionals' but includes everyday acts of making—from home crafts and DIY projects to sewing, knitting, and building shelves or beds. Attfield notes that these practices often involve reuse, recycling, and shared knowledge, grounded in careful attention to materials and context. For example, one survey participant who self-identified as a hobbyist reflected: "I let the wood and other materials tell me how they want to be put together and used," adding, "I borrow from what others have done" (appendix A.1.2.7). Such making resists the linearity and individualism of mainstream design discourse, an aspect I return to in chapter 8. Attfield's concept of *wild things* captures everyday, 'lowercase' objects which, though excluded from elite design categories, form the fabric of daily life. By challenging patriarchal and modernist hierarchies, these wild things invite a reconsideration of what counts as design, opening space for more inclusive, situated, and materially responsive practices (Attfield, 2020, pp. 9–14).

While dominant design norms often perpetuate exclusionary standards—centering assumed neutrality, universality, and efficiency—resistant practices do more than simply exist alongside them. Queer and feminist design strategies, for example, actively interrupt normative scripts, reshaping both processes and the values embedded within them. Similarly, everyday making practices carve out spaces of care, collectivity, and situated knowledge, further challenging established hierarchies. Together, these interventions not only reveal the constructed nature of dominant design paradigms but also propose tangible alternatives. Their power lies in expanding what is imaginable, desirable, and ultimately possible within design—pointing toward a more livable, flexible, and inclusive

future. Yet, despite their growing influence over the past 50 years, feminist design remains marginalized within mainstream discourse and institutions (Place, 2023, pp. 1–3), a marginalization shaped in large part by the ways design education and historiography determine which approaches gain visibility—and which are sidelined.

4.4. Stories That Sustain Power in Design

While designers play a central role in shaping how objects and tools function, they operate within meshworks of power that extend beyond individual agency. These dynamics emerge through complex collaborations, in which historians, educators, and other stakeholders shape the narratives that define what counts as legitimate or valuable design. In this section, I focus specifically on design historians and educators, whose work plays a crucial role in reinforcing dominant narratives—narratives that often marginalize collaborative, informal, and alternative forms of design—thereby reflecting broader societal power structures.

Design historians have played a pivotal role in shaping the dominant narratives of the discipline—narratives that have long privileged industrial production, technological progress, and the figure of the lone (typically male) designer. As discussed in the previous section 4.3, Cheryl Buckley argues that this narrow focus has systematically marginalized other forms of design practice, particularly those associated with women, such as craft, domestic production, and collaborative work—practices often also pursued out of necessity due to limited access to formal training and professional recognition (Buckley, 1986, pp. 3–7). These exclusions are not incidental but reflect patriarchal structures embedded in historiographic methods. Even when women appear in historical accounts, their contributions are frequently framed through gendered stereotypes—as intuitive rather than intellectual, emotional rather than innovative—and typically defined in relation to male figures. Such framing distorts and diminishes the complexity of women's roles as practitioners, theorists, consumers, and subjects of representation, reinforcing the very biases it claims to document. Conventional historiographic tools, like the monograph, further obscure the plural and situated nature of design by overlooking how meaning is co-produced by users, institutions, and cultural codes. Buckley emphasizes that the significance of a design cannot be reduced to the designer's intent but is shaped through socially embedded processes of interpretation—processes in which historians themselves are deeply implicated (Buckley, 1986, pp. 11–12). In this context, design scholar Claudia Marina highlights that the history of design history itself reflects the assumptions and priorities of those who construct it, revealing as much about historians' positionalities as about the objects and practices they record (Marina, 2023, p. 20).

Feminist approaches to design history seek to disrupt these dominant narratives—not only by recovering overlooked contributions, but also by critically examining the values and methodologies that sustain exclusion. This involves foregrounding informal, relational, and collective forms of design, as well as adopting alternative research methods, such

as oral histories, to surface perspectives absent from canonical accounts. However, feminist interventions have at times risked reproducing dominant frameworks when they focused primarily on the contributions of individual women designers without addressing the broader systemic conditions shaping design practice (Buckley, 1986, pp. 4 & 7–9). In response, Buckley calls for a more reflexive feminist historiography—one that interrogates how notions of taste, style, and 'good' design are shaped by gender, class, and educational privilege, and how these categories operate within wider narratives of progress, modernization, and consumption (Buckley, 2020, p. 27). Given that design is fundamentally about making, she further argues that rethinking women's relationship to design today requires renewed attention to those engaged in the physical processes of production and assembly, rather than focusing solely on professional designers or polished end products (Buckley, 2020, p. 25).

Building on this, the role of design education becomes particularly significant: it not only reflects but actively (re)produces the structures of exclusion and hierarchy that feminist design historians have sought to critique. As Buckley points out, institutional contexts such as universities have historically narrowed the field, often privileging commercial interests and marketability over critical, historical, or political reflection. While design studies was once rooted in activism and committed to engaging designers in reflective dialogue about their practice, Buckley argues that it has in many cases lost this critical edge, creating a growing disconnect between design history and design practice (Buckley, 2020, pp. 28–29). The interviews I conducted for this thesis further illustrate how institutional design education reinforces normative understandings of 'good' design, frequently sidelining questions of power, identity, and social responsibility. Many participants described their product design programs—compared to other design faculties—as largely apolitical spaces, offering few opportunities to address themes like gender or social justice unless prompted by individual instructors.

As Buckley emphasizes, exclusion operates not only in historiography but also in educational settings—a dynamic echoed in the experiences of my interviewees. These conditions demonstrate that the positionality of designers and design historians must be extended to include design educators, whom interviewees often described as upholding dominant norms and discouraging experimentation or critical inquiry that challenged aesthetic conventions or functionalist ideals. For example, Roya Haupt recounted how one professor refused to engage with her chair design simply because it defied traditional proportions, dismissing the affective and relational dimensions the piece embodied. In a similar vein, Florian Bremer reflected on an educational experience steeped in model-making and slogans like "think with your hands"[6] (Bremer, 25.03.2025; appendix A.2.4), which left little space for theoretical engagement or systemic critique. Across these accounts, attempts to raise questions about inclusion, material practices, or epistemic boundaries were frequently met with indifference or resistance.

[6]The original reads in German: "Mit den Händen denken sagt unser Prof immer, das ist wie so die Stimme des Herrn im Kopf."

Taken together, the institutional culture emerges as inconsistent and lacking structural commitment to critical discourse. The absence of explicit, collective engagement with feminist or decolonial perspectives, combined with affective feedback mechanisms and unexamined traditions, actively reproduces dominant design paradigms and reinforces existing power structures. Interviewees—notably Libi Gurdus and Haupt—highlighted how these dynamics shaped their experiences, illustrating that design education, while claiming interdisciplinarity and openness, often fails to substantively integrate alternative ways of knowing, marginalizing relational, political, or intersectional approaches while maintaining the authority of established canons (see appendices A.2.1 & A.2.2).

In sum, the narratives promoted by design historians and educators sustain power by privileging industrial, technological, and individual-centered design, while marginalizing relational, collaborative, and alternative practices. Institutional contexts reinforce these dynamics by constraining opportunities for critical reflection, experimentation, and engagement with diverse perspectives. Yet designers remain central in shaping how objects take form and function, carrying a clear responsibility in this process. So far, this chapter has focused on heteropatriarchy as one axis of power; the following section shifts attention to another structuring force: capitalism, which, viewed through the lens of sustainability, emerged more prominently than other social considerations in the chair design submissions and therefore warrants closer examination.

4.5. Sustainability Following the Forms of Power

Having examined heteropatriarchy as one pillar of the matrix of domination, I now turn to capitalism through the lens of sustainability, a topic that often receives more attention in design discourse than gender or other social justice concerns. This prominence reflects the influence of capitalist logics, which shape what is produced, how it is valued, and how it is used, often narrowing sustainability to material and technical considerations. In the following section I thus trace these dynamics while opening space for approaches that also attend to social and relational dimensions.

These dynamics are particularly visible in chair design, where capitalist systems influence not only production and consumption practices but also how the work of designers is framed. As Florian Bremer notes in our conversation: "One could say we are object designers and simply create objects. But no, we create products—we make things that are sold, produced, and consumed"[7] (Bremer, 25.03.2025; appendix A.2.4). Yet he stresses that even replacing *product* with *object* does little to shift attention from the finished artifact toward the processes, relationships, and experiences it enables. As a result, relational and embodied aspects of use—such as sitting—are often overlooked in favor of the physical object itself. This pattern is further reinforced by, for example, linguistic

[7] The original reads in German: "Man könnte ja auch sagen wir sind Objektdesigner und machen erst mal Objekte, nein aber wir machen Produkte, wir machen Dinge, die man verkauft und produziert und konsumiert."

conventions, one instance being the German focus on capitalized nouns, which foregrounds static entities over dynamic processes and highlights a broader cultural preference for fixed things rather than process-oriented aspects of use (Bremer, 25.03.2025; appendix A.2.4).

Figure 4.2.: Addressing sustainability by reducing material use and designing a chair whose unconventional shape encourages users to question habitual interactions with chairs (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous).

Bremer's reflections reveal how capitalist dynamics shape not only individual designs but also the ways sustainability is understood and practiced. In many cases, sustainability is reduced to material choices or production methods, privileging technical fixes over broader ethical questions, as Benedetta Crippa observes in conversation with Alison Place (Crippa and Place, 2023, p. 129). Political theorist Jane Bennett further highlights that this narrow focus reflects a logic of green consumerism, which keeps humans—and designers—at the center of ecological concerns instead of challenging the systems driving extraction and consumption (Bennett, 2010, pp. 110–114). Bremer frames this tension as a material battle, in which technical innovation frequently overshadows deeper questions, leaving designers complicit in the very structures they seek to resist (Bremer, 25.03.2025; appendix A.2.4). Even well-intentioned experimentation often remains isolated, rarely scaling within a growth-oriented system. At the same time, as Libi Gurdus reminds us, "everything we produce leaves a mark" (Gurdus, 18.03.2025; appendix A.2.1), emphasizing responsibility beyond mere efficiency. Industrial designer and researcher Sophie Turner captures the dilemma sharply, describing herself as "a product designer who does not want to design products," and asking: "how often [...] will the solution to a design problem actually be *not designing*?" (Turner, 2022, emphasis in original).

Taken together, these critiques show that a material-focused model of sustainability often emphasizes making *less harmful*[8] choices rather than pursuing systemic transformation. This dynamic emerges clearly in survey and interview responses, where designers' strategies reveal how sustainability shapes both process and form. Strategies such as nesting components to reduce waste can shape overall design decisions and occasionally shift power away from the individual designer, a dynamic I explore further in chapter 8. This approach is exemplified by one survey participant's three-legged chair, which minimizes material use while challenging conventional aesthetics and encouraging reflection on how

[8] I italicize *less harmful* here to emphasize that any material use, even when minimized, leaves an impact on the world, and that what is considered less harmful depends on the perspective taken.

the user interacts with it (appendix A.1.2.10; figure 4.2). In a similar vein, another survey participant placed colorful plywood stools in public spaces, creating playful, context-sensitive encounters that link everyday interaction with sustainable practices (appendix A.1.2.12). Together, these cases illustrate a relational, practice-based understanding of sustainability grounded in experience and process rather than in technological fixes alone.

However, these practical insights contrast sharply with how formal design education frames sustainability, a framing that significantly shapes the practices of most product designers—a point I discussed in section 4.4 and highlighted by industrial designer and researcher Sophie Turner (Turner, 2022). In practice, courses often prioritize material innovation, production, and consumption, while largely overlooking broader social responsibilities and justice-related concerns. I believe this focus reflects, among other things, the demographics of design educators, who remain predominantly cisgender, male, white, heterosexual, and able-bodied, and therefore face fewer structural barriers to maintaining such approaches. Within this context, Libi Gurdus observes that "many of the courses still convey sustainability at a very superficial level" and notes that intersectional aspects, including gender, appear only through her own initiative (Gurdus, 18.03.2025; appendix A.2.1). Similarly, Roya Haupt highlights that concerns such as racism are frequently overlooked or treated as peripheral by faculty (Haupt, 20.03.2025; appendix A.2.2).These reflections resonate with Turner's argument that:

> If students learned to question systems of power and privilege such as patriarchy, colonialism, classism—at the same time examining production and labor conditions, as well as materials, their manufacturing processes, and lastly their use and disposal—then most likely we would observe a significant shift within the discipline of industrial design. However, the sad reality is that they often don't. (Turner, 2022)

Against this backdrop, sustainability and inclusive design are often seen as difficult to reconcile. Gurdus highlights that, while she rejects the idea of "one product fits all" and emphasizes the need to address diverse and evolving needs, aligning these with dominant sustainability discourses—particularly those focused on waste reduction and durability—can be challenging. She does not view this complexity as a barrier; rather, she proposes solutions such as adjustable products that evolve alongside their users, effectively combining ecological awareness with inclusive design (Gurdus, 18.03.2025; appendix A.2.1). Building on this perspective, Haupt stresses that sustainability must be understood within broader political and social frameworks to enable genuinely inclusive design (Haupt, 20.03.2025; appendix A.2.2). Taken together, these insights suggest the need for a more expansive understanding of sustainability, which is why I draw on the definition Crippa offers in conversation with Place:

> The definition of sustainability that is most important to me is the practice of coexistence that is free of exploitation. That means I am not exploited, and I am not exploiting others. (Crippa and Place, 2023, p. 129)

Crippa further distinguishes between "sustainable and feminist ways of visualizing the future" and "patriarchal and exploitative ways" (Crippa and Place, 2023, p. 130). By explicitly linking sustainability to feminist principles, this perspective highlights the gendered—and more broadly power-related—aspects of sustainability and justice, positioning them in direct opposition to patriarchal and exploitative systems. Building on this, we can reimagine sustainability as a socially embedded, gender-conscious, and inclusive practice that critically engages with power relations—an idea I develop further in the final chapter 8.

What emerges is a complex entanglement between capitalism and sustainability, with design often complicit in maintaining the very systems it seeks to transform. Many of the designers interviewed expressed frustration or guilt, aware that they may never fully "get it right" (Gurdus, 18.03.2025; appendix A.2.1) and often having to settle for the lesser evil. Gurdus articulates this tension clearly, balancing a desire to create meaningful work with the knowledge that every act of production leaves a trace, yet she also sees potential for fostering new relationships and habits through design (Gurdus, 18.03.2025; appendix A.2.1). More broadly, the widespread presence of sustainability discourse in design not only reflects current priorities but also actively shapes and prefigures form and process—granting it a structural influence that topics such as gender or other social justice concerns often lack in design education and practice. This, in turn, prompts a central question for this thesis: How can design practices be reimagined to foreground non-exploitation, addressing material and social injustices in tandem? Such a shift might enable design to engage more directly with structural inequalities—and to imagine futures that are not only greener, but fairer.

This chapter has shown how dominant narratives in design continue to uphold a narrow definition of 'good' design, centered on a largely homogeneous figure—white, male, cisgender, heterosexual, and able-bodied. Despite decades of feminist critique, everyday, relational, and context-specific design practices remain undervalued, while design history and education often reinforce these hierarchies. This dynamic also shapes sustainability discourse: although prominently featured, sustainability is frequently reduced to material concerns and framed within the logic of consumption, which in turn creates tension with inclusive design. Recognizing these intersecting power dynamics allows us to challenge normative structures, tell alternative stories, and foreground plurality—an unsettling but necessary step that opens space for meaningful transformation. Building on this insight, the chapters that follow examine how chairs are designed and used: who they are made for, how different bodies relate to them, and how embodied knowledge shapes the act of sitting—before returning to sustainability as a potential entry point for more inclusive and justice-oriented design. Achieving this shift, however, requires a fundamental rethinking of the field—because, as Cheryl Buckley reminds us, "design cannot change anything before it changes itself" (Buckley, 2020, p. 19).

5. (Re)framing Bodies and Chairs

Building on the previous chapter's look at how chair design is shaped by structures of power, this chapter explores how chairs shape—and are shaped by—the ways bodies inhabit and move through them. In these interactions, responses emerge that reveal where certain forms and behaviors are assumed, where restrictions appear, and where improvisation allows individuals to navigate or bend the intended use. These responses take many forms—subtle or essential—and in doing so, they make visible both the limitations and possibilities embedded in each design. At the same time, they point toward how interactions could be made more open, suggesting ways chair design might better accommodate diverse bodies and needs. By tracing these interactions, the chapter highlights the dynamic relationship between design and use, showing how inclusion—or its absence—is experienced, negotiated, and reshaped.

5.1. Scripts of Interaction in Design

To examine these interactions in more detail, this section lays the groundwork by turning to the concept of *affordance*, which was first introduced by psychologist James J. Gibson in *The Senses Considered as Perceptual Systems* (1966) and further refined in his seminal work *The Ecological Approach to Visual Perception* (1979), establishing his lasting influence in the field of visual perception. While this thesis draws on cognitive scientist and design theorist Don Norman's interpretation of affordance—given its direct relevance to design—it is important to acknowledge that Gibson's original notion is more open and relational. Grounded in concepts such as *medium*, *substance*, and *surface*—which I will not elaborate on here, as this would exceed the scope of this thesis and has already been discussed by others, such as interdisciplinary scholar Arseli Dokumacı, focused on critical disability studies, media, and design, who I will return to in the following section 5.4 and beyond (Dokumacı, 2023, pp. 36–37)—Gibson's terminology inherently points to a certain openness and fluidity of meaning (Gibson, 2015, pp. 12–27).

Norman's adaptation, by contrast, ties affordance more directly to discrete objects. This makes the concept more tangible and helps bridge the often-cited gap between theory and practice, while also narrowing the conceptual openness found in Gibson's original formulation. As a key figure at the intersection of design, usability, and cognitive science, Norman introduced the term into design discourse through *The Psychology of Everyday Things* (1988), later revised and expanded as *The Design of Everyday Things* (2002 & 2013). He defines affordance as follows:

> The term *affordance* refers to the relationship between a physical object and a person (or for that matter, any interacting agent, whether animal or human, or even machines and robots). An affordance is a relationship between the properties of an object and the capabilities of the agent that determine just how the object could possibly be used. (Norman, 2013, p. 11, emphasis in original)

Affordance is often misunderstood as a fixed property of an object, but this interpretation oversimplifies the concept. While the properties of an object undoubtedly matter, affordance does not reside solely in the object or the interacting agent. Rather, it emerges from the relationship between the characteristics of the object and those of the entity engaging with it—whether human or nonhuman. Affordances are thus relational and context-dependent; they describe the possibilities for action that arise from this dynamic interaction.

Building on this relational perspective, Norman further introduces the concept of *anti-affordance*—design features deliberately created to block or discourage specific actions (Norman, 2013, p. 12). This idea is reflected in the experience of one survey participant, who captures the logic of exclusion succinctly: "I hate defensive architecture, and seating furniture which separates" (appendix A.1.2.9). Defensive architecture provides a clear example of anti-affordance in seating design: public benches that allow sitting but include bars or armrests to prevent lying down or sleeping. These design choices do more than restrict physical interaction; they actively regulate who is permitted to inhabit a space and under what conditions. In this way, separation operates on both a material and symbolic level: the design enforces boundaries that mark certain bodies as 'out of place'—a phrase scholar and feminist writer Sara Ahmed uses to highlight how such exclusions reflect deeper social dynamics of belonging and spatial politics (Ahmed, 2006, p. 9).

Because both affordances and anti-affordances arise from the relationship between object and user, their *perceivability* becomes a central concern. To address this, Norman introduces the concept of *signifiers*, which indicate whether an affordance is immediately perceivable or remains hidden. *Perceived affordances* enable people to understand possible actions without labels or instructions, while those that are not readily visible rely on signifiers—cues that signal the presence of an affordance and guide interaction. As Norman explains, a signifier can be "any mark or sound, any perceivable indicator that communicates appropriate behavior to a person" (Norman, 2013, p. 14). These cues may be intentionally incorporated into a design or emerge unintentionally, yet they still shape behavior. In essence, Norman underscores the dynamic interplay between affordances and signifiers: "Affordances determine what actions are possible. Signifiers communicate where the action should take place. We need both" (Norman, 2013, p. 14).

Extending this discussion, Gibson clarifies that, although affordances exist in relation to a specific organism, their perceivability is not necessary for their existence. They are

invariant, persisting independently of whether an organism perceives or acts upon them (Gibson, 2015, p. 130). As Dokumacı illustrates—particularly in the context of chairs—"a surface is sit-on-able, bump-into-able, or climb-over-able whether or not the organism that can perceive it actually does so, and even if the organism is not present to engage in perception at all", further highlighting that "this nuance is what prevents affordances from being reduced to a mere subjective phenomenon" (Dokumacı, 2023, p. 43).

Building on this idea, both Dokumacı and Norman emphasize that while affordances exist independently, their recognition and understanding emerge through learning. This process unfolds within a physical world shaped by social contexts and historical layers, where perception is refined through experience and practice and transmitted via education, carrying both personal and collective histories (Dokumacı, 2023, p. 45 & Norman, 2013, p. 145). As a result, affordances are inseparable from normativity—a dimension not addressed in Gibson's dualistic notion of object-agent relationality. To account for this, psychologist Alan Costall introduces the concept of *canonical affordances*, which "alerts us to those important cases where the affordances of something are not simply shared between people but also normatively predefined" (Costall, 2012, p. 91). Costall illustrates this fittingly with the example of the chair:

> A chair, for example, is for sitting on, even though it may be used in many other ways [...]. *The* meaning of a chair is defined by its name, sustained and revealed within certain practices, and realized in its very construction. It is *meant* to be a chair. (Costall, 1997, p. 79, emphasis in original)

Taken together, these discussions show that affordances are neither inherent in objects nor purely subjective, but emerge through the ongoing interaction between design, perception, and social norms. Their availability depends on which bodies and practices are considered in the design process, which Dokumacı illustrates with the chair, emphasizing that it "does not just happen to afford sitting for sitters" (Dokumacı, 2023, p. 45) but that it is precisely this "sit-on-ability" (Dokumacı, 2023, p. 46) that defines it —an affordance that embeds assumptions about bodies and their abilities. In the following section, I explore how these norms are reinforced through repetition and become habitual.

5.2. Sitism Built into Chair Design

Chairs do more than support bodies—they guide how, by whom, and in what ways they are used. Through repeated decisions about form, size, and material, design encodes assumptions about bodies and behaviors, shaping routines and interactions that become deeply ingrained over time. To understand how such patterns of design and use are internalized, Pierre Bourdieu's concept of *habitus* offers a valuable perspective. It describes practices as both embodied and historically situated, incorporating socially learned behaviors, perceptions, and ways of thinking into daily action—"a social necessity turned into [...] motor schemes and body automatisms" (Bourdieu, 1990, p. 69). Bourdieu elaborates in *The Logic of Practice* (1990):

> The *habitus*, a product of history, produces individual and collective practices—more history—in accordance with the schemes generated by history. It ensures the active presence of past experiences, which, deposited in each organism in the form of schemes of perception, thought and action, tend to guarantee the 'correctness' of practices and their constancy over time, more reliably than all formal rules and explicit norms. (Bourdieu, 1990, p. 54, emphasis in original)

Cultural anthropologist Timo Heimerdinger underscores that habitus is more than a sociological concept, tracing its roots back to ancient Greek philosophy and the Latin term *habitus*, meaning demeanor, posture, or appearance. Derived from *habere*—"to have" or "to hold"—the term already points to a central insight: social knowledge is carried and expressed through the body (Heimerdinger, 2020, p. 156). Heimerdinger further emphasizes the body's central role, providing concrete examples of how habitus becomes tangible, including language, clothing, posture, gestures, lifestyle, and other embodied habits (Heimerdinger, 2020, p. 157). While originally developed to analyze class distinctions, the concept has since proved valuable across a wide range of disciplines, precisely because habitus bridges familiar dichotomies—history and present, individual and collective, internal and external—revealing human action as emerging from the ongoing interplay between social structures and embodied dispositions (Heimerdinger, 2020, p. 163).

Although the overarching context of this thesis is explicitly gender, examining habitus through the lens of disability provides a particularly clear way to understand how normative assumptions shape affordances, especially in chair design. To explore this, I draw on Arseli Dokumacı's notion of the *habitus of ableism*, situated within critical access studies developed by Aimi Hamraie—a disabled designer and scholar whose work bridges disability, design, and technology. Hamraie, whom I have already referenced in chapter 4, shifts attention from whether access is granted to how it is constructed, experienced, and negotiated. Building on this framework, Dokumacı shows how ableist conditioning shapes both the design and use of chairs, defining it as a mode of bodily and perceptual conditioning guided by historically dominant norms of ability. This conditioning directs attention and behavior toward affordances aligned with able-bodied experience, while rendering alternative modes of engagement invisible or unintelligible. Consequently, such affordances are often taken for granted as the default, even though people with different bodily realities have long interacted with the world in fundamentally distinct ways (Dokumacı, 2023, p. 78). Applying this disability lens also clarifies how similar processes operate for gendered assumptions in chair design. I engage Dokumacı's concept not only for its analytical precision but also because her process-oriented understanding of access provides a framework for reimagining affordances beyond dominant bodily norms more broadly, while keeping gender as a central dimension—a focus I return to with specific examples in chapter 6.

This perspective connects directly to a point raised at the end of the previous section 5.1 on the meaning of a chair: who is able—or expected—to sit. From this observation emerges a broader normative pattern in chair use, which I articulate by extending Dokumacı's concept of *walkism* into *sitism*: "the expectation that everybody can and should [sit], and that those who [sit] have an entitlement to take space and utilize the offerings of the world at the expense of those who do not" (Dokumacı, 2023, p. 78). In this sense, sitism can be understood as the habitualized form of "sit-on-ability" (Dokumacı, 2023, p. 46) reflecting how chairs carry both social and symbolic significance and confer unspoken rights to occupy space on those who conform to dominant bodily norms. This insight is also evident in my empirical work. When designing the survey, for instance, I deliberately phrased a question as "If you use chairs, . . . " (appendix A.1.1) to avoid assuming universal chair use and to invite participants to consider a wider range of interactions. The word *if* made room for diverse bodily relationships to chairs, while *use* encompassed actions beyond sitting—such as leaning, placing objects, standing, climbing, or signaling. In regard to this, Florian Bremer, a survey participant with whom I conducted a follow-up interview, expressed some confusion, asking: "Is lying down, perhaps, the one thing that unites all people?"[1] (Bremer, 25.03.2025; appendix A.2.4).

Considering normative patterns in chair use also illuminates how such patterns are embedded in the design process itself. A useful analogy comes from art: the art historian Erwin Panofsky, whose work influenced Bourdieu, noted that artistic styles within a given era often converge into shared visual forms that are reproduced unconsciously (Heimerdinger, 2020, pp. 159–160). This observation provides insight into why many chairs exhibit similar designs—not out of necessity, but through repeated habituation. In the same way, both a chair's final form and the choices made during its design are shaped by normative bodily dispositions embedded in cultural and societal expectations. These norms guide decisions about form, size, material, and other features, collectively defining the range of interactions a chair affords. Understanding this intricate interplay between habitus, design, and affordances requires ongoing critical reflection throughout the design process. Crucially, our engagement with objects is never determined by habitus alone; it is always situated, filtered through embodied knowledge, prior experiences, and specific contexts, as emphasized earlier in section 4.2.

This also brings us back to the idea of signifiers touched on in the previous section 5.1—"the signaling component of affordances" (Norman, 2013, p. 12)—which show how design communicates possibilities of use. Don Norman explains that signifiers "communicate how to use the design" (Norman, 2013, p. 18) and are therefore central to an object's functioning. They reveal that design not only enables or constrains affordances but also actively shapes how objects are used, implicitly addressing some users while excluding others. Although signifiers can enhance accessibility by providing cues, the ability to perceive and interpret them—whether as designer or user—is shaped by conventions, standards, and embodied, socially learned dispositions (Norman, 2013, p. 248). In this

[1] The original reads in German: "Ist das, was alle Menschen eint, sag ich mal, das Liegen vielleicht?"

sense, perceiving a signifier is itself a habituated act, closely linked to the concept of habitus. Building on arguments from the previous chapter 4 regarding power in chair design, it becomes crucial to examine the conventions, standards, and norms underpinning design: when, by whom, for whom, and in what context they were developed; when they enable or limit use; and how they might be adapted when necessary. Norman himself notes that "although conventions provide valuable guidance [...], their existence can make it difficult to enact change" (Norman, 2013, p. 146).

These insights help explain why, despite the countless variations of chairs that exist and continue to emerge, most still adhere to remarkably similar forms and affordance possibilities—systematically privileging certain bodies over others. Recognizing these repetitions makes visible the exclusions built into design and underscores the importance of seeking alternative approaches. Among the values that can guide such approaches, care offers a particularly productive lens for rethinking how design might respond to diverse needs and experiences.

5.3. Embedding Care in Design Practices

Building on earlier reflections about conventions, standardizations, and norms—and how these often privilege certain bodies while systematically excluding others—I now turn to the role of care in design. While some regulations, particularly in architecture (such as those on weight-bearing capacities, fire safety, or evacuation protocols), can be understood as expressions of care, the broader ethos of dominant design culture often works against such values, prioritizing efficiency, universality, and marketability over responsibility and attentiveness.

It is within this tension between scattered regulatory traces of care and a culture that often undermines it that recent design discourse has begun to explicitly take up the question of care. As designer, writer, and marketing strategist Cherry-Ann Davis and designer, curator, and editor Nina Paim note in their article *Does Design Care?* (2021), the theme entered design conversations only recently. Yet where it does appear, they observe, it is frequently framed through practices and systems rooted in the Western modernist tradition—already discussed in chapter 4—frameworks that have historically enacted structural violence against marginalized groups (Davis and Paim, 2021). In such contexts, care is less understood as a relational and ongoing commitment than recast as a tool, often instrumentalized for profit. This not only distorts its meaning but also privileges speed, disruption, and novelty over maintenance, responsibility, and interdependence, thereby reinforcing the neoliberal and capitalist logics that continue to shape much of contemporary design, as discussed in section 4.5 (Place, 2023, p. 77).

These logics are not merely abstract; they are enacted through design education and industry practices that normalize precarious employment, unpaid labor, and the glorification of hustle, competition, and toxic individualism (see section 4.4). Consequently,

people whose lives or bodies cannot conform to this accelerated, extractive mode of working—such as caretakers or disabled people—are effectively excluded from design from the outset. This structural exclusion not only renders their needs largely invisible in design outcomes, including objects like chairs, but also reinforces the long-standing cultural devaluation of care. Historically feminized, marginalized, and tied to roles such as nursing or nurturing, care work continues, as Alison Place observes, to fall disproportionately on women, working-class people, and people of color (Place, 2023, pp. 77–80).

Against this backdrop of exclusion and devaluation, efforts to reintroduce care into design are often framed through concepts such as *inclusion* and *empathy*. Yet, as Place argues, these frameworks are deeply flawed: rather than challenging dominant power structures, they frequently reinforce them. For instance, *inclusion* often invites marginalized groups into existing systems without questioning or altering the structures that produced their exclusion—thereby sustaining processes of 'othering' and upholding the status quo. Likewise, *empathy*, though seemingly well-meaning, tends to center the designer's perspective, fostering what Place calls a design savior complex, in which quick, outsider-driven solutions can flatten or misrepresent the complexities of lived experience. Together, these tendencies risk appropriation, reinforce hierarchies, and obscure the designer's own position within systems of oppression (Place, 2023, p. 78, emphasis in original). In response, feminist theorists advocate a more radical conception of care—one that is not merely a feeling, like empathy, but a political act: a situated practice of resistance within white, cisheteronormative, capitalist patriarchy. Writer, artist, and theorist Johanna Hedva, known for their work on disability, chronic illness, and political resistance, articulates this powerfully when they describe care as "the most anti-capitalist protest" (Hedva, 2020, p. 8). This framing positions care as a transformative force in design—particularly in product and chair design—capable of opening up alternative ways of making and relating within a capitalist system:

> To take on the historically feminized and therefore invisible practice of nursing, nurturing, caring. To take seriously each other's vulnerability and fragility and precarity, and to support it, honor it, empower it. To protect each other, to enact and practice community. A radical kinship, an interdependent sociality, a politics of care. (Hedva, 2020, p. 8)

Hedva's framing of care as a transformative, relational, and political practice aligns closely with the foundational work of feminist care ethicists Berenice Fisher and Joan Tronto. In *Toward a Feminist Theory of Caring* (1990), they describe care as encompassing everything we do to maintain, continue, and repair our world—including our bodies, ourselves, and our environment—emphasizing the interconnected responsibilities involved (Fisher and Tronto, 1990, p. 40). Building on this, Tronto further clarifies in *Moral Boundaries: A Political Argument for an Ethic of Care* (1993) that care is not limited to human-to-human interactions but can also extend to objects and the environment, a point particularly relevant to chair design and revisited in chapter 8. Care, she notes, is neither

inherently dyadic nor individualistic, but culturally shaped and variable across societies. Moreover, it is ongoing, appearing both as discrete actions and continuous practices that integrate practical engagement with ethical attention (Tronto, 1993, pp. 103–104).

Building on Tronto and Fisher, Place translates feminist care ethics into design practice, showing how care can guide concrete decisions and relationships. She frames care as grounded in interdependence, requiring attentiveness to changing contexts and temporalities, and reorients the designer's role from authoritative problem-solver to engaged co-inquirer, who poses open-ended, context-sensitive questions rather than offering fixed solutions. Central to this approach is accountability—not only in the immediate moment but across temporal, spatial, and systemic dimensions—attending to historical injustices, anticipating future consequences, and remaining open to revising methods and assumptions (Place, 2023, p. 81). Applied to chair design, this perspective shifts focus from the finished object to the practices and choices that shape it: care can manifest in slowed workflows, deliberate material selections, or iterative refinement, and involves critically examining whose needs are prioritized and which bodies, uses, and environments are considered or overlooked, sometimes even requiring resisting production when no single object can fully address these complexities. Complementing this ethic, Don Norman emphasizes flexibility in design, demonstrating how adaptable solutions can respond to diverse users and expand potential affordances (Norman, 2013, pp. 246–247); this insight also resonates with survey participants and interviewees in this study, some of whom praised chairs that support multiple ways of interacting, while others noted that attempting to accommodate every use could affect usability. Context-sensitive considerations further emerged, as one survey participant observed, "a bad chair is a chair that isn't aware of the environment it is going to be used in" (appendix A.1.2.9) and designer Libi Gurdus highlighted in our interview that flexibility can also be incorporated into specific elements rather than the overall design (Gurdus, 20.03.2025; appendix A.2.1). Returning to the ethic of care, Place reminds us that "we can disrupt the uncaring attitudes, environments, cultures, economies, and structures we inhabit, starting with ourselves and moving outward" (Place, 2023, p. 81), a responsibility reinforced in conversation with Place by the practitioner Eden Laurin, engaged in care-centered design, who urges designers to "continue to listen, continue to innovate, continue to learn and gather feedback" (Place, 2023, p. 86).

Taken together, these perspectives illustrate how care can be enacted in design, shaping processes, choices, and relationships in ways that foster inclusivity, adaptability, and accountability. Yet care is unevenly distributed, leaving gaps where certain needs remain invisible or unmet. Examining these gaps draws attention to the experiences of bodies that are often overlooked or marginalized—a focus that the next section takes up, exploring how such perspectives can expand possibilities and challenge conventional design practices.

5.4. Overlooked Bodies Enriching Speculative Design Futures

This section examines how bodies that are often overlooked or marginalized both shape and are shaped by the environments they inhabit. By paying attention to subtle, everyday practices of improvisation and resistance, we can see not only how design imposes constraints but also how it opens possibilities, revealing alternative forms of engagement that emerge in response.

In section 5.2, I discussed Arseli Dokumacı's notion of the habitus of ableism, which describes how environments privilege certain bodily norms while marginalizing others. Extending this analysis, Dokumacı introduces the concept of *shrinkage* to describe how available affordances narrow under such conditions. She defines shrinkage as "the shrinkage of the available affordances, of the opportunities made available for action," noting that its causes differ depending on the "'who or what,' 'why,' 'how,' and 'how much'" (Dokumacı, 2023, p. 53, emphasis in original). What links these variations, however, is "the fact that the environment affords *fewer* possibilities of action" (Dokumacı, 2023, p. 53, emphasis in original). Importantly, this narrowing is not uniform but shaped by geographic, cultural, historical, and material conditions (Dokumacı, 2023, p. 23). For this reason, Dokumacı cautions against generalization and stresses the importance of attending to the situated and embodied particularities of each experience (Dokumacı, 2023, p. 23).

While shrinkage describes how environmental conditions subtly narrow possibilities over time, it can be instructive to compare this with anti-affordances—design features deliberately intended to block or discourage certain actions, as described by Don Norman and discussed earlier in section 5.1. Whereas anti-affordances impose restrictions through explicit design decisions, shrinkage highlights how affordances can gradually change, showing that access is contingent and evolves over time. In this way, shrinkage encourages us to rethink affordances as fluid, processual, and decentered from the human body, while extending traditional affordance theory by explicitly incorporating disability and demonstrating how bodily variation shapes what environments enable or constrain (Dokumacı, 2023, p. 52). By highlighting these dynamics, shrinkage reminds us that access is never fixed—even for a single body whose capacities evolve over time (Dokumacı, 2023, p. 249).

Building on this insight, and directly responding to the limitations revealed by shrinkage, Dokumacı introduces the notion of *activist affordances*—a term that functions not only as a critical vocabulary and theoretical tool, but also as a methodology. This concept allows us "to identify, trace, and appreciate the ways in which our radical affordances—no matter how ephemeral, discrete, or momentary—*can* and *do* bring livable worlds into being" (Dokumacı, 2023, p. 27, emphasis in original). To further grasp the embodied labor that activist affordances require, it is useful to turn to feminist writer Sara Ahmed, who observes in *Queer Phenomenology: Orientations, Objects, Others* (2006)—a text I will return to in chapter 7—that "it involves painstaking labor for bodies to inhabit

spaces that do not extend their shape" (Ahmed, 2006, p. 62). It is precisely in response to these urgent challenges—and out of political necessity—that Dokumacı deliberately distinguishes activist affordances from the broader notion of affordances (Dokumacı, 2023, p. 242). She defines activist affordances as follows:

> I define activist affordances as the micro, ephemeral, and performative acts/arts of world-making with which disabled people must literally *make up*, and at the same time *make up for*, whatever affordances fail to readily materialize in their environments and their remoteness to perception. (Dokumacı, 2023, p. 104, emphasis in original)

This definition highlights both the practical, performative dimensions of activist affordances and the significance of the term *activist* itself. Dokumacı uses the term to describe affordances that emerge from modes of perception and action revealing possibilities otherwise hidden or suppressed, while also intervening critically in dominant conceptions of activism—often imagined as large-scale, visible acts carried out by high-energy, high-functioning bodies in public spaces like streets (Dokumacı, 2023, pp. 115–118). This critique resonates with Johanna Hedva's work, which I referenced earlier in the context of care (section 5.3), as they similarly interrogate who can participate in protest and under what conditions. They emphasize how sick, disabled, and systemically marginalized bodies—such as those affected by racism or engaged in care work—are frequently erased or overlooked in prevailing narratives of activism. As Hedva powerfully writes in *Sick Woman Theory* (2020), "Attached to the bed, I rose up my sick woman fist, in solidarity" (Hedva, 2020, p. 1). Together, Dokumacı and Hedva underscore the politics of visibility and perceivability, raising urgent questions about who is seen, heard, and recognized as performing acts of resistance, and how such acts are understood.

In this light, activist affordances can be understood as subtle, everyday acts of resistance that create access within environments not designed for illness, pain, or disability. These acts are modest and often fleeting, improvised responses that Dokumacı describes as performances or dances—temporary actions that rarely leave lasting traces. Unlike conventional affordances, which are embedded in objects or spaces, activist affordances require embodied effort, creativity, and persistence to be enacted. Importantly, they are often not just one option among many; rather, they represent the least painful, least discomforting, and sometimes the only viable way for an impaired body to carry out a task (Dokumacı, 2023, p. 121). In performing these actions, the body becomes an active agent, producing affordances where none readily exist. In doing so, these acts not only navigate inaccessible environments but also begin to reshape them, opening possibilities for more livable presents and imagining "futures [that] oscillate between *what is*, *what could be*, and *what ought to be*, without ever settling in any one" (Dokumacı, 2023, p. 204, emphasis in original).

While this process is often experienced as solitary, it is importantly not solely an individual endeavor. By reconceptualizing people themselves as affordances, Dokumacı

extends the concept beyond fixed environmental features to encompass possibilities that emerge through relationships with others—often in informal, improvised, and non-institutional ways. Building on this relational perspective, bodies are thus understood not as isolated, autonomous agents, but as fundamentally entangled in shared, co-created worlds (Dokumacı, 2023, pp. 207 & 221).

Building on the relational and performative dimensions of activist affordances, Dokumacı also emphasizes their temporal qualities and how they are archived through embodied memory rather than formal records. This is especially relevant for chairs—objects that endure over time and shape possibilities across diverse durations and contexts. She draws on Peggy Phelan, a leading figure in performance, feminist, and queer theory, who emphasizes that performance exists solely in the present moment—this very transience is what gives it meaning. Since it cannot be saved, recorded, or documented, performance resists conventional methods of replication and dissemination (Phelan, 1993, p. 146). At the same time, Dokumacı highlights alternative perspectives that see performance as persisting—not through fixed records but embodied as a "kind of archive" within the body, carrying collective memory (Dokumacı, 2023, p. 228). This aligns with the work of Diana Taylor, a cultural theorist specializing in performance and memory studies, who introduced the concept of the *repertoire*. Taylor defines the repertoire as nonarchival modes of cultural transmission—including movements, rituals, stories, and embodied knowledge—that are passed through performance and practice, offering a dynamic counterpart to written or institutional archives (Taylor, 2003, p. 20). Within this framework, activist affordances form part of what Dokumacı terms "disability repertoires" (Dokumacı, 2023, p. 228): embodied, non-discursive knowledge and memory residing both in bodies and their environments. Here, traces of activist affordances leave lasting imprints, with bodies and surroundings functioning as "memory pads" that preserve histories of resistance and alternative modes of engagement over time (Dokumacı, 2023, p. 228). This perspective resonates with Ahmed's view that embodied and affective histories shape ongoing practices and spaces, which I examine further in chapter 7.

The improvisational and ephemeral quality of activist affordances transforms both perception and practice: the world is experienced not simply as is but as if, with previously rigid surfaces, substances, and boundaries becoming fluid and "the firmly drawn contours of objects, things, and places [beginning] to dissolve" (Dokumacı, 2023, p. 201). This reconfiguration of perception aligns closely with speculative and critical design approaches—explored further in chapter 6 through designer and carpenter Mira Müller's work—that use the question "what if?" to probe, disrupt, and expand what forms or gestures might enable. In this sense, Dokumacı highlights the close relationship between activist affordances and speculative design, both striving to "loosen the ties reality has on our ability to dream" (Dunne and Raby, 2013, p. 189), as noted by critical designer Anthony Dunne and artist Fiona Raby. While speculative design often unfolds in studios through sketches and material experimentation, activist affordances emerge in the textures of everyday life: the world becomes the studio, the body the tool, and

improvised actions sketch more livable worlds into being. Designers I engaged with in this thesis frequently used their own bodies—or those of collaborators, in solo, duo, or ensemble interactions—as instruments to challenge rigid structures, fixed affordances, and standardized chair dimensions. Some experimented with chair width (see Libi Gurdus, 4.3), explored alternative postures, or reflected on sitting behaviors (see Roya Haupt, 6.2). Although participants did not explicitly frame their work in terms of disability, pain, or illness, patterns of bodily experimentation were evident, revealing both the performative ways bodies interact with objects and environments and the explicitly critical, transformative potential of these actions. As Dokumacı observes, resisting normative roles and putting objects to *queer use*—a term she adopts from Ahmed—is not limited to bodies marked by impairment; the difference lies in the point of departure (Dokumacı, 2023, p. 120). In contrast to designed objects, which prescribe specific bodily interactions and reinforce cycles of constrained use, activist affordances intervene in these cycles, opening space to reimagine and transform relationships between bodies, objects, and environments, while embracing what might unfold (Dokumacı, 2023, pp. 111–114).

Recognizing these ephemeral and relational practices invites us to reconsider the boundaries of design itself, drawing attention to the potential for experimentation, improvisation, and speculative thinking. This perspective opens a space where what is, what could be, and what ought to be remain in constant dialogue, paving the way for the next section on play, which explores the imaginative and performative dimensions of design more directly.

5.5. The Potential of Play in Design

Play is often associated with leisure or amusement, yet in design it holds far-reaching potential for questioning assumptions, experimenting with form, and shaping experiences. In chair design, play can function simultaneously as a method and a lens: it enables exploration of material, spatial, and bodily possibilities while also encouraging reflection on social norms, inclusivity, and cultural expectations.

To explore this potential in design, I turn to the concept of *critical play*, developed by scholar, artist, and game designer Mary Flanagan, who investigates the intersections of play, technology, and culture in *Critical Play: Radical Game Design* (2009). Flanagan moves beyond the common view of play as mere entertainment, positioning it instead as a powerful medium for creative expression, conceptual inquiry, and social critique. Applied to chair design, this perspective encourages engagement with objects beyond their functional role, opening up opportunities for reflection, improvisation, and imaginative interaction.

Flanagan's approach draws on an expansive understanding of play that extends well beyond games, grounded in the work of anthropologist Brian Sutton-Smith, a foundational figure in play studies. Sutton-Smith situates play broadly: it is not limited to humans and should not be dismissed as unproductive, as is often assumed in modern Western

thought. Play materializes meaning—it is a form of communication and expression bridging different temporalities, much like language (Sutton-Smith, 1997, pp. 218–219). He highlights play's entanglements with learning, power, fantasy, and the formation of selfhood, acknowledging both its positive aspects—fun, voluntary engagement, free choice, escape, and intrinsic motivation—and its potential negatives, including bullying, abuse, or fear (Flanagan, 2009, p. 8).

It is from this broad understanding of play that Flanagan develops the framework of critical play, positioning it as a multifaceted force capable of disrupting habitual routines and familiar contexts through surprise, experimentation, and defamiliarization. By opening new avenues for thought and action, critical play challenges conventions and expands boundaries in ways particularly productive for design. Within this framework, it not only encourages reflection on social, cultural, and material conditions but also fosters alternative modes of engagement with objects and processes, such as chairs (Flanagan, 2009, p. 9). By bending or breaking familiar rules, critical play creates spaces in which dominant cultural narratives can be questioned and reimagined. Rather than reinforcing conventional design models rooted in normative perspectives, it foregrounds intervention, disruption, and inclusive engagement, shifting attention from individual technical expertise to collective exploration. In doing so, it privileges iteration, multiplicity, and relationality over fixed outcomes, ultimately reshaping the social and political narratives embedded in everyday objects (Flanagan, 2009, pp. 181–183).

(a) **(b)** **(c)** **(d)**

Figure 5.1.: Examples of how aspects of play manifest in chair designs gathered through the survey and interviews: **(a)** enabling playful interaction and open-ended affordances (Project: *Zygmunt*, 2022; Design & Fabrication: Florian Bremer; Photo: Florian Bremer); **(b)** exploring the spectrum between campiness and functionalism through playful ornamentation (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous); **(c)** challenging gendered sitting habits through playful posture experimentation (Project: *Undoing Arne*, 2024; Design & Fabrication: Mira Müller; Photo: Mira Müller); **(d)** evoking playfulness through childlike aesthetics (Project: *NUA*, 2023; Design & Fabrication: Libi Gurdus; Photo: Libi Gurdus).

These theoretical potentials of play are clearly reflected in the experiences described by survey participants and interviewees. For some, playfulness even emerged as a defining criterion for what makes a chair 'good' (see figure 5.1). For example, Florian Bremer valued his design precisely because "you can toy around with it" (appendix A.1.2.9), emphasizing its open-ended affordances (see figure 5.1a). Similarly, Mira Müller described her designs as taking on a playful character, linking this quality to subtle norm-challenging potential: "because of the variety the chair offers—like how I place my feet on it—it led to playful sitting postures that, for example, didn't happen with the other chair"[2] (Müller, 20.03.2025; appendix A.2.3). Another participant highlighted playful exploration differently, describing the importance of navigating "the spectrum between campiness and functionalism" (appendix A.1.2.11) in their work (see figure 5.1b). For Libi Gurdus, playfulness was expressed visually: she intentionally aimed for designs that were "a bit childish" (Gurdus, 18.03.2025; appendix A.2.1), thereby inviting alternative affordances and new forms of interaction (see figure 5.1d).

Taken together, these examples illustrate how play functions as a productive mode of exploration, enabling experimentation with form, posture, ornamentation, and behavior. In doing so, it provides designers with a means to challenge normative expectations and expand the range of possible interactions, while simultaneously connecting embodied experimentation to broader cultural and social questions. Through this interplay of reflection and action, play demonstrates its capacity to enrich design processes, revealing both imaginative and critical possibilities when designers embrace openness, iteration, and relationality. Rather than being an optional feature, play emerges as a vital lens through which objects and practices can be critically reimagined and reshaped.

This chapter examined how affordances both shape and limit interactions with designed objects, revealing embedded social norms through the ways they prescribe use. By drawing on concepts such as habitus and canonical affordances, it highlighted how cultural dispositions and expectations influence perception and engagement, particularly in relation to ableism. Focusing on disability made visible the tangible effects of rigid, exclusionary designs, while the notion of activist affordances offered a dynamic perspective on how marginalized bodies creatively reshape environments and resist normative constraints. Building on these insights, the chapter proposed design strategies grounded in care and critical play, which challenge fixed affordances by fostering flexibility, experimentation, and attentiveness to evolving contexts. These approaches support inclusive and responsive design practices that resist exclusion and envision more just, equitable futures beyond dominant social norms. Extending this focus from structural frameworks to embodied experience, the next chapter explores how gendered interactions with chairs are performed and contested through design and bodily practices.

[2]The original reads in German: "Durch die Vielfalt, die der Stuhl bietet, also auch wie ich dort meine Füße ablege, dadurch sind auch witzige Sitzhaltungen entstanden, die zum Beispiel bei dem anderen Stuhl nicht waren."

6. Challenging Dominant Chair Designs with Performativity

Building on the idea that *affordances* both invite and constrain interactions with objects, this chapter draws on philosopher and gender theorist Judith Butler's concept of *performativity* to examine how repeated interactions both reinforce cultural norms and open possibilities for their disruption. This perspective also foregrounds the thesis's central concern: gender in the context of chair design. By framing chairs as sites where social norms are enacted, it becomes evident that chair design, design processes, and sitting practices are co-constituted through learned, embodied behaviours. This lens provides a crucial means of understanding how considerations of inclusion, particularly regarding gender, shape both design decisions and the lived experience of sitting. To explore these dynamics, I draw on interviews with designers who consciously engage with gender and put chairs to "queer use" (Ahmed, 2019, p. 44), thereby challenging the normativity of designed objects. I focus on two designers, Mira Müller and Roya Haupt, whose reflections on gender were particularly rich. While their approaches differ, both resonate with Butler's notion of performativity: Müller seeks to undo normative structures (see section 6.1), whereas Haupt foregrounds bodily performance (see section 6.2). Together, their insights demonstrate how chairs can both reinforce and subvert gender norms by shaping how bodies are expected to sit, behave, and occupy space.

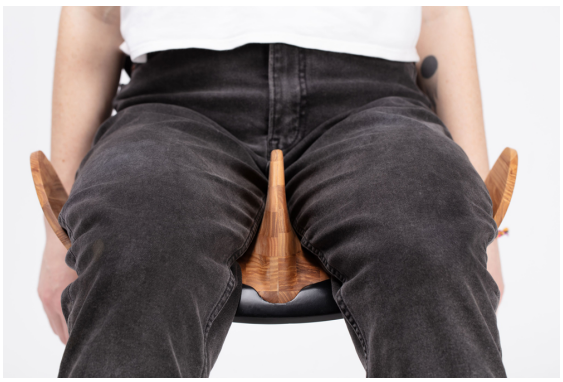
To situate these design practices within a broader theoretical framework, it is helpful to revisit sociologist Pierre Bourdieu's notion of *habitus*, introduced earlier in section 5.2. While habitus explains how social structures become embodied and shape dispositions over time, Butler refines this perspective by emphasizing repetition as the site where norms are not only enacted but also potentially disrupted. Her concept of performativity, described as a "reiterative and citational practice" (Butler, 1993, p. xii), highlights how bodies—particularly in relation to gender—are constituted through repeated citations of normative discourse. Crucially, Butler distinguishes performativity from performance: whereas performance implies conscious intention, performativity involves norms that "precede, constrain, and exceed the performer" (Butler, 1993, p. 178), challenging the notion of a fully self-determining subject. For instance, utterances like "It's a girl!" do more than describe reality; they actively constitute it, demonstrating how language materializes and sustains social norms (Butler, 1993, p. 176). These gendered norms are enacted not only through language but also through design and everyday bodily practices. Directives such as "sit like a lady" or behaviors like manspreading, where some men sit with their legs spread wide and occupy more space than necessary, illustrate how norms are embedded in interactions with chairs. Butler's observation that "bodies tend to indicate a world

beyond themselves" (Butler, 1993, p. 6) captures this reciprocal relationship: bodies are shaped by their environments and simultaneously shape them. Design plays a central role in this process. Features such as seat depth, width, and height—and the affordances they provide—do more than accommodate bodies; they actively shape them by reinforcing particular ways of sitting, occupying space, and performing gender. In line with Butler's assertion that "the body signified as prior to signification is an effect of signification" (Butler, 1993, p. 6), chairs themselves emerge as agents in producing bodies, embedding and perpetuating gendered norms through their design.

6.1. Removing, Bending, and Rebuilding to Resist Gendered Norms

If chairs participate in producing and upholding gendered norms, they can equally become sites of contestation and intervention. Drawing on Judith Butler's insight that repetition both enforces norms and allows for variation, this section explores how design can utilize these openings to challenge and subvert normative expectations. Butler emphasizes that power is not solely restrictive but also generative: it constrains while simultaneously creating conditions for resistance. This duality aligns with the work of interdisciplinary scholar Arseli Dokumacı, who focuses on critical disability studies, media, and design, and develops the concept of *activist affordances* (see chapter 5). Dokumacı demonstrates how bodies—particularly those navigating illness, pain, or disability—develop situated practices that interrupt and challenge normative assumptions embedded in design. In a similar vein, Butler underscores that repetition, though central to maintaining norms, is never entirely stable; each enactment carries the potential for variation, deviation, and transformation. From this perspective, the norms that constitute gender are never fully secured, as they are produced through exclusion and maintained in part by what they disavow (Butler, 1993, pp. 139–140). Yet it is precisely this de-

(a) Exploring habitual sitting postures through chair design, translating Butler's concepts of *performativity* and *undoing gender* into practice.



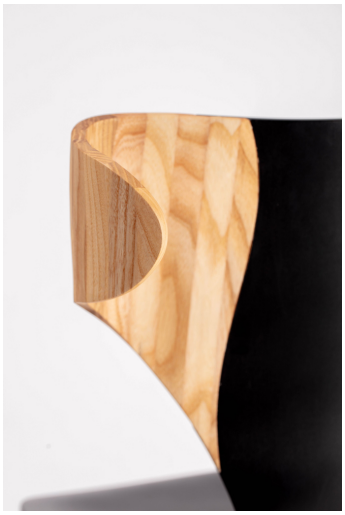
(b) Detailed view of a chair design addressing gendered sitting habits—here, manspreading.

Figure 6.1.: Addressing gendered sitting habits through design (Project: *Undoing Arne* (2024); Design & Fabrication: Mira Müller; Photos: Mira Müller).

pendence on exclusion that renders them vulnerable to disruption. In *Undoing Gender* (2004), Butler elaborates on the possibility of reworking or refusing gender—not by stepping outside discourse, but by troubling its boundaries from within. She cautions, however, that subversion is never without risk: because it operates through repetition, it may unintentionally reaffirm the very norms it seeks to displace (Butler, 1993, p. 91). Still, embodiment remains "a forcible production, but not for that reason fully determining" (Butler, 1993, p. 176), and it is in this very instability that the potential for resistance lies—where even the most rigid norms may begin to bend.

Building on these theoretical insights regarding repetition, instability, and the potential to disrupt norms, I now turn to concrete design interventions that put these ideas into practice. Mira Müller, a carpenter and designer whose work spans speculative, critical, as well as gender-conscious approaches, exemplifies this translation of theory into design. In her chair series *Undoing Arne* (2024), she draws not only on Butler's concept of performativity, as discussed above, but also on the notion of *undoing gender*—explicitly referenced in the title—to explore how design can both reflect and challenge normative structures. While she initially framed the chair as a symbol of patriarchal authority, her focus shifted toward the everyday interactions and gestures through which such norms are enacted and maintained. By attending closely to these embodied practices—both in use and in the act of making—Müller treats design not as a fixed outcome but as a process through which dominant assumptions can be questioned and actively reshaped. This interplay between theory and practice is made concrete in her chair designs. For example, one of the chairs directly addresses the phenomenon of manspreading through a striking and deliberately exclusionary design (see figure 6.3):

(a) Overview of the chair design confronting the gendered habit of taking up space.



(b) Close-up of the design feature reflecting this habit.

Figure 6.2.: A chair design addressing the gendered sitting habit of taking up space (Project: *Undoing Arne* (2024); Design & Fabrication: Mira Müller; Photos: Mira Müller).

> There is one chair with a central bar, which communicates very radically in its design. What became quickly apparent to me was that I had created an object that excludes certain people. People with wider hips or larger thighs

> than the measurements I provided simply can't sit in it. At first, I thought that was a problem, but then I realized, no, this is actually what objects do, only more subtly. They exclude. And this chair does it in a very radical and drastic way.[1] (Müller, 20.03.2025; appendix A.2.3)

Another chair in Müller's series investigates how gendered bodies negotiate space by subtly shaping posture and presence. Rather than relying on dramatic gestures, this piece bends the backrest sharply backward, encouraging a broader stance while keeping the arms close to the body. Its form is informed by a student-led study showing that people read as male often sprawl outward, whereas those read as female tend to contract themselves. By translating these patterns into physical structure, Müller makes visible the tension between expansion and restraint—a negotiation informed by gendered expectations. While the chair's understated design initially puzzled many, it ultimately provoked the most discussion. Situated among more overtly striking pieces, its quiet provocation gains impact through contrast. Precisely because it resists immediate legibility, it draws people in, inviting reflection, interpretation, and open-ended engagement—an effect Müller intentionally cultivates throughout her work.

Figure 6.3.: A chair offering users the choice to conform to the sitting norm or explore playful adaptations, making it inclusive by supporting multiple ways of sitting (Project: *Undoing Arne* (2024); Design & Fabrication: Mira Müller; Photo: Mira Müller).

The third chair in the series—introduced earlier in section 5.5 on play in design—demonstrates a playful and versatile approach to gender and inclusion. By inviting unconventional postures, such as

[1] The original reads in German: "Es gibt ja den einen der hat den Steg in der Mitte, der der ist halt der kommuniziert sehr radikal in seiner, in seiner Darstellung ehm was mir auch schnell bewusst geworden ist, dass ich auch ein Objekt gemacht habe was exkludiert irgendwie ent also kann es quasi nur Menschen bewohnen die auch eh hineinpassen. Menschen die irgendwie eine breitere Hüfte haben, irgendwie ja viel, dickere Oberschenkel als das was ich an Maß vorgegeben habe, können sich quasi nicht hinein setzen ehm was ich aber auch wieder spannend, weil erst dachte ich okay das ist doof und dann habe ich aber gemerkt ne genau das ist ja das was Objekte auch machen nur subtiler eigentlich. Sie exkludieren. Und dieser Stuhl macht das halt eigentlich sehr radikal und drastisch."

crouching or hooking one's feet into the backrest, it encourages users to engage with the chair in unexpected ways and at times even evokes a sense of being trapped. This playful dynamic, which Müller has explored in her earlier works, reflects her broader interest in fostering active, embodied interaction rather than passive use. Through this design, she found that playfulness itself can serve as a powerful mechanism for inclusion, making this chair the most inclusive of the three in the series:

> It only opened up spaces of possibility without forcing anyone into anything. You could rest your feet on it—but you didn't have to. So, you could conform to the norm if you wanted to, but you could also benefit from what was adapted or added on. And in this case, it even happened in a subtle, playful way.[2] (Müller, 20.03.2025; appendix A.2.3)

Taken together, Müller's chairs occupy a space between utility and provocation. Although they respond to embodied habits and real constraints, their primary purpose extends beyond ergonomics to the discursive: they function as critical artifacts that invite reflection, challenge norms, and draw attention to issues of gender, inclusion, and participation. This critical orientation resonates with Butler's notion of performativity, which highlights that norms are not fixed but continually enacted—and therefore open to change. Müller's series can be understood as a translation of this theoretical insight into material form, showing how everyday objects like chairs both express and enforce gendered expectations, while simultaneously creating opportunities for rupture. In this sense, and firmly rooted in speculative and critical design, she presents the chairs as communicative interventions—experimental forms that disrupt assumptions, foreground embodied experience, and open space for reimagining entrenched social practices.

6.2. Performance as a Tool for Inclusive Chair Design

While Mira Müller's chairs translate Judith Butler's notion of performativity into material form, this section considers how performance can serve as a complementary tool for inclusive chair design, emphasizing how attentiveness to embodied movement can expand the possibilities of everyday objects (see figure 6.4). To illustrate this, I draw on designer Roya Haupt, whose background in dance informs her design process and resulting objects. In particular, this discussion focuses on her *Spider Chair* (2023), which exemplifies how movement-informed design can challenge conventional assumptions about sitting and accommodate a broader range of postures and bodies.

[2] The original reads in German: "Das war eigentlich der der inklusivste Stuhl, weil der nur Möglichkeitsräume eröffnet hat aber niemanden in etwas gezwungen hat, also du kannst deine Füße darauf ablegen, musst aber nicht, also du darfst du darfst dich der Norm fügen aber du darfst halt auch einen Benefit dessen was halt adapt oder was halt drangesetzt wurde ehm nehmen und das ist, bei dem Stuhl dann auch sogar noch auf eine subtile spielerische Art und Weise."

Figure 6.4.: An example of how integrating performance into chair design can unsettle habitual norms and open alternative ways of shaping how bodies relate to chairs (Project: *Spider Chair* (2023); Photos: Roya Haupt).

To begin, it is helpful to revisit a distinction introduced earlier in this chapter: in Butler's terms, intentional performance involves deliberate bodily acts, whereas performativity describes the often unconscious repetition of social norms that shape how bodies behave. Although Butler draws a clear distinction, the two concepts are closely intertwined: intentional performances occur within the framework of repeated norms, yet they also carry the potential to challenge or transform them. This interplay provides a useful lens for understanding Haupt's work, highlighting how embodied practices can simultaneously reflect and reshape social expectations. From this perspective, Haupt observed that dancers rarely maintain fixed postures, instead continuously adjusting to stay comfortable—a pattern that became central to her chair design approach. Out of this embodied insight emerged what she describes as a "gateway to freedom or to free creation"[3] (Haupt, 20.03.2025; appendix A.2.2), enabling her to transcend the rigidity traditionally embedded in chair design. She continues:

> I just tackled a problem that I know very well from my everyday life—because I really don't like sitting for long periods. And all my dancer friends, who also sit in funny ways and I then noticed that we're constantly moving, that we take on all sorts of twisted positions on the chair—like throwing a leg over the armrest or turning sideways and actually sit much healthier by constantly moving, because our bodies are used to that and we have this urge to move,

[3]The original reads in German: "Mein Gate zur Freiheit oder zum freien Gestalten war dass ich eben ... beobachtet habe wie Tänzer*innen sitzen ..."

and also to adopt good posture and many chairs don't allow for that at all or we unconsciously keep testing what else a chair can do, how you can sit on it differently.[4] (Haupt, 20.03.2025; appendix A.2.2)

(a) **(b)** **(c)**

Figure 6.5.: A chair form that emerged from observing moving bodies and encourages diverse sitting positions, as seen in **(a)** and **(b)**. Its movement-centered design provides enough space for multiple people, as shown in **(c)**, contrasting with typical chairs, which are usually made for a single person in a fixed position (Project: *Spider Chair* (2023); Design & Fabrication: Roya Haupt; Photos: Roya Haupt).

The resulting chair (see figure 6.5c) embodies this philosophy: its steel-tube frame features two higher and two lower protrusions, forming a distinctive angular silhouette softened by eight layers of foam, each positioned to support different parts of the body. Although its shape may not immediately suggest softness or the cozy comfort of a nest, Haupt emphasizes its unexpectedly gentle and supportive character. Rooted in lived bodily experience and refined through iterative material experimentation, the design encourages playful engagement with the body. By accommodating a range of users—not only performers—the chair invites exploration and variation in posture, thereby challenging and expanding conventional ideas about sitting. Building on this attention to bodily variation, Haupt's design also highlights a contrast with many conventional chairs, which often fail to accommodate diverse postures—for instance, forward-leaning positions that

[4]The original reads in German: "[Ich] bin einfach ein Problem angegangen was ich total kenne aus meinem Alltag weil ich eben überhaupt nicht gerne lange sitze und alle meine Tänzerinnen Freundinnen die auch so witzig sitzen und mir ist dann eben aufgefallen, dass wir uns ständig bewegen, das wir ganz verdrehte Positionen einnehmen auf dem Stuhl wie das Bein ehm über die Lehne kippen oder dann uns seitlich drehen und eigentlich viel gesünder sitzen ehm in dem wir uns ständig bewegen weil unser Körper auch das gewöhnt ist und so einen Drang haben uns zu bewegen ehm und auch ne gute Haltung einnehmen und ehm das viele Stühle das gar nicht hergeben oder immer unbewusst ausporbiert wird was kann noch ein Stuhl, wie kann man alternativ den besitzen."

can be uncomfortable or even painful for people with larger or female chests. Haupt explains this concern clearly:

> When I lean forward, the chest—particularly a larger chest or female chest—is very sensitive, and I feel like I can't lean on edges. A key part of the idea was that it would make sense to have more space for the chest, but I was also thinking about the belly, different body shapes, or people who are pregnant, and so on. And I also thought that this is simply a comfortable position for working.[5] (Haupt, 20.03.2025; appendix A.2.2).

Haupt's work revealed an important insight: interacting with an object that departs from familiar forms can simultaneously encourage and challenge bodily exploration. The unconventional shape of her chair seems to grant users a kind of 'permission' to experiment with new ways of sitting and interacting, yet its unfamiliarity can just as easily provoke hesitation. This tension illustrates how trust in objects typically develops through repeated interaction, as familiar shapes and materials feel reliable because of prior experience, whereas objects that defy expectations require time and engagement to foster a similar sense of confidence.

Extending this observation, Haupt found that initial hesitancy and eventual trust often unfolded along gendered lines. Women and people assigned female at birth tended to settle into the chair more readily, reclining with legs on the raised elements in an open posture they associated with gynecological exams—an embodied familiarity that appeared to lower their threshold for engagement. By contrast, men and people assigned male at birth were generally more hesitant to adopt the same posture, perhaps because it felt unfamiliar or carried connotations of sexualization. Height differences, which often corresponded with gender, further shaped these patterns: taller participants, more often men, kept their feet firmly planted, while shorter participants, more often women, were inclined to let their feet dangle. Together, these subtle bodily and social factors influenced how users explored, inhabited, and ultimately trusted the chair.

Once these initial differences in engagement were navigated, many users were surprised by the chair's comfort—some remained seated for long stretches, and a few even drifted off to sleep. Yet it was the dancers who continued to emerge as the most "creative sitters".[6]

[5] The original reads in German: "Wenn ich mich nach vorne lehne dann geht die Brust also die ausgeprägtere Brust oder auch weibliche Brust ist ja einfach sehr sensibel und ich hab so das Gefühl ich kann mich da nicht auf Kanten lehnen und deswegen ist so ein großer Gedanke gewesen dass es ja Sinn machen würde [...] mehr Raum für Brust aber auch, ich dachte auch Bauch oder für verschiedene Körperformen oder schwangere und so weiter ehm und dachte es ist aber auch eine bequeme Position zum Arbeiten."

[6] The original reads in German: "Es war sehr interessant, meine Tänzerinnen Freundinnen zu sehen, also es sind eigentlich alle Tänzerinnen und die ehm haben sich da irgendwie drüber gelegt, draufgeworfen, dann sind sie wieder runtergerutscht zu den Brüsten, das war total gut zu sehen und dann saßen teilweise auch ehm irgendwie ich glaube fünf, sechs Leute drauf [...]. Das waren so glaube ich die kreativsten Sitzer*innen würde ich sagen."

(Haupt, 20.03.2025; appendix A.2.2). Their engagement—exploring the chair's affordances through movement and shifting fluidly between postures—illustrates how a dancer's embodied awareness can inform and extend design practice. Trained to continuously negotiate posture and space, dancers treated the chair as a site of experimentation, uncovering potential uses and configurations that conventional design approaches might not anticipate.

The dancers' inventive engagement with the chair illustrates Arseli Dokumacı's concept of activist affordances, discussed in section 5.4, which she terms "danced affordances" or "afford-dances" and brings into being actions and possibilities that do not yet exist—whether performed solo, in a duo, or in an ensemble (Dokumacı, 2023, p. 111). In the case of Haupt's chair, the dancers' movements made these affordances visible, revealing new ways of sitting and interacting with the object that were not predetermined. By observing how dancers inhabit the chair, we see how incorporating movement and bodily awareness into design can expand its potential, fostering more inclusive ways of using chairs that accommodate diverse bodies, postures, and interactions. Reflecting on this, Haupt emphasized that witnessing the dancers renewed her sense of the chair's possibilities: "I saw again how one can inhabit [the chair], how one can play with it"[7] (Haupt, 20.03.2025; appendix A.2.2).

Building on these insights, the project underscores the importance of continuous testing—with diverse users and across varied contexts—while remaining receptive to uncertainty and emerging questions. For Haupt, the chair still feels unfinished, as she continues to explore ways to make it appear more immediately trustworthy and inviting to a wider range of users. This ongoing reflection raises a broader question: Can a design process ever be truly complete? As sociologist and architectural scholar Galen Cranz—previously referenced in chapters 3 and 4 in relation to chair definitions and their historical context—suggests, the pursuit of the perfect chair inevitably reaches its limits: no single design can accommodate every posture or body. Drawing on industrial designer and artist Peter Opsvik, Cranz captures this idea succinctly: "The best posture is always the next one" (Cranz, 1998, p. 184)—a notion that resonates strongly with Haupt's chair, which embraces movement through a multitude of postures.

Overall, this discussion illustrates that attending to bodily movement and embodied experience can meaningfully enrich design practices, ultimately opening up possibilities for more inclusive objects. By closely observing how people inhabit, negotiate, and adapt to a form, designers gain insights into interactions and postures that conventional approaches often overlook. In turn, these movement-informed processes underscore the importance of experimentation, iterative testing, and responsiveness to diverse users, showing that inclusivity is not a fixed outcome but an ongoing negotiation between body, object, and context. From this perspective, performance—whether deliberate or emergent—emerges

[7] The original reads in German: "Ich auch noch einmal neu ehm gesehen habe wie man den [Stuhl] besitzt, also bespielen kann."

as a powerful lens for rethinking everyday objects, revealing new ways they can support a wider range of bodies, postures, and interactions.

This chapter has shown that attending to bodily movement, embodied experience, and habitual engagement with chairs can enrich design practices and open possibilities for more inclusive outcomes, with particular attention to the role of familiarity and how it guides bodily negotiations with chairs. In exploring this, it becomes clear that familiarity develops through repetition: objects aligned with established routines fit seamlessly into habitual patterns, yet when these routines are disrupted, the unfamiliar comes to the fore. While this unfamiliarity can create hesitation, it also opens opportunities for exploration and new modes of interaction. From this perspective, inclusivity emerges not as a fixed endpoint but as an ongoing negotiation between body, object, and context—shaped through repetition, variation, and disruption. Within this dynamic, performance—whether intentional or emergent—offers a lens through which everyday objects can be rethought, revealing how they support diverse bodies, postures, and interactions, including those constrained by gendered norms. Designers such as Müller and Haupt exemplify this approach, showing how chairs both embody and contest norms, foster flexible engagements, and guide users through familiar and unfamiliar encounters. It becomes clear that the more familiar someone is with exploring interaction possibilities through their body—what Haupt calls *Körperwissen* or bodily knowledge—the easier it becomes to engage with unfamiliar objects, because while the object itself may be unfamiliar, using the body in this way remains familiar. These reflections on the ongoing negotiation between body, object, and context further highlight the emotional and sensory dimensions of design: whose bodies find comfort within these familiar and unfamiliar possibilities, and whose remain excluded—a question taken up in the following chapter.

7. Sitting with (Dis)comfort

Building on earlier discussions of familiarity and repetition—how bodily practices and material forms shape one another over time—this chapter explores how comfort arises through habitual engagement with objects. These ongoing interactions not only guide the way we move but also shape whether such engagements feel effortless or strained. This dynamic is particularly significant in chair design, where comfort is often assumed rather than questioned. By tracing these assumptions, I show how design can produce, distribute, or withhold comfort, thereby shaping which bodies are included or excluded. In highlighting this, the chapter demonstrates that comfort is far from universal or neutral, offering a lens for understanding how everyday objects like chairs mediate bodily practices, social relations, and access.

7.1. Sinking into Chairs

Sinking into a chair might seem effortless, yet this ease is not equally afforded to all bodies. The design of a chair plays a decisive role in shaping these experiences: its forms, proportions, and materials guide how people inhabit space, signal belonging or exclusion, and carry traces of past interactions. In this way, comfort is not only a physical sensation but also an embodied negotiation with both material and social contexts.

The embodied experience of comfort, or how a body moves through and interacts with objects and spaces, can be understood through feminist writer Sara Ahmed's concept of *orientation*, which helps explain how comfort emerges through bodily alignment with the environment. In *Queer Phenomenology: Orientations, Objects, Others* (2006), Ahmed describes comfort as a condition of being in place, when a body can extend into objects and spaces, sinking into a chair, sofa, or other environment with ease. In her framework, orientation is the process through which this alignment—and therefore comfort—occurs, encompassing not only finding direction but also coming to feel at home (Ahmed, 2006, p. 134). However, Ahmed also emphasizes that feeling at home does not necessarily bring comfort, because even familiar spaces—like the family home—can be experienced as sites of discomfort, exclusion, or disorientation (Ahmed, 2006, pp. 11–12). Through this lens, comfort and orientation are neither neutral nor universal, as they are shaped by histories, social norms, and repeated bodily engagements that inscribe cultural practices into posture, movement, and everyday inhabitation of space (Ahmed, 2006, pp. 55-56).

Extending her concept of orientation, Ahmed introduces the notion of *impression*, which captures the physical and emotional traces inscribed on the body through repeated

encounters with objects and spaces. In this sense, the body becomes a canvas for the atmospheres it encounters, registering sensations such as goosebumps, tension, or soreness, alongside more subtle or less tangible responses. These impressions precede orientation but also continuously interact with it, influencing how bodies navigate their surroundings and determining which objects and spaces feel welcoming or alienating (Ahmed, 2006, pp. 7–9). This dynamic resonates with earlier discussions in this thesis, including *habitus* (Pierre Bourdieu, *The Logic of Practice*, 1990 & Arseli Dokumacı, *Activist Affordances*, 2023; see chapter 5) and bodily repetition in *performativity* (Judith Butler, *Bodies That Matter*, 1993; see chapter 6), as all these frameworks emphasize how repeated engagement—whether with objects, spaces, or social practices—leaves enduring traces on the body, shaping both how bodies move through environments and how they relate to and experience the world around them.

Seen through this lens, chairs illustrate how impressions are formed and orientations enacted, challenging the assumption that chairs inherently provide comfort. As Ahmed notes, comfort or discomfort does not arise from design alone but emerges through the ongoing interplay between bodies, objects, and environments (Ahmed, 2006, pp. 27–28). She further emphasizes that objects never act in isolation and instead gather to create "a ground upon which we can gather," while simultaneously "gather[ing] quite differently, creating different grounds" (Ahmed, 2006, p. 1). The significance of this interplay becomes clear in the accounts of survey participants and interviewees, which reveal how experiences of sitting are shaped not only by physical form but also by social norms, expectations, and the surrounding context. For example, one survey participant reflecting on school chairs described how social and normative pressures intensified the experience:

> While not inherently the most uncomfortable, the long hours spent sitting on them, often combined with boredom, created a strong negative association for me. The lack of ergonomic support and the rigid design only added to the discomfort over time. (appendix A.1.2.2)

Another survey participant highlighted how the physical surroundings can shift attention away from the chair itself and the comfort it affords, illustrating how orientation is shaped in relation to the environment:

> Also it really depends on the position of the chair. Is it an ugly chair in front of a beach view? Then I might love that chair. Is it a high quality design chair in a grey office? No thank you. (appendix A.1.2.6)

Interestingly, the broader survey and interview data suggest that even when discomfort was present, survey participants and interviewees tended to orient toward chairs rather than turn away from them. While the literature emphasizes that certain misalignments can render chairs unusable—such as those discussed in section 5.4 in relation to *activist affordances* for bodies that are disabled, ill, or in pain—no such cases appeared in this

dataset. Instead, survey participants and interviewees generally adapted to the chairs they encountered, suggesting that orientation is not only habitual but also reinforced through repeated bodily engagement and emotional familiarity.

This finding resonates with Ahmed's argument that things become effortless precisely through the effort invested in them, a paradoxical process. Applied to chairs, this perspective suggests that comfort is not simply inherent but can emerge through the work of adjustment, even when such work is subtle, unconscious, or quickly forgotten. As Ahmed explains, "The repetition of the work is *what* makes the work disappear. It is important that we think not only about what is repeated, but also about how the repetition of actions takes us in certain directions: we are also orientating ourselves toward some objects more than others" (Ahmed, 2006, p. 56, emphasis in original). In line with this, survey participants and interviewees did not describe abandoning chairs altogether but instead engaged in small adjustments to make them more comfortable, often in ways that faded into the background. For example, one survey participant noted, "I always use whatever [chair] I can find. I am not picky" (appendix A.1.2.6), adding a cushion only when a chair felt very uncomfortable. Similarly, another survey participant remarked, "a good seat is the one that's right in front of me!" (appendix A.1.2.12). Together, these accounts suggest that ease arises less from a chair's inherent qualities and more from the ongoing, often overlooked work of repetition, bodily memory, and cultural association. These processes sustain orientation even when immediate physical comfort is limited.

Taken together, sitting in chairs involves a complex entanglement of body, object, and environment, each carrying traces of past encounters, social norms, and emotional histories. These traces, in turn, shape how bodies align, move, and come to feel at ease. As a result, while some chairs accommodate certain bodies, they may simultaneously exclude others, revealing the uneven distribution of comfort. Comfort is therefore not a fixed property of the chair but emerges through ongoing interactions shaped by cultural values and personal histories—interactions that make some chairs feel immediately accessible, while others remain, as Ahmed would put it, "beyond the horizon" (Ahmed, 2006, p. 56). Paying attention to these differences highlights the unequal material and social distribution of comfort and opens up possibilities for reorienting design toward greater inclusivity—a theme explored in the following section through discomfort as a site for insight.

7.2. Rethinking Chair Design Through Collective (Dis)orientation

Building on the discussion of orientation and its connection to comfort, I now turn to discomfort, exploring how moments of misalignment—both individual and collective—can reveal the normative assumptions embedded in everyday objects such as chairs. By following how survey participants and interviewees experienced and responded to this discomfort, I demonstrate how it can open new perspectives for rethinking chair design.

Discomfort—experienced as bodily disorientation—arises when a body does not align with its material surroundings, interrupting the sense of bodily ease. This misalignment can take concrete form: for instance, standard chair heights of around 45 cm are too tall for over half the population, and widths often accommodate only certain body types (Cranz, 1998, p. 102). Yet the effects of misalignment extend beyond individual objects, also occurring when broader social or spatial contexts fail to accommodate diverse bodies, as discussed in section 7.1. Such mismatches heighten bodily awareness, producing disorienting discomfort that draws attention to the chair as an object-in-itself—revealing how bodies inhabit and engage with space, and making visible the norms embedded not only in objects but also in their surrounding environments (Ahmed, 2006, pp. 48 & 160).

Consequently, the disorienting discomfort produced by misalignment can make chairs feel *too narrow*, *too hard*, or *too high*—not because of their inherent qualities, but due to disrupted interactions between body, object, and space. In line with this, Ahmed notes that a chair's *tooness* signals its failure—or refusal—to accommodate certain bodies (Ahmed, 2006, p. 50). These dynamics are reflected in survey and interview responses: one survey participant recalled, "I had an Aeron chair that was too small, so I gave it to my wife" (appendix A.1.2.7), while another critically assessed their own design as having "a seating angle [that] is a bit too upright, and the seating area itself is too flat," adding, "the seating area is [...] too thick. The front leg too upright and the backrest-back leg connection is too cumbersome" (appendix A.1.2.10).

Building on these disorienting encounters, we can see that an awareness of body–object relations can arise even when apparent alignment seems possible. As Ahmed observes, "inhabiting forms that do not extend your shape can produce queer effects, even when you think you are 'lining up'" (Ahmed, 2006, p. 174, emphasis in original). In other words, discomfort does not only emerge from visible misfit; it can also surface within apparent conformity, revealing bodily norms that typically remain unnoticed (Ahmed, 2006, p. 157). By making these norms visible, such moments not only illuminate the conditions under which comfort is enabled—or denied—but also offer a generative perspective for design, highlighting the assumptions embedded in objects and the bodies they implicitly exclude.

Interviews with designers show how experiences of bodily and emotional discomfort can directly shape design choices. For example, product designer Libi Gurdus explained that she makes chairs slightly wider to accommodate people with wider hips (see section 4.3), while Roya Haupt described designing chairs that support a range of sitting positions for people with larger chests or bellies (see section 6.2). While these experiences may appear individual, they reflect widely shared bodily realities that often remain invisible because the design industry has historically centered perspectives that marginalize voices like theirs, as discussed in chapter 4 and explored further in section 7.3. By surfacing these overlooked experiences, encounters with misfit reveal how design can shape bodily and emotional orientation, foster comfort and inclusion, and illuminate relational qualities of objects and spaces that typically go unnoticed.

However, the generative potential of disorientation, evident not only in individual experiences but also at a collective scale, becomes particularly apparent during moments of widespread disruption—collective here meaning that it also affects perspectives that are usually centered. For example, the COVID-19 pandemic—a disruption closely tied to the context of home, which, as discussed earlier, is often associated with comfort, and on a systemic level comparable to the climate crisis discussed in section 4.5—brought renewed attention to everyday objects like chairs. Norms that had long gone unquestioned, such as those regulating spatial separation or proximity between bodies, suddenly became highly visible. This heightened awareness is reflected in survey responses, where many participants expressed a longing for closeness and emphasized the relational and affective dimensions of seating. Such moments illustrate how disorientation can reveal hidden norms and open pathways for more inclusive and responsive design. In the following, I present three designs that engage these concerns, each exploring relational and bodily experiences in different ways.

The first design (see figure 7.1b) was created to "reclaim togetherness on a small scale—so people could sit closer together and interact more"[1] (appendix A.1.2.9). By challenging conventional notions of proximity, this piece explores the dynamics of sitting apart and together. As designer Florian Brmer observes, users instinctively adapted to the shared seat:

> The beautiful thing was seeing people intuitively put their arm around each other when sitting together—there was a different kind of closeness, a new form of interaction shaped by this piece of furniture. That's the kind of togetherness I'd like to see in my communal spaces. And thanks to the tiered backrest, even four people can sit on it.[2] (appendix A.1.2.9)

This example highlights how design can shape social interaction and embodied experience, and by extension, influence how bodies relate to one another. Bremer aptly describes the piece not merely as a chair but as a "chair*bench*hybrid" (appendix A.1.2.9) and more significantly, as a *Gemeinschaftsmöbelstück*—communal furniture.

Other designers have similarly investigated how chairs can foster new forms of togetherness. For instance, two survey participants collaboratively created a public bench (see figure 7.1a) designed to encourage "connection and interaction rather than the passive act of sitting side by side" (appendix A.1.2.2), as one of them describes. By inviting users to face each other, the bench promotes communication and a sense of shared presence—"more

[1] The original reads in German: "Die Gemeinschaft im Kleinen zurückzuerobern, um näher beieinander zu sitzen und mehr miteinander zu interagieren."

[2] The original reads in German: "Das Schöne war zu beobachten, dass alle Leute, die sich drauf gesetzt haben, also zu zweit auf einen Stuhl, intuitiv den Arm um die andere Person gelegt haben. Also es ist eine ganz andere Nähe gehabt, eine ganz andere Form von Interaktion durch dieses Möbelstück. Man war sich wieder nah und das ist so die Art von Nähe, die ich in meinem Gemeinschaftsraum auch gerne sehen würde. Und man kann auch zu viert drauf sitzen durch die tribünenartige Lehne."

like a tête-à-tête chair, but for public space" (appendix A.1.2.2), they note. In this way, it plays with the tension between intimacy and publicity, supporting and encouraging social interaction. The concept even extends into the digital realm through an online platform, enabling people to join the seat virtually and participate in conversations around mental health.

In contrast, another project (see figure 7.1c)—previously discussed in the context of sustainability in section 4.5—takes a different approach to fostering community. Here, the designer focuses on the practice of stooping, defined as picking up objects from public streets. Using surplus industrial wood from their workplace, they created playful, colorful stools and placed them at various locations across the city. By inviting people to retrieve these stools, the project cultivates a subtle, dispersed sense of connection: even without meeting one another, participants are linked through this shared, indirect gesture. The designer describes the stools as a "pay-it-forward gesture and object of love" (appnedix A.1.2.12), a meaning that resonated particularly strongly after the social isolation of the pandemic. In this way, the stools serve as carriers of relational engagement, demonstrating how design can enable playful, distributed forms of community.

(a) **(b)** **(c)**

Figure 7.1.: Collective disorientation leading to chair designs that emphasize collectivity rather than the individual: **(a)** a public park bench that encourages interaction instead of side-by-side sitting (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous); **(b)** a "chair*bench*hybrid" promoting both physical and social proximity (Project: *Zygmunt* (2022); Design & Fabrication: Florian Bremer; Photo: Florian Bremer); **(c)** fostering collectivity through the shared, playful practice of retrieving the same stool design from public streets, creating a dispersed form of community (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous).

Without romanticizing discomfort, these examples demonstrate that disorientation can serve as a productive catalyst in chair design—addressing not only bodily misalignments but also the social dynamics of sitting together. This potential is particularly evident when discomfort is experienced collectively, as shared disorientation can prompt a rethinking of how—and with whom—we sit. By contrast, when discomfort occurs in isolation or is marginalized, different dynamics emerge, which I now turn to in order to examine how these dynamics specifically intersect with gender.

7.3. Gender as a Non-Collective (Dis)orientation

Figure 7.2.: A colorful tribute to queer identities, inclusivity, and the challenge of normative stereotypes through design (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous).

Shifting focus from collective to more individualized dynamics, this section considers gender as a key form of (dis)orientation in chair design, shaping both embodied experience and design practices. Although gender did not emerge as a dominant theme across the survey—suggesting it operates less as a collective (dis)orientation—it remains crucial for understanding how bodies, chairs, and comfort are interrelated. What counts as collective depends on perspective: gender can be seen as collective insofar as everyone is shaped by gender norms, yet those socialized as female or queer are more often compelled to attend to gender, whereas those socialized as male are less frequently required to do so. This perspective makes Ahmed's concept of orientation particularly apt for analyzing comfort in relation to gender, as she develops it with a focus on gender, alongside race, migration, and sexuality, emphasizing that bodily orientations are neither innate nor fixed but emerge through repeated, situated encounters within specific spatial and social contexts (Ahmed, 2006, pp. 58–63). In this framework, Ahmed draws on political theorist and feminist philosopher Iris Marion Young's claim that "gender differences are differences in orientation" (Ahmed, 2006, p. 60), which helps to explain how both the chairs and the designers discussed in this thesis materialize such orientations. Notably, it was those identifying as female and/or queer—groups structurally marginalized within patriarchal systems—who brought this orientation to the forefront by explicitly shaping their chair design practices around gender and sexuality.

It is through their orientation towards gender and sexuality that chair design emerges as a medium for expressing layered gendered and queer meanings, turning chairs into sites of resistance, affirmation, and playful engagement. For instance, one survey participant described their chair as "colorful and unique, depicting diversity and colorful bodies melting into one another. It is a tribute to the queer community, promoting inclusivity and moving beyond stereotypes and normative standards" (appendix A.1.2.6). They added: "The

illustrations on the chair refer to 'Queening,' which evokes notions of sophistication, empowerment, and the political subversion embedded in queer and BDSM cultures" (appendix A.1.2.6), a meaning further reinforced by the chair's form, which references the traditional Tyrolean farmhouse chair with a heart cutout (see figure 7.2). Similarly, another survey participant described their chair as "an homage to queer celebration," where "symbolism, body ornaments, and camp converge, [create] a materialized statement of protest and enjoyment—or simply something to play nervously with" (appendix A.1.2.11); figure 7.3).

Figure 7.3.: A homage to queer celebration, where camp, symbolism, and protest merge in playful, political design (Project: Anonymous; Design & Fabrication: Anonymous survey participant; Photo: Anonymous).

These accounts illustrate how embodied identities shape design decisions and become inscribed in the materiality of objects, transforming chairs into sites where gendered meanings are enacted. Accordingly, chairs function as more than static supports—they carry tangible traces of orientational processes shaped by lived histories, social positioning, and cultural norms. By attending to their form, materiality, and use, we can see how chairs guide, constrain, and enable bodily engagement within particular contexts. This dynamic is further illuminated by Ahmed's reflection on the soft seat, which highlights the intimate connection between body and object:

> The chairs become soft to provide seating for the body that sits. In turn, the body becomes soft as it occupies the soft seat, taking up the space made available by the seat. Such positions become habitual: they are repeated, and in being repeated they shape the body and what it can do. The more the body sits, the more it tends to be seated. (Ahmed, 2006, p. 59)

Extending this observation, Ahmed connects habituated postures and material forms, such as softness, directly to gender: "So if gender shapes what we 'do do,' then it shapes what we can do. Gender could thus be described as a bodily orientation, a way in which bodies get directed by their actions over time" (Ahmed, 2006, p. 60, emphasis in original).

This highlights that the ways bodies engage with objects are shaped by gendered norms, and in turn, these interactions reinforce certain possibilities and limitations. In chair design, for example, material qualities like softness, height, or curvature guide how bodies sit, move, and experience comfort, reflecting and reproducing broader social and cultural orientations.

However, these practices are not only shaped by individuals but are also embedded in broader cultural histories that govern how people inhabit space. Domestic interiors and furniture have long functioned as instruments reinforcing gendered norms—determining who sits where, how, and with what symbolic significance. A concept that crystallizes this connection between furniture and the feeling of being at home is *Gemütlichkeit*, analyzed by cultural scientist and ethnologist Brigitta Schmidt-Lauber in her 2003 book of the same name. The term resists direct translation: while "comfort(able)" is frequently proposed, the Oxford English Dictionary defines it simply as "the quality of being *gemütlich*" (Schmidt-Lauber, 2003, p. 171, emphasis in original). This vagueness is telling, as it highlights that *Gemütlichkeit*—and comfort more broadly—is not universal but learned, habitual, and socially performed. Despite its resistance to direct translation, the concept finds widely recognizable material expression: bulky wooden furniture, upholstered armchairs, and curved sofas—objects into which *one can comfortably sink*[3]—suggesting ease and familiarity. Schmidt-Lauber, however, demonstrates that the idea of *Gemütlichkeit* is more than an aesthetic or material preference; it is entangled with social orderings, particularly gender. What was originally a neutral expression shifted in the early 19th century toward associations with femininity and bourgeois domestic ideals, marking a retreat into the private sphere where comfort became linked to passivity, care, and containment—roles assigned to women and often marginalized within design discourse (see section 4.3) (Schmidt-Lauber, 2003, pp. 129–132 & 146–149). Seen through this critical lens, *Gemütlichkeit* emerges as deeply ambivalent. On the one hand, it conveys intimacy, belonging, and a welcoming atmosphere, often arising in shared experiences such as the feeling of being at home or among dear ones. On the other, it carries the marks of domestic containment and heteronormative femininity, raising pressing questions such as: Who feels comfortable? Who does not? And under what conditions?

Turning from critique to practice, this ambivalence can become a productive force in design, opening space for alternative imaginaries. The queer and feminist chair designs shared by survey participants and interviewees show how comfort can be reworked—not as a universal given, but through material form. By centering marginalized bodies and experiences, these chairs unsettle the stillness and closure often associated with comfort, fostering movement, openness, and resistance. Building on this, I will further explore comfort as a learned disposition and its implications for chair design.

[3] Italicized here to signal a critical distance from the idea that bulky wooden furniture, upholstered armchairs, and curved sofas—often associated with *Gemütlichkeit* and the ease of sinking in—are inherently comfortable for all bodies and experiences.

7.4. Comfort as a Learned Disposition

To conclude this chapter, I return to the idea introduced in section 7.1, arguing that comfort is not an innate or universal sensation but a learned disposition, shaped through repeated interactions with culturally normative objects—including chairs. While that section examined how survey participants and interviewees oriented toward chairs despite discomfort, I here focus on a specific case: their frequent references to office chairs as comfortable, which illustrates how comfort is socially conditioned and reinforced over time. Participants often highlighted features such as mobility, flexible materials, and "8 hours of seating" (appendix A.1.2.3), using terms like "classic" (appendix A.1.2.9), "regular" (appendix A.1.2.11), and "ergonomic" (appendices A.1.2.9 & A.1.2.3) as normative benchmarks. At the same time, skepticism toward cheaper models and their ergonomic claims showed that even within this familiar category, comfort remains a negotiated and contested notion (appendix A.1.2.10). Nonetheless, the standardized form of office chairs reflects a dominant cultural language that prescribes how bodies are expected to experience comfort.

Figure 7.4.: Reimagining sitting to challenge normative and internalized behaviors (Project: *Feeling Gender* (2023); Design & Fabrication: Mira Müller; Photo: Mira Müller).

While culturally ingrained designs establish expectations of comfort, these norms can also be deliberately challenged to provoke reflection and new bodily experiences. One example is Roya Haupt's unconventional chair, discussed earlier in section 6.2, which uses performance to unsettle habitual sitting patterns, encouraging unfamiliar postures and often eliciting hesitation or discomfort in those less familiar with exploring spatial boundaries through their bodies. A related but distinct approach is Mira Müller's project *Feeling Gender* (2023), which not only disrupts embodied habits but also directly confronts the gendered biases embedded in conventional chair design (see figure 7.4). Together, these cases demonstrate that comfort is not simply a property of physical design but emerges through repeated bodily experiences and socially learned expectations. Müller, in particular, explicitly frames her design as a tool for intervention, noting that people sometimes did not dare to sit on the chairs because they felt exposed and uncomfortable.

In doing so, she transforms an everyday object—ordinarily unquestioned and reinforcing habitual postures and socially learned norms of comfort—into a site of reflection and disruption (Müller, 20.03.2025; appendix A.2.3).

These reflections illustrate that comfort is deeply shaped by social context, learned behaviors, and cultural norms. Consider the office chair: it embodies not only physical comfort but also workplace discipline and capitalist values, encouraging adherence to specific postures over long periods. Unsurprisingly, many survey participants and interviewees initially linked comfort to the familiar visual and material language of office seating. However, when asked to reflect on the chairs they valued most, a different pattern became apparent. Rather than prioritizing ergonomic function alone, participants often highlighted visual and affective qualities—such as "expressive shapes" and "recognizability" (appendix A.1.2.3) or "bold, unconventional" and "elegant" designs (appendix A.1.2.2). These aesthetic and emotional dimensions frequently challenged socially learned notions of comfort, as one survey participant openly stated:

> I don't really care about comfort; of course, good design means it needs to look nice and be comfortable at the same time, but if I could choose, I'd always go for an unconventional, weird design that doesn't fit the norms. (appendix A.1.2.6)

This statement highlights the diversity of bodily experiences and preferences, showing that standardized ergonomic solutions cannot account for all needs. Attending to these context-sensitive differences reveals how deviations from assumed norms—whether in design or in use—can open space for new bodily orientations and interactions.

Concluding this section, I return to Ahmed's observation that bodily orientations toward spaces and objects are not fixed but formed through repeated interactions. This perspective explains how bodies that diverge from the assumptions embedded in design—such as those challenged by Müller or Haupt—can unsettle normative alignments and open possibilities for reorientation. As Ahmed notes, "bodies can occupy spaces that do not extend their shape, which can then serve to 'reorientate' both bodies and space" (Ahmed, 2006, p. 61, emphasis in original). Yet, the capacity to enact such reorientations is uneven, shaped by intersecting forms of privilege and marginalization. In this way, micro-level bodily interactions reveal the contingent, socially and culturally mediated nature of experience and hint at how broader norms might be challenged.

Taken together, the analysis in this chapter shows that bodies become oriented through repeated, situated engagements with objects that extend beyond physical things like chairs, which in turn shapes comfort and bodily experience more broadly. In this context, comfort emerges not merely from material properties but from affective, embodied relations shaped by sensation, emotion, and social meaning, and these dynamics are made especially visible in moments of discomfort—for example, when a chair fails to

accommodate a body. Such moments reveal how, within patriarchal, capitalist, ableist, heteronormative, and colonial systems, many bodies remain out of alignment with surrounding spaces and objects, producing disorientation. Yet these misalignments can also disrupt normative expectations, opening possibilities for alternative ways of relating to and designing for diverse bodies. Although often unsettling, these ruptures expose what usually goes unnoticed and encourage more critical engagement with everyday design practices. When disorientation is experienced collectively—and particularly when the collective extends beyond marginalized bodies—broader social and material change can be catalyzed. However, within patriarchal systems, gender has not generated a collective disruption of comparable scale, which may help explain its relative neglect in chair design so far. Building on these insights, the next chapter explores how plural, situated material relations can challenge exclusions and foster more inclusive, justice-oriented practices.

8. Embracing Plural Material Relations to Unlearn Design Games

In this final chapter, I bring together the practices and perspectives explored throughout the thesis to examine how gendered considerations shape chair design processes and the ways they influence sitting practices. While, as discussed in section 4.5, sustainability has often received more attention than gender in debates around chair design, I argue that these aspects should not be treated as separate or in tension. Instead, I consider them intertwined, understanding ecological responsibility as inseparable from justice-oriented design. To pursue this perspective, it is necessary to question dominant paradigms in design—what feminist activist Rozsika Parker describes as "the rules of the game" (Parker, 1979, p. 682). In doing so, I draw on theoretical concepts that not only rethink material and technological domains but also challenge conventional boundaries between human and nonhuman, reposition matter as active and affective, and blur distinctions between humans and technology. Together, these approaches illustrate how design practices can become more equitable, responsive, and attentive to multiple forms of care and responsibility.

8.1. Decentering the Heroic Designer

To explore how these perspectives play out in practice, I begin with the role of the designer. As discussed in section 4.2, design discourse has long been dominated by the myth of the heroic, solitary designer—a singular author shaping design history. Design historian Cheryl Buckley critiques this narrative for upholding masculine ideals of individual mastery that marginalize collaborative, relational, and situated design practices, thereby perpetuating entrenched gendered power structures (Buckley, 2020, p. 21). To move beyond this limited notion of authorship, this section shifts attention to the broader constellations of interactions through which design takes shape.

I ground this shift in the idea of *actants*, introduced by philosopher, anthropologist, and sociologist Bruno Latour in *Politics of Nature: How to Bring the Sciences into Democracy* (2004) and later elaborated by theorist Jane Bennett in *Vibrant Matter: A Political Ecology of Things* (2010). Latour describes an actant as any human or nonhuman entity capable of affecting others and producing observable effects (Latour, 2004, p. 237). Building on this, Bennett emphasizes how such a view displaces agency from singular subjects and redistributes it across complex *assemblages*—here understood as groupings of elements, whether humans, materials, technologies, environments, or processes—that collectively shape design outcomes (Bennett, 2010, pp. 23–24). This

perspective foregrounds relationality and multiplicity rather than individual mastery. Extending this further, social anthropologist Tim Ingold, in *Bindings Against Boundaries: Entanglements of Life in an Open World* (2008), introduces the key concepts of an *open world* and *meshwork*: a constantly shifting weave of threads representing ongoing movements and connections rather than fixed, discrete points (Ingold, 2008, pp. 1801 & 1805–1806). Taken together, these perspectives allow me to approach design not as the product of isolated authorship, but as an emergent process of continuous interaction that generates fluid and co-produced forms rather than static objects or fixed roles.

To illustrate how these theoretical insights unfold in practice, designer and carpenter Mira Müller's project *Undoing Arne* (2024), extensively discussed in section 6.1, provides a compelling example of a relational design approach that challenges the myth of singular authorship. While that section focuses on how the project critiques gendered sitting behaviors, here the focus is on Müller's design process itself. Rather than creating a new chair from scratch, she engages with a design classic—the *3107* (1955) chair by architect and designer Arne Jacobsen—acquired secondhand and used as a starting point for inquiry. She disassembled and digitally scanned its parts, entering what she terms a forensic dialogue with its form. In doing so, Müller draws on Judith Butler's theory of *performativity* (discussed in chapter 6) and Cheryl Buckley's critique of masculine authorship (discussed in chapter 4), explicitly rejecting both the notion of the lone genius designer and the emphasis on producing a finalized product. Instead, she focuses on creating space—both literal and metaphorical—for alternative gestures, interpretations, knowledges, and bodies. She captures this dialogic process vividly: "Through this meticulous engagement with his design, I felt as if I could enter into a dialogue with him—as though I was adding my own proposition"[1] (Müller, 20.03.2025; appendix A.2.3).

Müller's approach in *Undoing Arne* embraces complexity and contradiction rather than aiming to correct or replace the design. By challenging the common fantasy of a blank slate or fresh start, she underscores that design is always entangled with existing objects, shaping histories, and pervasive social structures that cannot be fully escaped. In this sense, her perspective closely aligns with feminist theorist Donna Haraway's assertion that "artifacts have politics" (Haraway, 2016a, p. 12), emphasizing that designers cannot separate themselves from the worlds they co-shape. This entanglement becomes particularly evident in Müller's reflection on the *3107* chair: "It's an object that can't speak, but it's loaded with societal structure."[2] (Müller, 20.03.2025; appendix A.2.3). Here, the chair's silence is far from neutral—it carries inherited values, norms, and exclusions that her intervention seeks to reveal and unsettle.

[1] The original reads in German: "Weil ich halt festgestellt habe durch diese minuziöse Auseinandersetzung mit diesem Entwurf von ihm ehm ich halt mit einem ja mit einem Architekten quasi in den Dialog treten durfte über non-verbale Kommunikation nämlich über seinen Entwurf und ich ehm dann meinen Entwurf wie mit in den Ring geschmissen habe."

[2] The original reads in German: "Es ist halt einfach ein Objekt das nicht reden kann aber ja es ist beladen mit gesellschaftlicher Struktur."

Figure 8.1.: A design deliberately developed so that it cannot be carried out alone, requiring collaboration with others and thereby quite literally decentering the figure of the heroic designer (Project: *Zusammen zusammenbauen* (2025); Design & Fabrication: Florian Bremer & Lena Hellmann together with Leo, Louis, Jamie, Martha, Fey, & Luca; Photo: Johann Taillebois).

Müller intentionally steps away from traditional notions of authorship and authority and instead fosters a space where negotiation, uncertainty, and possibility can flourish. In doing so, she invites new forms of engagement—where error is not dismissed as failure but embraced as a generative element in an ongoing process that cultivates emerging relationships. This shift—from control to care, from mastery to dialogue—is central to the queer-feminist design approaches grounding this thesis. Rather than aiming for fixed or totalizing outcomes, these approaches prioritize creating conditions that encourage others to enter, respond, and continue the dialogue.

In a similar vein, *Zusammen zusammenbauen* (2025) offers a concrete example of how authorship can be deliberately decentered (see figure 8.1). Developed by Florian Bremer and Lena Hellmann together with many others—Leo, Louis, Jamie, Martha, Fey, and Luca—the project demonstrates how design can be structured around collaboration rather than individual mastery. The title already conveys the central idea—literally "building together together," a phrase that is difficult to translate smoothly into English—and points to the project's focus on collective making. This was also evident in practice: the long wooden beams used in the construction are impossible to handle by one person, so the work necessarily relied on many. Of course, the design could have been developed in a way that required fewer people and made the process easier, but such an approach would have missed the point. What mattered was precisely the act of building together: *Zusammen zusammenbauen*. Bremer also explained that all participants were encouraged to include the project in their design portfolios, further questioning, decentralizing, and distributing authorship.

Building on the collaborative and decentered principles exemplified in *Zusammen zusammenbauen*, Bremer's modular seating system *Zygmunt* (2022) extends these concepts

from process into object (see figure 8.2). Having already appeared in discussions of playfully exploring affordances (see section 5.5) and navigating collective (dis)orientation after pandemic lockdowns (see section 7.3), *Zygmunt* shows how experimental, relational design practices can shape both the design process and the resulting form. Unlike conventional chairs, typically intended for a single user, it resists fixed categorizations and prescriptive uses. Bremer described it in the survey as a "Bench*Chair*Hybrid" (appendix A.1.2.9), a designation that signals cyborgian ideas of fluid boundaries and multiplicity, which I will further explore in the following section 8.2, while also emphasizing playful flexibility: "It does not dictate what you should do—you can toy around with it" (appendix A.1.2.9). Its modular components can be rearranged—such as transforming a backrest into an extra seat—to accommodate diverse bodies and encourage movement and interaction. In contrast to the throne, a potent symbol of hierarchy and exclusion (see section 4.1), *Zygmunt* reconceives seating as a dynamic platform for connection, negotiation, and shared experience.

(a) **(b)**

Figure 8.2.: As a so-called bench*chair*hybrid, this design offers multiple affordances and ways of sitting: in **(a)** it supports solo use, while in **(b)** it encourages shared interaction and collective sitting (Project: *Zygmunt* (2022); Design & Fabrication: Florian Bremer; Photos: Florian Bremer).

This section has traced the shift from the myth of the solitary, heroic designer toward a relational, assemblage-based understanding of design. Müller's forensic engagement with a design classic, as well as Hellmann's and Bremer's collaborative project—where outcomes depend on the input and negotiation of multiple participants—both challenge traditional notions of authorship and demonstrate how design can emerge from distributed, dialogic processes that are collectively shaped and negotiated. Building on these process-oriented insights, Bremer's modular, adaptable seating system translates this relational logic into the material realm, showing how forms traditionally intended for a single user can be reimagined as flexible, rearrangeable components that accommodate diverse bodies and interactions. Together, these cases reveal design as a practice shaped by the interplay of human and nonhuman actants. In Müller's process, technology plays a particularly active role: digital scanning, modeling, CNC milling[3] and photography

[3] CNC milling, or Computer Numerical Control milling, is a process in which a computer guides a milling machine to cut and shape material with high precision according to a digital design.

are not merely tools but forces that shape possibilities, meanings, and outcomes. While many designers employ similar technologies, Müller's explicit framing of them as actants highlights their often-overlooked influence within design assemblages. Recognizing this active participation of technology is crucial for moving beyond human-centered notions of mastery and sets up the next section, where I explore technologies as cyborg companions—entangled, co-constitutive partners in the ongoing practice of design.

8.2. From Tool to Cyborg Companion

Design tools—whether analogue or digital—are often presented as neutral extensions of the designer, mere instruments for translating ideas into form. Yet this view overlooks how profoundly tools shape not only outcomes but also the processes, decisions, and modes of thinking embedded in design practice. Digital tools in particular do more than materialize intent: as Mira Müller observes, they create a medium in which human and nonhuman actors interact dynamically. This perspective unsettles one of design's enduring assumptions—the supposed separation between designer and tool, subject and object, human and machine—a distinction that feminist theorists have critically interrogated and that I will explore further in this section.

One particularly influential way of thinking about such entanglements comes from feminist theorist Donna Haraway and her figure of the *cyborg*, first introduced in her essay *A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century* (1985). Haraway describes the cyborg as a hybrid entity that unsettles dominant binaries such as nature versus culture and organism versus machine. Rather than positioning technology as separate from or subordinate to human activity, the cyborg frames technological systems as deeply intertwined with human practices—systems that are simultaneously shaped by and shaping design processes. From this perspective, design is not a linear act of control but a relational, co-constitutive process involving multiple actors. Haraway's cyborg offers more than a metaphor for hybridity: it foregrounds entanglement as a fundamental condition of being, rejecting ideals of purity, autonomy, and mastery in favor of ambiguity, partiality, and relationality. Boundaries, accordingly, are not fixed or natural but contingent, constructed, and always open to reconfiguration (Haraway, 2016a, pp. 7–9).

Yet, while the cyborg destabilizes these binaries and myths of technological neutrality, it does so from within the very systems it critiques. Rather than erasing its origins in tangled and often violent histories such as capitalism, colonialism, patriarchy, and militarism[4], it refuses to be constrained by them. As Haraway describes, it is an "illegitimate offspring" (Haraway, 2016a, p. 9)—a figure that unsettles and destabilizes its own roots (Haraway, 2016a, pp. 9–10). In this way, the cyborg embodies fractured, relational, and contingent

[4]Militarism here refers to the ways military systems, technologies, and logics have historically shaped science, technology, and society. It encompasses not only armed conflict but also hierarchical, disciplined, and controlling structures that influence technological development and scientific practices.

subjectivities that transcend traditional binaries. From this perspective, design can no longer treat technology as a passive medium; instead, it must be approached as an active co-author—one that shapes, limits, and transforms possibility through ongoing negotiation with human actors. By doing so, it opens space for subversion, complicates dominant narratives, and makes room for alternative ways of being and making. In this context, particularly within high-tech culture, the boundary between human and machine becomes increasingly porous. Longstanding dualisms—for example, self/other, mind/body, and natural/artificial—are thus harder to sustain, blurring the distinctions between who makes and who is made within these entangled relationships (Haraway, 2016a, pp. 59–60).

This entangled perspective on human and nonhuman actors is not merely abstract; it manifests in design practices that blur distinctions between creator, tool, and chair. In works such as *Undoing Arne* (2024)—discussed in sections 8.1 and 6.1—and *Spider Chair* (2023), referenced in section 6.2, Mira Müller and Roya Haupt demonstrate how technologies can act as collaborators, mediating the designer–chair relationship. In both practices, the camera does not merely document but functions as an active agent, intervening in human–chair interactions to reveal and reconfigure dynamics. In Müller's case, she stages photographs to disrupt historical patterns in which women posed on chairs were treated as part of the object. She describes this intervention as follows:

> I kept coming across images showing how chairs are often used to objectify women. When women are posed on chairs, they are almost treated as part of the chair itself—they are reduced to an object. I engaged with this and questioned it. I took nude photographs from the 1960s—of a model, I think her name was Karen Kehler, who also sat on the *3107* chair—and restaged them on my chairs with someone who could use the chair in a new way, through my revisions, to perhaps distance themselves from that objectification. They interacted with the chair but also used it to shield themselves from the camera's gaze. I explored this artistically; these experiments led to reflections and conclusions about the work.[5] (Müller, 20.03.2025; appendix A.2.3)

[5] The original reads in German: "Ich hatte noch auf Bilder gestoßen und das auch immer wieder, [...] [wo] Möbelstücke ganz klar auch genutzt werden um zum Beispiel Frauen zu objektifizieren. Das Frauen sich auf Objekten wie rekeln oder ehm sie durch ihre Pose wie sie dargestellt werden eigentlich fast dem Objekt oder dem Stuhl auf dem sie sitzen gleichgestellt werden also sie werden, sie werden degradiert zu dem auf dem sie sitzen ehm also zum Objekt gemacht und damit hatte ich mich dann auch auseinandergesetzt und das befragt und das, das war halt nicht zu sehen weil da hab ich dann ehm Aktbilder von ehm ich glaube Karen Kehler war das, das war ein Model irgendwie aus den 60ern die auch auf diesem *3107* saß, habe ich genommen und die dann wiederum auf meinen Stühlen nachgestellt mit einem, mit einer Person die dann aber diese Stühle durch ihre neue oder Überarbeitung genutzt hat um sich vielleicht auch davon zu lösen. Also klar auch wieder eine, mit den, mit dem Stuhl in Interaktion getreten ist und den aber genutzt hat um sich wie zu schützen vor dem Blick einer Kamera, also ja da habe ich dann halt auch noch auf künstlerische Weise so ein bisschen damit gespielt, das inszeniert und das waren alles dann so ja Rückschlüsse."

Building on this understanding of tools as active collaborators, other design practices similarly highlight how nonhuman actors shape form. For example, Florian Bremer reflects in his project *Monobloc* (2020) on how digital methods allow him to stretch, distort, and continuously transform chairs—operations that would be laborious, if not impossible, to test or achieve physically (Bremer, 25.03.2025; appendix A.2.4 & figure 8.3). Consequently, the resulting images are not merely representations but material traces of a cyborgian collaboration in which human and machine co-constitute one another. Seen from this perspective, Haraway's cyborg—fractured, recomposed, and perpetually in flux—resonates with design conceived as a relational negotiation among bodies, technologies, and speculative materialities, where tools offer not only new techniques but also new modes of thinking, relating, and enacting form and matter (Haraway, 2016a, p. 33). This relational view, however, also prompts critical reflection on the conditions and power structures within which such collaborations unfold.

(a) **(b)** **(c)**

Figure 8.3.: A cyborg-like collaboration where human and machine co-create, allowing design experiments that might otherwise be impossible (Project: *Monobloc* — **(a)** Lounge Chair, **(b)** Hochsitz, and **(c)** Knoten — (2020); Design & Fabrication: Florian Bremer; Images: Florian Bremer).

Acknowledging technology as an active participant in design therefore requires moving beyond uncritical acceptance toward a more nuanced, critical stance. Indeed, feminist scholars have long emphasized that technological systems are deeply enmeshed within structures of inequality—such as sexism, racism, ableism, classism, and transphobia—and thus cannot be treated as neutral. In this context, drawing on Haraway's idea of "staying with the trouble" (Haraway, 2016b) designer and researcher Marie Louise Juul Søndergaard—whose work focuses on feminist design, futures, and digital technologies—argues that outright rejection of technology is neither feasible nor productive. Because technological worlds are already inhabited, the pressing challenge instead becomes navigating these entanglements with both critical awareness and creative intent. Practically, this entails exposing how technologies can perpetuate harm while simultaneously imagining ways to reconfigure them toward more just and livable futures (Søndergaard, 2023, p. 175). Such an attentive and situated engagement resonates with Haraway's call to embrace fluid, contingent relations rather than fixed boundaries (Haraway, 2016a, pp. 19-20).

Extending the idea of technology as an active co-author in design also invites us to reconsider how we engage with materials. Take wood, for example: it is not simply a passive resource but part of a dynamic meshwork of relationships, as Müller highlights. In conventional industrial production, however, trees are typically reduced to straight timber, while crowns and roots are discarded as waste—an approach that significantly restricts the forms chairs can take. Müller challenges this practice by asking: "Why do we not consider the crown and the root system as well?"[6] (Müller, 20.03.2025; appendix A.2.3). She argues that such exclusions have historically been tied to the limits of traditional machinery, which is ill-suited to irregular shapes. By contrast, specific technological developments available today—such as robotics, digitization, cataloging, and algorithms—open up new ways of engaging with unconventional materials like tree forks, enabling their irregular geometries to guide form-finding and thereby decentering the designer's role. Looking to the future, further technological advances may expand these possibilities in ways we cannot yet imagine. How materials themselves shape design processes will be explored in more detail in the following section.

Taken together, these perspectives challenge the conventional view of tools and materials as inert objects solely shaped by human intention. Instead, they invite us to see design as an ongoing dialogue—an entangled process where humans, technologies, and materials co-evolve and co-author outcomes. This shift—from tool to companion, from object to collaborator—opens new avenues for engaging with matter in ways that honor its vitality, agency, and complexity.

8.3. From Object to Vibrant Matter

Building on the previous discussion of technology as a co-author in design assemblages, I now turn to materiality as another central collaborator in design processes. Rather than seeing chairs as finished objects or static collections of materials, this perspective frames them as dynamic participants entangled in social relations, shaping both their design and use. Recognizing chairs in this way invites a more relational understanding of the design process, in which materials themselves play active roles.

One way to think about the vitality of matter is offered by Jane Bennett, who, as already introduced in the previous section 8.1, builds on the discussion of actants and assemblages. She encourages us to attend to the subtle ways in which matter can appear lively and responsive—a sensitivity that is often diminished in adult ways of thinking. For instance, she observes that children intuitively animate their surroundings—speaking with chairs, attributing feelings to stones, or imagining trees as companions—revealing an attentiveness to material liveliness that adulthood tends to suppress through rigid separations of subject and object (Bennett, 2010, p. vii). Interestingly, this childlike engagement resonates with the anthropomorphic vocabulary already embedded in chairs—*legs*, *backs*, and *arms*—and

[6] The original reads in German: "Warum denken wir die Krone und das Wurzelwerk nicht mit?"

points toward a crucial shift in perspective: rather than seeing materials as passive substrates awaiting human intention, we can recognize them as active participants in design processes and beyond (Bennett, 2010, p. 120).

Figure 8.4.: A section of a so-called chair orchard, showing a chair in the process of growing and illustrating a design process in which humans and materials—in this case, willow trees—co-design (Project: *Full Grown* (since 2006); Design & Fabrication: *Full Grown* (Alice & Garvin Munro in collaboration with the willow trees); Photo: *Full Grown*).

Extending this perspective, Bennett develops the concept of *vibrant matter*, which further challenges conventional views of materials as inert. She distinguishes between *objects*—fixed, named, finalized entities like chairs—and *things*, which embody openness, fluidity, and relationality, reflecting the ongoing convergence of materials, meanings, and social interactions (Bennett, 2010, p. xvi). This distinction underpins her notion of *thing-power*, the capacity of materials to exceed their status as objects and exhibit vitality, resistance, and influence within assemblages. As she writes:

> Thing-power gestures toward the strange ability of ordinary, man-made items to exceed their status as objects and to manifest traces of independence or aliveness, constituting the outside of our own experience. (Bennett, 2010, p. xvi)

Building on Bennett's notion of *thing-power*, the furniture company *Full Grown*[7], led by Gavin and Alice Munro, provides a vivid example of materials actively participating in design processes. While the previous section 8.2 highlighted how digital technologies can shape material agency, here the emphasis shifts to materials themselves, understood as a co-creative force. In this case, willow trees show that agency is not confined to technological mediation; rather, they enter into collaboration with humans as co-designers. Grounded in the ancient practice of coppicing, which promotes regrowth after cutting, this approach guides young, flexible trees along the shape of an upside-down seat, while extra branches are carefully joined to reinforce the developing frame. Over seven to ten years, the chairs take shape in a dedicated chair orchard (see figure 8.4), a process that resembles 3D printing—except that air, soil, and sunlight serve as the raw

[7] For further details on *Full Grown* and their work, see www.fullgrown.co.uk.

materials. Rather than predetermined shapes being imposed, the designs unfold through this ongoing dialogue between humans and trees, resulting in unique chairs (see figure 8.5) that require no assembly, adhesives, hardware, or major machine processes. Such practices not only illustrate the vitality of materials in design but also open up broader questions about the economic and social systems in which design is embedded (Wizinsky, 2022).

(a) **(b)**

Figure 8.5.: A chair grown through a collaborative design process between humans and willow trees: **(a)** shows the overall view, highlighting that each chair is unique, and **(b)** shows a detail, illustrating that no assembly, adhesives, hardware, or major machine processes are needed (Project: *The Leslie Chair* (2025); Design & Fabrication: *Full Grown* (Alice & Gavin Munro in collaboration with the willow trees); Photos: Sarah Myerscough Gallery).

It is precisely these larger questions that designer, educator, and researcher Matthew Wizinsky—whose work explores the intersections of design, technology, and social transformation—takes up in his article *Visions of Postcapitalist Design: An Incomplete Survey* (2022). In discussing the project *Full Grown* as an instance of postcapitalist design, he emphasizes that it extends far beyond questions of materiality. On a practical level, it avoids global supply chains, reduces energy consumption and pollution, and relies entirely on local materials. Yet for Wizinsky, its significance lies above all in how this rethinking of production opens space for collective ownership and alternative economies, such as crowdfunding future furniture harvests (Wizinsky, 2022). By foregrounding these social and economic dimensions, the project demonstrates how a multiplicity of perspectives can enter the design process, thereby increasing the likelihood that diverse bodies and needs are recognized and addressed. In this way, it highlights not only the vitality of materials but also the potential for design to prefigure more just and inclusive futures, leading into the final section of this chapter, where I consider sustainable design as a lens for advancing design justice, with a focus here specifically on gender equity.

8.4. Sustainable Design for a Just Future

Although sustainability has received limited attention in the preceding analysis, it remains central to contemporary chair design. Yet this centrality often overshadows equally urgent social dimensions, including gender inequality. I therefore argue that true sustainability is

inseparable from justice: it unfolds relationally, through practices that actively challenge the structural forces shaping both human and more-than-human worlds. This relational understanding has informed the thesis as a whole, revealing the multiple ways in which design emerges through interconnected material, social, and embodied practices.

To see how this relational perspective shapes design, it is helpful to consider how sustainability is framed within design discourse. As discussed in section 4.5, sustainability is often entangled with capitalist structures. Dominant design discourse tends to treat it narrowly—focusing on material choices, production methods, or supply chain optimization—and, although increasingly presented as a universal concern, it frequently sidelines questions of social justice. In response, graphic designer Bernedetta Crippa offers in conversation with designer and educator Alison Place a broader view, defining sustainable design as "a practice of coexistence that is free of exploitation" (Crippa and Place, 2023, p. 129) and emphasizing its inseparability from social relations. Extending this perspective, design researcher and scholar Sarah Elsie Baker critiques the narrow environmental framing for obscuring the power dynamics embedded in social inequalities, highlighting the importance of gender equity for understanding design as a socially and materially situated practice (Baker, 2023, p. 183). Feminist and decolonial scholars further demonstrate that ecological destruction and social injustice arise from interlocking systems of domination, disproportionately affecting marginalized communities (Baker, 2023, pp. 179–180 & Raditz and Berne, 2019).

Against this backgrop, Tim Ingold's notion of a *meshwork*—introduced in section 8.1—provides a useful lens for tracing how relations intersect, move, and continuously shape design practices (Ingold, 2008, p. 1805). This perspective also informed the research process of this thesis, where I examined how gendered relations are formed, maintained, and reconfigured within chair design processes and beyond.[8] In the following, I provide a brief overview of these relations and entanglements. I traced how interlocking systems of oppression—such as white supremacy, heteropatriarchy, capitalism, and colonialism—shape design practices and the environments in which bodies interact (see chapter 4); and how these systems inscribe norms into bodies and everyday practices (see chapter 5), which, through repeated bodily engagements, produce gendered realities (see chapter 6) and shape experiences of comfort (see chapter 7). I also analyzed how environments enable or constrain action, particularly for bodies that fall outside dominant design norms (see chapter 5), and how human and nonhuman forces co-shape design processes (see chapter 8). Taken together, these analyses reveal how social, bodily, and material relations are constantly entangled and enacted through design.

Retrospectively, it becomes evident that concerns of sustainability were consistently entangled in this meshwork of relations, emerging as a recurring theme throughout my

[8] See research question: *How do considerations of inclusion, particularly in relation to gender, influence chair design processes, and how are these influences reflected in the resulting designs and the sitting habits they accommodate or encourage?*

research. This theme first became apparent in the work of the chair designers I engaged with, where it appeared more frequently than gender, yet it also surfaced in the writings of theorists I consulted—even when cited for other purposes. For instance, Arseli Dokumacı, an interdisciplinary scholar working at the intersection of critical disability studies, media, and design, draws a parallel between the vulnerability of the shrinking planet and that of bodies that are ill, in pain, or disabled—both rendered precarious by societal structures. Building on this perspective, she demonstrates how relational, improvisational, and creative practices, or *activist affordances* (see section 5.4), can foster resilience precisely because they do not rely on material interventions (Dokumacı, 2023, pp. 238 & 249). Taking this insight further, disability justice activist Patty Berne and climate educator Vanessa Raditz apply the argument more directly to the climate crisis, emphasizing how the adaptive strategies of disabled, queer, and trans communities offer valuable lessons for imagining sustainable futures, writing:

> The forces of capitalism, racism, ableism, transphobia, and homophobia may have cornered us into a vulnerable position in this unprecedented moment in our planet's history, but the wisdom we've gained along the way could allow us all to survive in the face of climate chaos. The history of disabled queer and trans people has continually been one of creative problem-solving within a society that refuses to center our needs. If we can build an intersectional climate justice movement—one that incorporates disability justice, that centers disabled people of color and queer and gender nonconforming folks with disabilities—our species might have a chance to survive. (Raditz and Berne, 2019)

While Berne and Raditz foreground the adaptive and creative practices of marginalized communities, Jane Bennett widens the lens to include the vitality of matter itself. She argues that matter resists closure, enduring and acting beyond human intent—a perspective that underscores the importance of tracing the entanglements between human and material worlds discussed throughout this chapter (Bennett, 2010, p. 6). Rather than displacing relational and creative strategies, her idea of *vibrant matter* (see section 8.3) expands them by foregrounding the active role of materials in ecological processes. Consider discarded chairs: even when no longer in use, they continue to occupy space and shape interactions—metal rusts through moisture and time, wood decomposes and enriches the soil, and forms carry histories while persisting in their environments. These processes remind us that material vitality is not separate from human worlds but continually interacts with them, creating new conditions for relation. In this sense, attending to material vitality shows that sustainability emerges not only through human practices of relation and care but also through the ongoing, entangled activity of matter itself (Bennett, 2010, pp. 110–113).

Taken together, these perspectives indicate that sustainable design cannot be reduced to the choice of materials or technical optimization alone. Rather, it unfolds through the

continual negotiation of social, material, and embodied relations, attentive to the ways structural inequalities shape both human and more-than-human worlds. When justice is centered alongside ecological responsibility, design practices can foster resilience, inclusivity, and care—drawing on the knowledge and strategies of marginalized communities, and acknowledging the vitality and responsiveness of matter itself. Seen in this light, sustainability emerges as an ongoing, relational practice: one inseparable from efforts to reconfigure power, cultivate equitable interactions, and support the flourishing of all beings within an interconnected meshwork of material and social life.

This chapter has shown that collective design processes—rather than the narrow, individualistic focus of the single heroic designer—engaging both human and more-than-human entities enable design to respond to a wider range of experiences and foster more inclusive practices. However, in dominant design discourse, such approaches are often overshadowed by an emphasis on sustainability, which tends to prioritize materials and technology, making inclusivity appear secondary or even in tension with ecological goals. By engaging with plural material relations, these tensions can be addressed, revealing a vision of sustainable design that is inseparable from social justice. In this light, design is truly sustainable only when it integrates both ecological and (gendered) social dimensions, embedding care and equity into the very fabric of the design process.

9. Conclusion: Designing Beyond the Frame

With this research, I have explored how considerations of inclusion—particularly regarding gender—shape design processes and how these dynamics manifest in the resulting objects and the interactions they enable. The chair, a seemingly mundane and everyday object that often fades into the background, provided a unique vantage point for examining how societal norms become embodied and perpetuated through design. Because of its familiarity and assumed neutrality, the chair reveals the ways power relations are embedded in material culture, shaping access, use, and meaning in everyday life.

Building on this premise, the chair emerged throughout this research as a rich site of inquiry—both historically and in the present—as an object through which power relations shaped by cultural expectations, disciplinary conventions, everyday routines, and structural exclusions are expressed. This made it a compelling starting point for analyzing how design not only reflects but also reinforces social hierarchies, and importantly, how these dynamics can be questioned and transformed through more inclusive practices. While dominant chair models remain narrowly defined by form and function, alternative conceptions coexist and actively challenge these norms. Yet, explicit engagement with gender remains rare within most of these approaches, highlighting a critical gap in design discourse and practice.

To deepen this analysis, the study combined critical theory with qualitative insights drawn from visual and narrative data assembled via an online survey and in-depth interviews with emerging chair designers. These findings revealed how a dominant chair model—typically a four-legged seat with a backrest, sized for a tall male body and designed for a right-angled sitting posture—continues to shape design conventions. This model excludes many bodies by embedding power across historical, material, and symbolic dimensions. Historically, it emerged from Western design traditions tied to economic progress and modernism, symbolizing hierarchy and gendered norms. Materially, features such as elevation and backrests reinforce spatial hierarchies and dictate posture. Symbolically, the term *chair* evokes authority and social order, illustrating how language and culture sustain these power relations.

This focus on power highlights gender as a fundamental structuring force in design. The thesis shows that awareness of gender in chair design is closely linked to designers' positionality—their social, cultural, and embodied location within a largely homogeneous

field dominated by white, cisgender, able-bodied men. This homogeneity sustains an illusion of neutrality, which marginalizes gender concerns. Designers whose bodies align with dominant norms often overlook gender, either because their designs reflect their own experience or because they have internalized prevailing standards. In contrast, those who actively engage with gender frequently do so from lived experiences of exclusion, often identifying as women and/or queer. These personal experiences reflect broader structural patterns: gender enters chair design mainly through individual efforts rather than through institutional recognition or integration into education and practice. Sustainability, by comparison, has achieved widespread legitimacy, propelled by collective concern over the climate crisis. This shared urgency brings previously marginalized objects into critical focus, facilitating their inclusion in design agendas. The contrast between gender's marginalization and sustainability's prominence illustrates how power—through institutional, cultural, and discursive channels—shapes which issues gain traction in the field.

Given this marginalization, the thesis strategically uses sustainability—a well-established concern in chair design—as an entry point for exploring inclusion. Here, sustainability is understood broadly: as non-exploitative and encompassing ethical, social, ecological, and economic justice, going beyond capitalist product optimization and efficiency. Yet many sustainability efforts, while well-intentioned, risk overlooking critical questions: Who designs? Who benefits? And who remains excluded? Addressing these questions requires centering gender inclusion, as ignoring marginalized perspectives compromises sustainability's integrity and limits its transformative potential. Linking gender and sustainability creates space for critical conversations that challenge dominant norms and foster more inclusive futures. This approach also underscores the inseparability of environmental and social concerns—particularly in design, where material flows, labor, spatial access, and symbolic meaning are mutually shaped. Overlooking exclusion within sustainability not only risks perpetuating inequities but also diminishes design's capacity to effect justice-oriented change.

Designing for genuine equity and transformation thus begins with embracing complexity and cultivating critical self-awareness. This foundation informs the approach taken in this thesis, where gender-focused inclusive design is understood not merely in terms of form and function but as a dynamic, collective, and ongoing process. Instead of treating the chair as a fixed object produced by a single author, design is framed as a situated practice—designing *with*, rather than *for*, diverse bodies, materials, contexts, and relationships. Consequently, inclusion is not a fixed outcome but an ongoing negotiation, requiring openness and a willingness to unsettle dominant frameworks. By deliberately engaging with materiality and technology—concepts already central to sustainability discourses—this study positions them as active co-designers rather than passive tools. When approached critically, they help amplify human and nonhuman voices alike, challenging anthropocentric, author-centered models and expanding participation to shape form, function, and meaning.

These expanded approaches—grounded in material and technological co-agency and aligned with justice-oriented design—also demand practices that move beyond critique toward imagination. In this creative space, playfulness emerges as a vital force: inviting experimentation, disrupting conventions, and opening new possibilities. Closely linked is a performative understanding of design—attending to embodied experience rather than fixed dimensions. Embodiment becomes essential to inclusive and sustainable design alike, as bodies remain active even as materials and technologies evolve. Recognizing that chairs do not simply accommodate but actively shape bodies over time deepens this focus. Bodies learn through repeated encounters to inhabit particular postures that may initially feel uncomfortable but become habitual. Comfort, then, is not neutral but produced through habituation. The dominant chair form does not merely respond to bodies—it conditions them. As Sara Ahmed provocatively asks, "Is a queer chair one that is not so comfortable, so we move around in it, trying to make the impression of our body reshape its form?" (Ahmed, 2006, p. 168). This question urges reflection on the entanglement of comfort, movement, and design—how bodies might resist or rework embedded norms. Attending to embodied experience, therefore, means creating space for unfamiliar postures, alternative arrangements, and the ongoing negotiation of bodily experience.

At the core of the strategies I examined lies care—an approach that embraces bodily and environmental diversity not as deviations but as foundational to responsible design. Rather than prescribing fixed models, this perspective advocates a shift from static ideals toward situated, attentive, and relational design practices. In this framework, inclusion becomes a continual process, requiring ongoing reflection, discomfort, and (un)learning. Nevertheless, it is important to acknowledge the limitations of this study. Many participants share similar backgrounds in Western design education as well as comparable generational and cultural positions. While this research has focused specifically on gender, it also highlights the pressing need to address intersecting forms of exclusion—particularly those related to race, class, (dis)ability, and body norms. Although these dimensions extend beyond the scope of this thesis, they remain essential considerations for any effort aimed at genuinely inclusive design.

To design beyond inherited frames thus means working at the edges of existing structures—stepping outside familiar constraints of form, authorship, and discourse. It involves moving from linear making and knowing toward entangled, relational spaces that reveal absences: who is missing, what remains unsaid, which stories go untold. Yet *beyond* does not mean *outside*; it means moving *alongside*—attuned to cracks, tensions, and moments of improvisation. This thesis embodies such an approach: a practice of staying close to objects, bodies, and the messiness of making and meaning. Here, the chair serves as both frame and threshold. Looking ahead, this work calls on design education, research, and practice to embrace complexity and cultivate spaces where diverse voices and experiences not only shape objects but also reconfigure the processes and power relations that sustain them.

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List of Figures

A. Appendix

A.1. Qualitative Online Survey

Only the protocol of the qualitative online survey is included here, without the participants' responses due to their length; however, they can be accessed online.

A.1.1. Survey Protocol

Exploring Inclusivity in Chair Design Processes

Hello, and thank you for being here! This survey is part of my master's thesis at the University of Vienna. As a designer myself, my research—including this survey—aims to explore chair design processes and examine how intellectual, cultural, social, and material tools contribute to the development of inclusive chair designs. Please have a picture of a chair you designed and consider well-designed ready to upload. Please share this survey with others who design or have designed chairs. The survey will remain open until February 28th, 2025.

Survey Details: This survey will take approximately 30 minutes to complete and includes around 20 questions, mainly open-ended text fields. Some questions may also allow for image uploads or selection options. You are always free to skip any question you prefer not to answer. While the survey is in English, you are welcome to respond in the language you feel most comfortable with. The survey is anonymous. However, if you wish to participate in a follow-up interview, contribute to a small publication, and/or receive the research results, you will have the option to provide your email address for contact purposes. Your data will be handled with the utmost confidentiality, and you will have the option to request data deletion at any time.

As a token of appreciation, I plan to compile a short publication featuring a selection of images and text excerpts submitted through the survey, alongside fragments from my thesis once completed.

Thank you so much for taking the time to participate in this survey—I truly value your input. If you have any questions, please do not hesitate to reach out to me at mail@luciejoknilli.com. If you would like to learn more about me, feel free to visit www.luciejoknilli.com.

1. **Please upload a picture of a good chair you designed.** *Participants had the option to upload multiple files or to select 'I prefer not to answer.'*

2. **Please describe the chair you have just submitted.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

3. **When and in what context was this chair design developed (e.g., in an educational setting, for a specific client, as a private project)?** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

4. **Please describe your design process.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

5. **Why do you think this chair design is good?** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

6. **Was a full-scale prototype of this chair developed?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

7. **Was the chair manufactured?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

8. **If you have had the opportunity to use this chair prototype, please share your experience, including when and how often you have sat on it.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

9. **If you have had the opportunity to use the manufactured chair, please share your experience, including when and how often you have sat on it.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

10. **If you use chairs, please upload a picture of the chair(s) you USUALLY use.** *Participants had the option to upload multiple files or to select 'I prefer not to answer.'*

11. **If you use chairs, please describe the chair(s) you USUSALLY use.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

12. **Have you always used this/these chair(s)?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

13. **If you use chairs, please upload a picture of the chair(s) you LIKE.** *Participants had the option to upload multiple files or to select 'I prefer not to answer.'*

14. **If you use chairs, please describe the chair(s) you LIKE.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

15. **Have you always LIKED this/these chair(s)?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

16. **If you use chairs, please upload a picture of the chair(s) you DISLIKE.** *Participants had the option to upload multiple files or to select 'I prefer not to answer.'*

17. **If you use chairs, please describe the chair(s) you DISLIKE.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

18. **Have you always DISLIKED this/these chair(s)?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

19. **What is a bad chair design?** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

20. **Is there anything you would like to change about the chair design you submitted?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

21. **If you like, please upload an updated version of the chair design you submitted at the beginning of this survey.** *Participants had the option to upload multiple files or to select 'I prefer not to answer.'*

22. **If you like, please describe the design changes you would like to make to the chair design you submitted at the beginning of this survey.** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

23. **What is your role in the design industry?** *Participants had the option to select one or more of the following: 'Design Professional,' 'Design Hobbyist,' or 'Other.'*

24. **What is your current position in the design field?** *Participants could select one or more of the following options: 'Research,' 'Management,' 'Design,' 'Manufacturing,' 'Logistics,' or 'Other.'*

25. **Do you have a formal design education?** *Participants had the option to choose between 'Yes', 'No' or 'I prefer not to answer.'*

26. **Gender** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

27. **Age** *Participants selected their age from a drop-down menu.*

28. **Is there anything else you think is important for me to know about you in the context of this survey?** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

29. **Is there anything else you would like to say?** *Participants could either write their response in an open text field or select 'I prefer not to answer.'*

Participants could additionally select one or more of the following options:

- Yes, I am available for an interview after this survey to delve deeper into the topic. The interviews are expected to take place remotely in March 2025, with the exact date to be arranged via email. The interview will last approximately one hour, and further details will be shared via email in due course. Should you decide not to participate at any point, you are of course free to withdraw your consent.
- Yes, I would like to be part of the upcoming publication and consent to the use of the images, for which I hold the image rights, and the text I have submitted with this survey for this purpose. Lucie Jo Knilli will take responsibility for properly managing the image rights of all other images uploaded through this survey. Should you decide not to participate and/or wish to withdraw your consent for the use of your images, you are free to do so at any point.
- Yes, I consent to the use of the images in Lucie Jo Knilli's master's thesis, provided I hold the rights to them. Lucie Jo Knilli will take responsibility for properly managing the image rights of all other images uploaded through this survey. You are free to withdraw your consent for the use of your images at any point.
- Yes, I would like to receive the research results via email.

A.1.2. Anonymous Survey Responses

A.1.2.1. Survey Response A (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_A.pdf

A.1.2.2. Survey Response B (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_B.pdf

A.1.2.3. Survey Response C (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_C.pdf

A.1.2.4. Survey Response D (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_D.pdf

A.1.2.5. Survey Response E (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_E.pdf

A.1.2.6. Survey Response F (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_F.pdf

A.1.2.7. Survey Response G (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_G.pdf

A.1.2.8. Survey Response H (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_H.pdf

A.1.2.9. Survey Response I (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_I.pdf

A.1.2.10. Survey Response J (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_J.pdf

A.1.2.11. Survey Response K (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_K.pdf

A.1.2.12. Survey Response L (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Survey-Answer_L.pdf

A.2. Qualitative Expert-Interviews

Due to their length, the expert interviews are not included here but can be accessed online.

A.2.1. Transcript of Interview with Libi Gurdus, March 18, 2025 (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Interview_Libi-Gurdus_180325.pdf

A.2.2. Transcript of Interview with Roya Haupt, March 20, 2025 (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Interview_Roya-Haupt_200325.pdf

A.2.3. Transcript of Interview with Mira Müller, March 20, 2025 (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Interview_Mira-Mueller_200325.pdf

A.2.4. Transcript of Interview with Florian Bremer, March 25, 2025 (PDF)

https://github.com/Luciejok/between-rigid-frames/blob/main/Interview_Florian-Bremer_250325.pdf