REWOVEN REALITIES

: Transforming Textile Waste Into An Interactive Narrative Experience

2025
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Year of Graduation: 2025
Title: Rewoven Realities
Subtitle: Transforming textile waste into an interactive narrative experience

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Thesis direction: Building Design and Transformation for Sustainability

CHALMERS

Thank you!

I want to thank my supervisor Walter Unterrainer and my examiner Paula Femenías for your support, encouragement and thoughtful feedback throughout this process. Your advice has meant a lot to me.

Also a big thank you to the teams at Wargön Innovation and Textilia for welcoming me during visits and sharing knowledge that helped shape my project. I'm very grateful to everyone who donated textiles, shared stories and thoughts, and to Gotain for contributing leftover fabric to my work.

Finally, thank you to my family, friends and studio colleagues for your support and motivation along the way.

Abstract

“Rewoven Realities” explores the potential of transforming textile waste into an architectural installation, challenging conventional perceptions of discarded materials. The project investigates how textiles, often seen as soft, secondary, and disposable, can be reframed as spatial components with architectural, sensory, and structural potential. By integrating principles of circularity, sustainability, and material-driven design, this research examines how repurposed textiles can create environments that engage visitors beyond the visual—through tactility, light filtration, and acoustic properties.

The methodology follows a material-driven design approach, where the available textile waste shapes the form of the installation. Through experimentation with textile techniques and full-scale prototyping, the study explores how the fabric can transition from waste to something meaningful. The research also incorporates social engagement, involving individuals and companies in the material collection process, encouraging broader discussions on waste cycles, material responsibility, and participatory design in architecture.

By showing how textile waste can be reused and adapted, this project questions linear consumption patterns. It also challenges the architectural tradition of valuing permanence over flexibility. The installation serves as both an experiential space and a material investigation, exploring the role of soft, adaptable, and reconfigurable elements in spatial design. It contributes to discussions on how discarded materials can inform new architectural narratives, circular design methodologies, and an expanded understanding of materiality in architecture.

Keywords: *Textile Waste, Circularity, Architectural Installation, Material-Driven Design, Material Experimentation, Participatory Design*

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Manifesto

Textile is a landscape of time, woven from history, labor, and touch. It surrounds us from birth to death, absorbing light, sound, and movement, shaping the way we experience the world. Yet, it is one of the first materials we discard—torn away, forgotten and replaced.

But textiles are not silent. They carry traces of presence, care, and the hands that have shaped them. A faded curtain remembers the light it once softened. A frayed hem holds the imprints of daily movements. A worn-out sheet carries the restless echoes of sleep.

Fibers absorb the smell of places and people, holding memories and history—as an archive of life. Slowly fading and being washed away, replaced with new life and DNA.

Softness is not weakness. Flexibility is not unstable. A woven thread is both structure and skin, a boundary and a connection. Textiles shape space—not only as decoration, but as architecture, as memory and as movement.

Every discarded textile is a forgotten story. To weave is to repair, to bind together, to make something whole again. Let us listen to the whispers of textiles, and to rediscover what has always been there—a material meant not for disposal, but for transformation over time.

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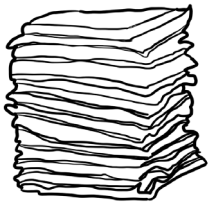
: Background, Thesis Questions and Context



Background

Textile consumption is the fourth largest contributor to climate change, following food, housing, and transport (European Commission, 2022). Despite this, the majority of textile waste continues to be incinerated or landfilled. In the EU alone, approximately 12.6 million tonnes of textile waste are generated annually, yet only 22% is collected separately, and less than 1% is recycled into new textiles (European Environment Agency, 2021).

To address this, the European Union has implemented a new regulation requiring all member states to introduce separate textile collection by 2025 (EEA, 2021). In parallel, the EU Strategy for Sustainable and Circular Textiles (2022) outlines the need for fundamental changes in how textiles are produced, used, and repurposed. The strategy calls for new systems—not only for logistics and large-scale sorting, but also for circular design practices and long-term value retention through reuse, repair and transformation.

This shift has inspired various innovation environments and pilot initiatives across Europe that explore material evaluation, sorting technologies, and new circular approaches. Yet there is still a significant gap between industrial systems and design-level practices—a gap this thesis seeks to address.

In architecture, textiles are often perceived as soft, secondary, and temporary elements—curtains, upholstery, or tensile structures. However, research in textile architecture challenges this. Dumitrescu (2011) explores relational textiles, materials that actively respond to light and touch. Hörteborn et al. (2019) expand on this by investigating how textiles in motion create spatial fluidity, challenging the idea of architecture as something static and unchanging.

Rewoven Realities investigates how discarded textiles can shape spatial experiences through their tactile, translucent, and acoustic properties. The project explores how woven structures can, through simple methods, create architectural conditions that foster a closer connection to materiality and presence. It highlights textiles as active components in space—capable of softening sound, filtering light, and inviting interaction—while advocating for reuse and circular thinking.

A key method developed in this thesis is the inventory of discarded textiles. Each fabric collected—whether a worn-out sheet, a curtain sample, or a factory cut-off—is documented and categorized based on texture, origin, condition, and quantity. This process does not merely organize materials; it activates them as design components and creates transparency in how textile waste is treated and valued.

In the context of circular design, such a method supports a shift in mindset: from choosing materials to fit a predesigned vision, to allowing the available material to guide the design itself. As McDonough & Braungart (2002) argue in Cradle to Cradle, circularity is not just about recycling—it requires a deeper rethinking of how materials are introduced, used, and cycled. Rather than restoring textiles to what they once were, Rewoven Realities lets their current state—creased, worn, fragmented—inform new spatial possibilities. It contributes to a broader understanding of circularity: one that includes softness, memory, and imperfection as essential qualities in spatial design.

The project is not only about spatial composition but also about social engagement and material awareness. By involving private individuals and companies in the collection process, it aims to open up discussions around consumption, memory, and material value. How do we relate to textiles? What does it mean to transform something familiar into something new? While theories of sustainability in architecture have long focused on structural materials—concrete, steel, wood—textiles remain largely overlooked as a reusable resource. Yet, as Pallasmaa (2012) reminds us, architecture must be understood beyond the visual—it must engage all the senses. Through light diffusion, sound absorption, and tactile interaction, Rewoven Realities investigates how textile waste can reshape not only spatial form, but also perception and atmosphere.

STILL IN USE OR STORED

8,6 KG DISCARDED WASTE

<1% RECYCLED INTO NEW TEXTILES

2,4 KG COLLECTED FOR REUSE

26KG TEXTILE CONSUMPTION PER PERSON ANNUALLY

In what ways can repurposed textiles and material-driven design processes communicate circular thinking in architecture?

How can inventory and material mapping function as a design method for understanding and reimagining textile waste in spatial applications?

Aim and Delimitations

This thesis explores the architectural potential of discarded textiles by investigating how they can be transformed into spatial, sensory, and narrative components. The aim is to challenge the conventional perception of textiles as secondary or decorative, and instead position them as active spatial components within architecture.

Through material experimentation, prototyping and the creation of a installtion installation, the project contributes to current discussions on circularity, material culture, and the reuse of waste. Special focus is given to tactile and light-filtering properties of textiles and how they can enhance spatial qualities.

The work is situated within a broader sustainability discourse but does not aim to address large-scale textile waste infrastructure or technical fiber innovation. Instead, it operates at the scale of the material fragment—reframing textile waste as a design method, a spatial practice, and a tool for awareness. By inviting individuals and companies into the process of donation, sorting and recontextualization, the installation also becomes a platform for reflection, conversation and care.

This thesis is not a technical solution to textile waste, but a spatial and conceptual proposal for how we might think, feel, and design with what already exists.

This thesis is about:

- *Reused textile waste*
- *Material-driven design*
- *Architectural installation*
- *Material inventory and reassessment*
- *Tactile, acoustic and visual expression*
- *Participatory and narrative processes*
- *Design for circular awareness*

This thesis is not about:

- *Industrial textile recycling systems*
- *Structural engineering*
- *Permanent components within architecture*
- *Fiber innovation or material science*
- *Policy or legislation*
- *Scalable infrastructure or logistics*

Keywords and Definitions

Textile Waste	*Discarded textiles from production, consumption, or post-consumer use.*
Circularity	*A design approach that extends the lifecycle of materials by reuse, recycling, and resource efficiency, reducing waste and environmental impact.*
Spatial Perception	*The way individuals experience and interpret space through sensory engagement, including light, tactility, sound, and movement.*
Tactility	*The quality and feeling of a material that is perceived through touch.*
Architectural Installation	*A temporary or experimental intervention that explores materiality, perception, and interaction, often used to test new architectural ideas or discussions.*
Participatory Design	*A method of involving people in the design process. In this project, it includes engaging individuals and companies in the collecting phase to have discussions about the new regulations and challenges of textile waste management.*
Material Inventory/ Mapping	*A design method that involves documenting, analyzing, and categorizing available materials, to better understand their properties, quality and potential for new applications.*
Sensory Architecture	*An approach to spatial design that emphasizes engagement beyond the visual, involving touch, light, sound, and movement.*
Reuse	*The act of using materials again in new contexts, extending their life cycle and challenging the perception of waste.*
Material-Driven Design	*A design approach where the material's properties, limitations and character are used as the starting point and driver of the design process.*

Context

This project is grounded in a local context, addressing the challenges and possibilities surrounding textile waste management in Sweden, with its starting point in Gothenburg. With the upcoming regulation requiring separate collection of textile waste by 2025 (European Environment Agency, 2021), public systems and private industries are now pressured to develop circular strategies for sorting, reuse and repurposing.

Across the country, there is growing momentum toward textile recycling and material responsibility. The shift away from linear models of production and disposal opens new questions—both logistical and creative—about how discarded textiles can be reintegrated into society, culture, and design practice.

The installation will be exhibited as part of the Master's Thesis Exhibition in the Ljusgården at ACE Building Samhällsbyggnad 1. It is designed as a stand-alone spatial intervention that can also be adapted for future exhibitions and public environments.

As the project takes shape in a participatory and publicly accessible format, transparency becomes essential. By documenting and sharing the process openly, the project seeks to raise awareness and engagement throughout its making. The final installation is not only a spatial expression—it is also a space for communication, reflection, and dialogue around circularity and material care.

By bridging architecture, waste systems and public imagination, the project hopes to shift how we perceive discarded materials—not as waste, but as meaningful components of our spatial and cultural landscapes.

Mapping System Change
: Transformative Interventions in the Linear Textile System

This diagram illustrates the linear structure of the textile industry today—from raw material to disposal—and highlights key moments where interventions can support a shift toward circularity. By mapping interventions such as material mapping, repair, reuse and recycle, the diagram positions Rewoven Realities as part of a broader systems change.

The linear textile value chain follows a one-way flow from raw material extraction to disposal. Each stage—material sourcing, design, production, consumption, and waste—is typically disconnected from the next, resulting in high resource loss and limited opportunities for reuse. This model reflects the dominant structure of today's textile industry, where circular practices remain marginal. The diagram outlines this chain as a foundation for identifying where interventions, such as Rewoven Realities, can introduce alternative approaches and disrupt the flow toward a more sustainable and circular system.

REWOVEN REALITIES

Rewoven Realities

- Installation & design methods
- Awareness and participation design
- Material mapping and inventory-based design

LINEAR VALUE CHAIN

RAW MATERIAL

↓

PRODUCT DESIGN

↓

TEXTILE PRODUCTION

↓

CONSUMPTION

↓

DISPOSAL

INTERVENTIONS

-Alternative sourcing (reused / leftover)
-Material awareness

Rethink Material

-Material-driven design
-Material mapping-based design
-Re-design and repair

Rethink Design

-Waste traceability
-Transparent value chains
-Inclusion of cut-offs

Rethink Production

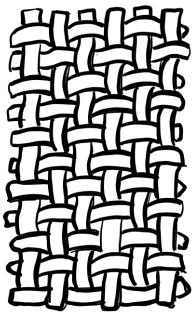
-Longer use
-Repairing culture
-Second-hand and redistribution

Rethink Consumption

-Textile collection systems
-Manual/AI sorting
-Fiber-to-fiber reuse

Rethink Waste management

02.
Methodology
Methods, Material Thinking and Spatial Practice



Material collection and inventory

The initial phase of this project focuses on the collection and documentation of discarded textiles. This forms the foundation for both the design process and material exploration.

According to the Ellen MacArthur Foundation (2017), circular design relies on reusing, reclaiming, and repurposing materials instead of sourcing new ones. Collecting in this sense is not only a practical method—it is an act of recognition, where discarded matter is revalued and given space within the design process.

This project builds on the idea of gleaning—a practice originally used to describe the collection of overlooked remains from harvested fields. In a design context, gleaning invites a slow, attentive engagement with material flows: noticing what is left behind, what is excluded, and what still holds potential. Rather than focusing on efficiency or standardisation, it opens for care, curiosity and unexpected results.

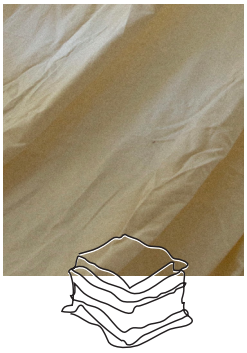
Closely tied to this is the method of harvesting, as described in the work of Superuse Studios (2018). Their concept of material harvesting—combined with digital platforms like the Harvest Map—emphasises the architectural potential of locally available, discarded resources. This is also known as material mapping, a practice of documenting, categorising, and reactivating material flows within a local context. Within architecture and construction, this practice challenges the dominance of new production by offering site- and context-specific alternatives grounded in reuse.

Translating this to the scale of textiles and this Master Thesis, the inventory becomes the second layer of the collecting method. Once gathered, the materials are carefully documented and categorised—by weight, quality, color, size and signs of use. This structured inventory creates both a design archive and a decision-making tool, with transparency and traceability.

To ensure a varied material base, the collection method focuses on four different sources: private individuals, textile service provider, textile producer and textile sorting facility. Each group was approached using a different strategy, including video and poster campaigns, digital outreach, direct contact and site visits. This layered outreach was not only a way to gather materials, but also part of a broader engagement with the structures, values, and actors that shape textile waste today.

”OPEN CALL FOR TEXTILE WASTE!”

PRIVATE INDIVIDUALS

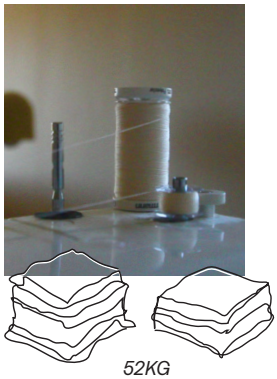


7KG

TEXTILE SERVICE PROVIDER

185KG

TEXTILE PRODUCER



52KG

TEXTILE SORTING FACILITY

1,2KG

INVENTORY

DESIGN

Material Driven Design and Memory

This project follows a material-driven design approach, allowing collected textile waste to guide both the material and spatial outcomes. Instead of applying a fixed vision, the process adapts to the properties, conditions, and histories of the textiles. This method supports resource efficiency by working with what is already available, ensuring that design decisions emerge from the materials themselves rather than from a predetermined concept.

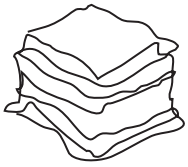
Inspired by material-driven design methodologies, this approach is rooted in an understanding of materials as active agents in the design process. In the installation Monumental Knit by Research Studio for Knit and Architecture (RSKA), the structure and stretch of knitted textiles determine spatial configurations (Form/Design Center, 2024). Similarly, in Design with Memory, Charlotte Thrane explores how traces of use—folds, wear, and colour fading—can enhance material presence and emotional depth.

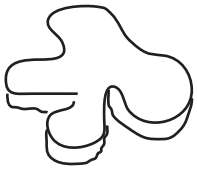
Textiles inherently carry memory. They absorb and reflect touch, movement, and time. This project embraces that quality by working with discarded fabrics that show visible traces: faded colours, stretched fibres, and worn edges. These are not flaws, but signs of past use—markers of lived experience.

This aligns with Pallasmaa's (2012) view that architecture must extend beyond the visual, engaging the full spectrum of human perception, including touch, sound, and bodily movement. It also connects to Berzowska's (2005) concept of "memory-rich textiles," which investigates how materials can store and communicate experience, in a more technical way.

By applying a material-driven design method that is both perceptive and adaptive, this project treats textile waste not only as a resource, but as a carrier of meaning—shaping a spatial outcome that is flexible, conscious, and emotionally resonant.

1. MATERIAL → *2. DESIGN*





MEMORY

Smell
DNA
Colour
Pattern
Fibers
Sign of use
Personal signs
Tactility
Stains
Weight

Prototyping

Prototyping is an essential phase in this project, as a process of material exploration and spatial experimentation. This hands-on approach allows a understanding of how discarded textiles behave structurally, interact with light and sound, and contribute to spatial experiences.

Groat and Wang (2002) discuss the role of architectural research methodologies in material exploration, emphasizing how iterative testing refines design decisions. By working through various scales and techniques, this process informs both the practical and aesthetic integration of textile waste in an architectural context.

Hörteborn et al. (2019) investigate the integration of textiles in architecture, focusing on how textiles in motion can create spatial fluidity and adaptability. Their research explores the potential of designing architectural structures that become kinetic volumes when airflow is applied, allowing the shape and internal structure of the textile to influence the overall architectural form. This approach challenges traditional static architectural forms by embracing the dynamic behavior of textiles, leading to innovative design possibilities.

Pallasmaa (2012) emphasizes the importance of touch and multisensory experience in architecture, which has guided the exploration of light filtration, sound absorption, and material tactility in the prototyping phase.

Key aspects of the Prototyping and exploration phase:

Structural Behavior – Exploring how textiles can create enclosures, self-supporting elements, and flexible spatial arrangements.

Sensory Interaction – Investigating how textiles filter light, absorb sound, and invite tactile engagement—contributing to a richer spatial atmosphere.

Assembly and Modularity – Developing attachment methods and modular compositions to support adaptability, reusability, and minimal impact on the materials—ensuring that the installation's afterlife remains open-ended.

Textile methods

This section outlines a range of textile methods that are relevant to the material and conceptual phase of the project. While not all techniques have been applied within the design process, they reflect important material traditions and logics that continue to inform how textiles are understood and interpreted in architecture and design.

Plain Weaving is a foundational textile technique that creates structure through the interlacing of warp and weft. It offers strength, order, and stability-qualities that often translate into architectural form through layering and repetition.

Knitting introduces elasticity and flexibility. Made from loops rather than crossings, knitted textiles expand, compress, and move. This quality has inspired experimental surfaces and design systems, such as facade systems or roof stucture.

Felting, as a non-woven method, binds fibres through compression and moisture. The result is a dense, insulating, and often monolithic surface—associated with acoustic performance and visual quietness.

Tufting creates textured, voluminous surfaces by inserting loops or cut yarns into a base layer. It is often used in carpets and acoustic panels, and has architectural potential for softness, sound absorption, and tactile variation.

Embroidery, dyeing, and screen printing are methods used to apply surfaces onto textile, as decoration, communication or symbolic. They bring temporal, visual, and emotional depth to fabric and are often used in spatial contexts to signal identity or memory.

Beyond these, textile logic is visible in many material systems that are not textile in themselves, but carries the feeling or structure of textile. Woven metal mesh, woven carbon fiber, knotted timber joints, fiber composite structures, and fabric-formed concrete facades, all use principles of tension, flexibility, and binding that reflect textile. In contemporary architecture, these methods have inspired forms that are lighter, more responsive, and more materially expressive.

Not all of these methods are directly used in this thesis, but they form a contextual framework for understanding how textile thinking can inform architectural materiality and method through softness, repetition, and transformation.

Understanding textile techniques is also essential in the context of material mapping and reuse. Each method affects how a textile behaves, how it can be de-assembled, and how it might be repurposed. In order to reuse or rework discarded textiles, it becomes necessary to identify how they were constructed and what materials they consist of.

Foam from the sea

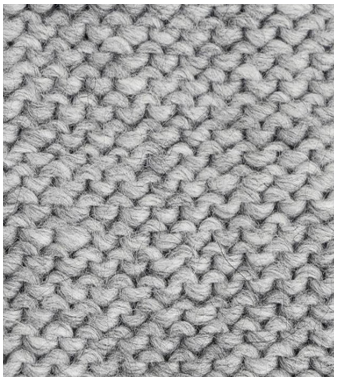
Tulle fabric

Woven linen fabric

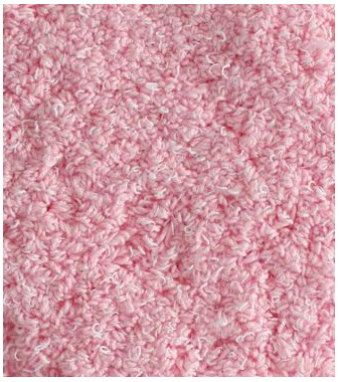
Textile inspired pattern on glass facade

Perforated sheet metal in a wavy shape

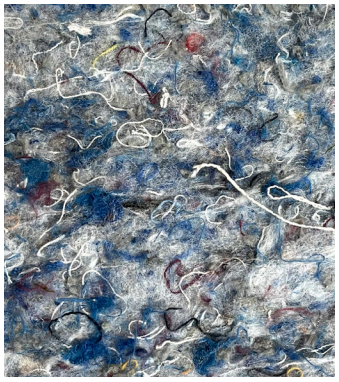
Woven fence netting



Knitted fabric



Tufted carpet



Felted textile for insulation

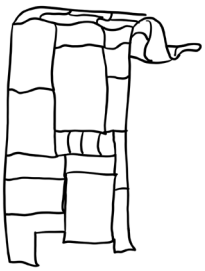
Storytelling

Storytelling is used in this project as a method to link materials, process, and perception. Rather than presenting the outcome as a finished design, the process itself is made visible and forms part of the architectural installation. This approach builds on the idea that transformation—from discarded to reimagined—holds design value in itself.

The method focuses on creating material narratives that are carried through different stages of the project. These narratives are developed through material engagement, documentation, and reflection. Photography and video are central tools in this process—used to capture material properties, tactile qualities, and spatial exploration with the material in different settings and contexts.

Storytelling helps to frame material memory and support an awareness of how textiles change through use, repair, and function. It also guides how individual objects are given distinct identities and new value.

03.
References



Theoretical references

Participatory Design and Social Innovation

Ezio Manzini's theory of design for social innovation, as developed in the book *Design, When Everybody Designs (2015),* explores how design can support meaningful participation, local systems, and everyday sustainability. His concept of "enabling solutions" suggests that designers should not only solve problems, but create conditions for new relationships between people, materials and environments.

This perspective is relevant to both the collection phase and the installation format in this project. By involving individuals and companies in the sourcing and caring of textile waste, the process becomes participatory—activating awareness and shared responsibility. The installation, functions as a platform for reflection and conversation. Manzini's thinking strengthens the idea that design is not just about form, but about forming new ways of seeing and engaging.

Installation, Participation and Spatial Experience

In *Installation Art: A Critical History (2005),* Claire Bishop defines installation as a spatial and experiential medium that dissolves the boundary between artwork and viewer. Rather than presenting a single object to be observed, installation envelops the visitor, creating a situation that is immersive, time-based, and participatory. This theoretical framing helps to understand how space, material, and narrative can be designed as an experience rather than as a product or art piece.

In *Artificial Hells: Participatory Art and the Politics of Spectatorship (2012)*, Bishop shifts focus toward the political and relational aspects of artistic work. She analyzes how participatory art challenges the traditional roles of artist and spectator, turning the artwork into a site for collaboration, contribution, and negotiation. This framing is relevant for design approaches that include process, dialogue, and community as integral parts of the work.

These perspectives support the use of installation as a methodological tool in this project. Here, textiles are not displayed as finished artefacts, but as active components in a space shaped by process and physical interaction. Viewers are invited to move through and touch the material—shifting from passive observation to embodied engagement.


Claire Bishop
INSTALLATION ART
Participatory Art and the Politics of Spectatorship
New Edition
Claire Bishop
Artificial Hells
Design, When Everybody Designs
Ezio Manzini

Practical references

Akane Moriyama – Textile as Spatial Intervention

Akane Moriyama is a Stockholm-based artist and designer working at the intersection of architecture and textiles. With a background in both fields, she explores how textiles can alter architectural space by responding to light, wind, and movement. Her work often combines techniques such as dyeing, knitting, sewing, printing, and weaving—creating spatial membranes that uncover the hidden atmospheres of a site. One example is her installation for Office Mishima in Japan, "Scope" (2024) where a layered textile curtain redefined the spatial reading of the building.

Reflections on influence:
Moriyama's practice has influenced this project through her method of treating textiles as site-responsive and transformative. Her way of documenting process and material interaction also served as a reference for how textile architecture can be both temporary and embedded. Her work strengthened my interest in size, transparency, movement, and in creating installations that communicate through softness in harsh and solid contexts.

Charlotte Thrane – Material Memory and Bodily Presence

Charlotte Thrane is a Danish artist known for her sculptural installations made from everyday textiles and domestic materials. She works with items such as clothing, sheets, towels, and mattresses—folding, stacking, bending and tying them into spatial forms that carry emotional and bodily associations. Her installations explore the intimacy and imperfection of used materials, emphasizing their connection to memory, use and care.

Reflections on influence:
Thrane's work has been a key reference for how to treat discarded textiles not as neutral material, but as emotional and narrative carriers. Her methods of layering, tension and repetition inspired how I framed storytelling in my project—not through text, but through presence and transformation. She also challenged my thinking around aesthetics, helping me to accept softness, imperfection and asymmetry as architectural tools. I was also inspired to challenge my own process by placing the textiles in unexpected contexts—both to elevate their perceived value and to capture more layered and thought-provoking photographs.

Image: “Scope” (2024), courtesy of Akane Moriyama.
Used with permission.
Textile installation for Office Mishima, Japan. A spatial intervention exploring light, movement and architectural layering.

Image: “*Big Body*” (*2017*), courtesy of Charlotte Thrane.
Used with permission.
Household textiles compressed into a large, bodily form—exploring softness, scale and physical presence.

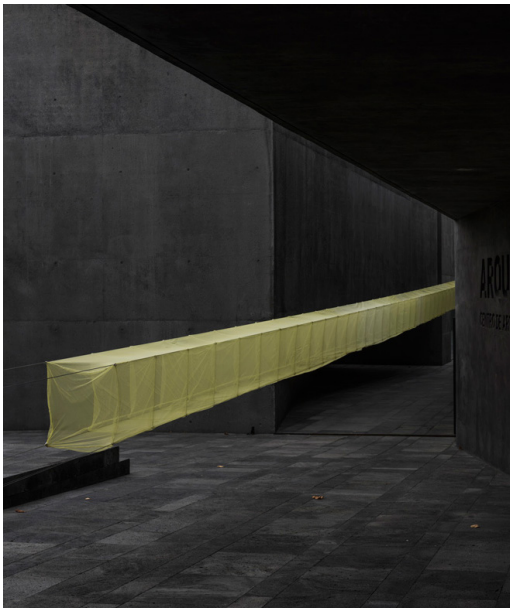
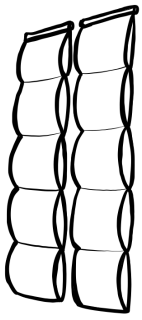


Image: “Azorean Spectrum Range” (2017), courtesy of Akane Moriyama.
Used with permission.
Textile installation for Walk&Talk Festival, Azores. A site-specific work using translucent color shifts to activate space through light and movement.

Image: “Earthly Remains / Jordiske rester” (2024), courtesy of Charlotte Thrane. Used with permission.
Used textiles folded and layered to evoke memory, decay and material weight.

04.
Material Investigation and Design
: From Collected Fabrics to Spatial Expression



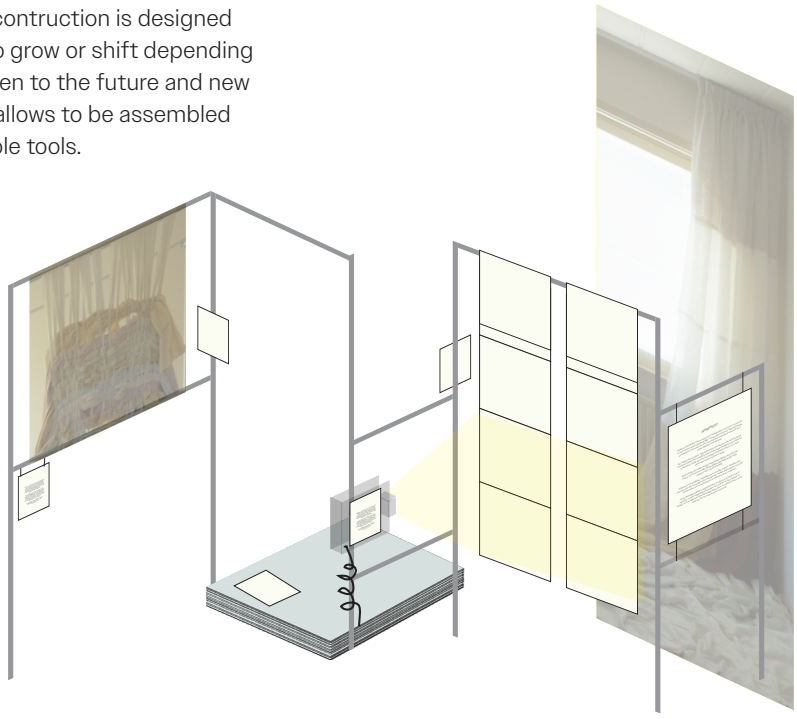
The Installation

The installation consists of four textile objects arranged within a spatial frame, forming an open and walkable structure. Measuring approximately 1×2 meters in plan and 2 meters in height, it is designed to invite movement and close engagement. Visitors are encouraged to explore the textiles from multiple angles—moving through the space and observing the objects.

Each object explores a different spatial quality through material transformation. Together, they form a composition of softness, colour, and spatial tension. The textiles filter light, absorb sound, and react to air and presence, creating a space that is constantly in motion. The four pieces—The Disassembled Duvet, The Plain Weave, Folded Layers, and Patchwork and Repairing Curtain—offer varied narratives of structure, memory, and material expression.

In the installation, a process film is projected directly onto one of the textiles, turning the process of making into a part of the installation itself. In this way, the space becomes both archive and experience.

The installation and its contruction is designed to be adaptable—able to grow or shift depending on the site, making it open to the future and new spatial contexts. It also allows to be assembled by one person with simple tools.



The Plain Weave

This piece is a large-scale interpretation of the plain weave—the most fundamental of textile structures. Strips of discarded bedsheets, collected from private homes, are woven by hand into a grid, where openings and overlaps invite light and air to move through.

The weave is simple, but not perfect. It tightens and it loosens—changing with gravity, with time, with handling. It opens and closes, never fixed.

Each strip carries traces of everyday life: softness, fading patterns, wear. Together, they create a surface that is at once structural and intimate—a slow rhythm of repetition, held together by hand.

SOURCE:

PRIVATE INDIVIDUALS

Folded Layers

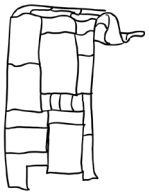
A soft mass, layered and compressed from discarded hotel sheets. What might otherwise remain folded in storage, or added to the growing piles of unused fabric, is here given shape.

This object represents the silent build-up of unused textiles —the bedsheets, clothes, and fabric that never make it back into circulation. As more textiles are collected, but not reused, they begin to form mountains: in warehouses, at sorting centres or maybe in your closet. Out of sight, but steadily growing.

It stands still and quiet—a monument of what happens to the textiles. It asks the viewer to hold this image of folded layers, to remember what is left behind when circulation stops.

SOURCE:

TEXTILIE SERVICE PROVIDER



Patchwork and Repairing Curtain

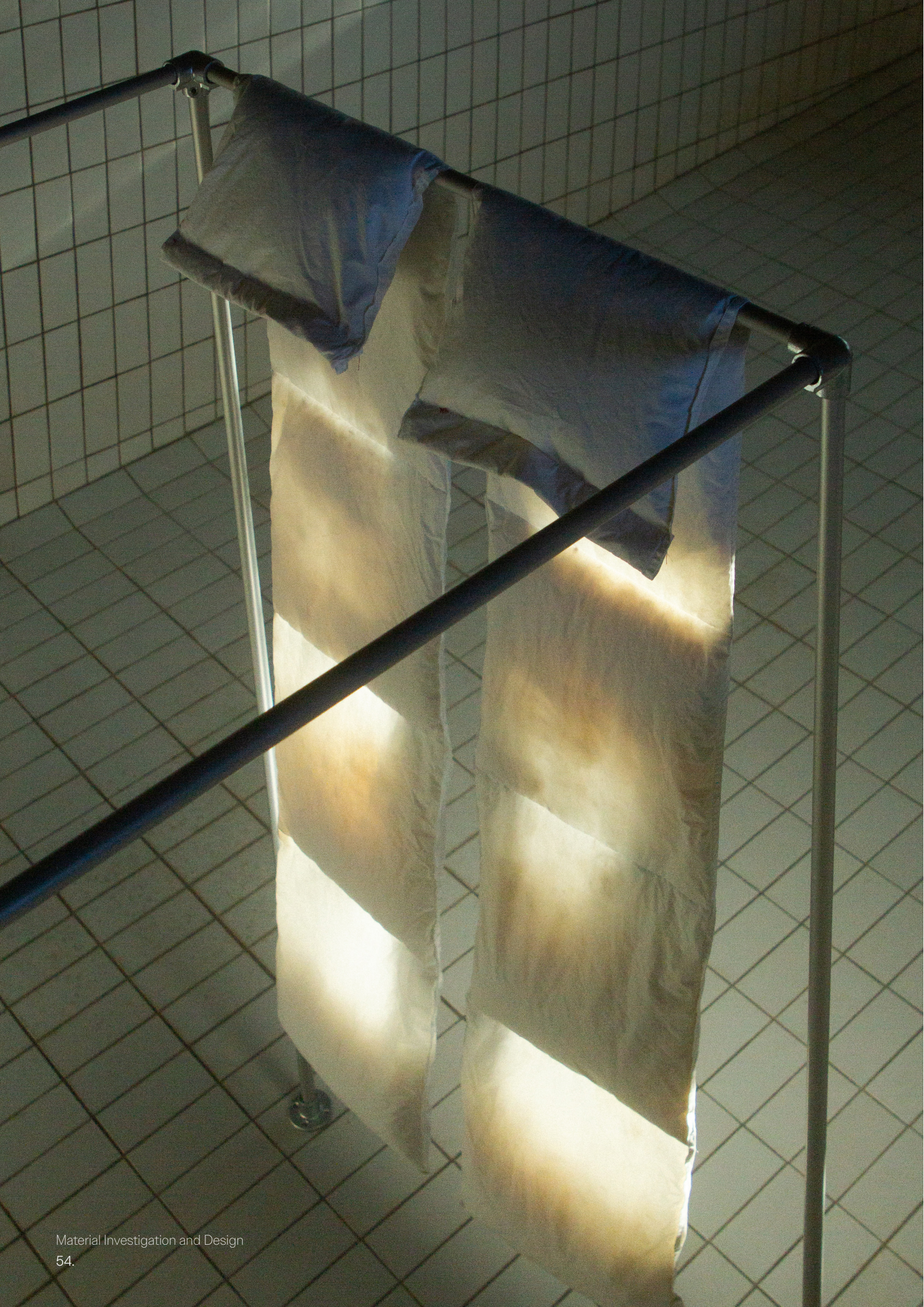
A patchwork curtain composed entirely of factory-cut textile waste. Each piece—a cut-off, a leftover, a misstep in production—was originally intended to become a curtain, but never did. Too small, too many, too irregular. Instead of reaching their intended purpose, they were set aside.

Now, together, they return as one. Stitched from textile pieces, the curtain is both reminder and proposal: that repair is not a compromise, and that these discarded parts can still become what they were meant to be.

This object celebrates slowness, repetition, and material care. It speaks to a culture of repairing and invites us to shift how we value leftovers: not as waste, but as material waiting for attention and potential.

SOURCE:

TEXTILE PRODUCER



The Disassembled Duvet

Once held together as one body, this discarded duvet has been carefully taken apart—its layers separated, its weight reduced, its form opened. The material is familiar: a domestic object found in nearly every home. Warmth, softness, and sleep live in its fibres.

A duvet is usually hidden—wrapped in covers, layered, and closed. Here, it is shown naked. Its inner filling is exposed. As two large textile panels, the material becomes a spatial filter. It catches and softens light like a quiet membrane.

When touched by daylight—or lighten up by projection—it glows. The material that once held rest now becomes active, responsive. It invites stillness again, but of another kind.

This object reminds us that even the most private materials hold spatial potential—that softness, when revealed, can shape both atmosphere and awareness.

SOURCE:

TEXTILE SORTING FACILITY

Spatial Potential of the Objects

Each of the four textile objects in this installation not only carries material and narrative — they also hold architectural potential beyond the context of the exhibition. Through material behaviour, spatial properties, and human interaction, they suggest how discarded textiles could be reimagined as functional and transformative elements in future environments.

The Disassembled Duvet

Duplicated at larger scale, this piece could function as a soft, light-filtering wall system or partition in public buildings or industrial interiors. Its layered softness offers both acoustic absorption and spatial atmosphere—ideal for creating quiet zones, filtered thresholds, or temporary enclosures.

Folded Layers

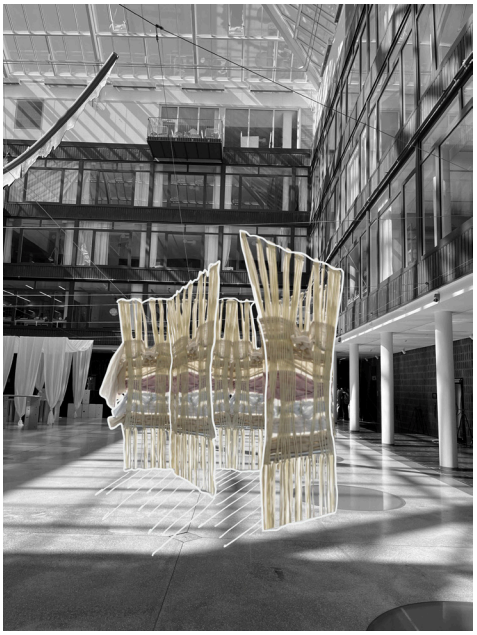
As a compact and tactile form, this object could serve as sculptural seating or soft landmarks within urban or institutional spaces. Its mass of compressed material speaks to the silent build-up of waste, but in use, it invites pause and reflection. Positioned in waiting areas, libraries, or even busy city spaces, it bridges comfort and critique.

The Plain Weave

As a reconfigurable textile grid, this piece could be scaled up as a dynamic room divider—where users can interact with and influence how open or enclosed a space becomes. In co-working offices, learning spaces, or cultural venues, it can offer adjustable boundaries and shared authorship in spatial design.

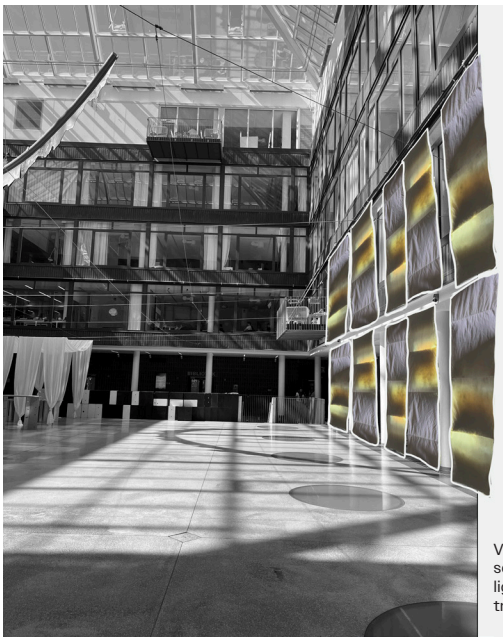
Patchwork and Repairing Curtain

Imagined at architectural scale, this curtain could cover an entire façade or series of windows. For instance, it could drape all the windows of the Ljusgården at Chalmers, visualising what one year of discarded textile production might amount to. Acting as both filter and statement, it reframes waste as material abundance—and offers a poetic call for change.



Shown as a dynamic room divider in a workplace context. The open textile grid allows users to adjust privacy and light—reconfigurable and collectively shaped.

Concept collage exploring the object as sculptural seating in reflective or high-traffic environments. Positioned in contrast to its surroundings, it invites pause and presence.



Visualised as a large-scale, light-filtering and sound-absorbing wall. The layered textile diffuses light and softens space through warmth and transparency.

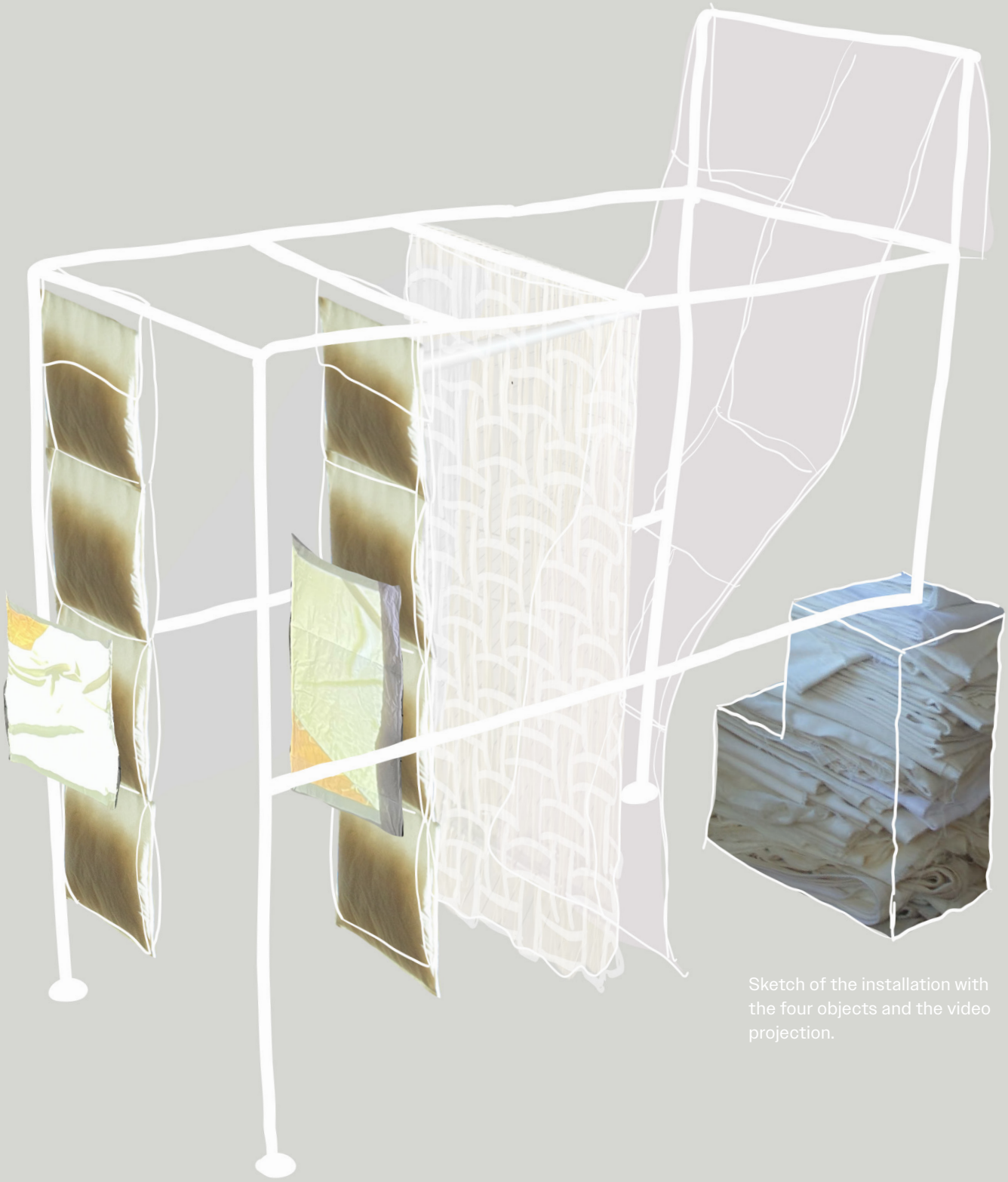
Design Explorations & Transformation

The process has been entirely guided by the materials, in a search for how to communicate something more than just the installaion itself, more than artwork or something to look at. This challenge created methods to handle materials and ways that can be adapted to other design processes, not only textile.

The design took shape through simple methods, aiming to express something interesting without overcomplicating the material or its methods.

Through a hand on approach, the textiles, the settings that they were put in and its properties - was the tool to shape the design.

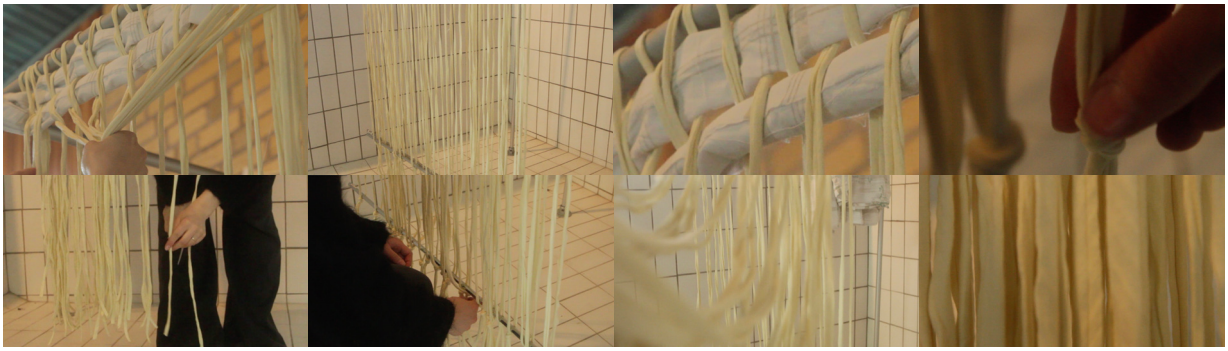
The following pages, represents the process in a sketch of the installation and pictures from process and explorations.



Sketch of the installation with the four objects and the video projection.

FOLDED LAYERS

THE PLAIN WEAVE



FOLDED LAYERS

PATCHWORK AND REPAIRING CURTAIN

THE CONSTRUCTION

Installation of the construction.

OTHER EARLY EXPLORATIONS

Trying out different techniques and ways of handeling the textiles.

Exploring scaffolding fabric, stretching, heating and compressing.

Material Collection and Inventory

The materials used in this project were collected through four sources, each representing a different part of the textile system: private individuals, textile service providers, textile producers and textile sorting facility. These sources were selected to reflect different values, uses, and material flows.

The first source consisted of private individuals, reached through a digital call for materials and a printed poster campaign. This outreach was not only a way to gather fabric—it also created space for conversation, reflection, and curiosity around the topic of textile waste. The initiative coincided with new legislation in Sweden requiring separate collection of textiles by 2025, making the timing particularly relevant. The donated materials were mainly worn-out bedsheets—soft, faded, and full of tactile memory. Many carried traces of personal histories, use, smell, repair and domestic routines. They contributed a human scale to the project and a strong sense of emotional presence.

The second source was Textilia, a company that provides and maintains textiles for sectors such as hotels, restaurants, and healthcare. A visit to their facility revealed the volume and intensity of textile circulation in institutional contexts, where strict quality standards and hygiene regulations lead to the early discarding of still-functional materials. Textilia actively works with circularity and has developed internal systems for reuse of their own textile waste. The materials collected from this source consisted of bedsheets and towels—items that still held structural integrity but had been sorted out due to minor imperfections.

The third source was Gotain, a textile producer specialising in high-end interior fabrics, mainly curtains. Their contribution consisted of unused but discarded materials—mainly production cut-offs and missewn pieces. Though technically new, these textiles had been excluded from further use in their production cycle. Their inclusion in the project shows that textile waste can also come from production errors, strict quality demands, or simply from producing more than what is needed. Gotain chose to take part in the project as a way to reflect on and explore new, creative ways of working with their textile waste within the brand and with circularity.

The fourth source was Wargön Innovation, a textile sorting facility working with supporting small scale innovations in textile waste management and new materials. They also sorts and processes discarded textiles on behalf of Röda Korset Second Hand. They gave this project the opportunity to take advantage of their sorted textiles that would otherwise go to a second sorting process.

Together, these sources shaped the project's material archive and opened up a broader understanding of textile flows. They revealed how waste is generated across different scales—from individual habits to industrial systems—and how each discarded fabric carries not only physical qualities, but stories of use and potential reuse.

Poster from open call for discarded textiles

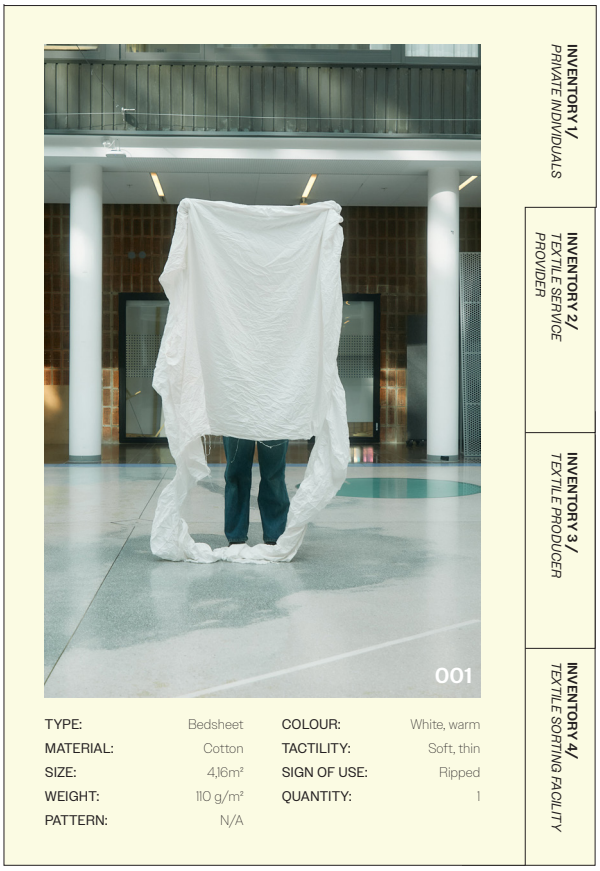
Frames from commercial video, open call for discarded textiles

Preview of the Textile Inventory Archive

As part of the material-driven design approach, all collected textiles were documented and categorised into an archive. The archive includes both used and unused fabrics, sorted by type, resourse, material, size, weight, pattern, colour, tactility, sign of use and quantity. While not all textiles appear in the final installation, each has contributed to the design process through testing, transformation, or for future potential.

A preview of the archive is shown here. The full version is available as an appendix or at:

www.alexandrajohansson.se/rewovenrealities/archive



Example of inventory-card from textile inventory archive

INVENTORY 1/
PRIVATE INDIVIDUALS

INVENTORY 2/
TEXTILE SERVICE PROVIDER

INVENTORY 3/
TEXTILE PRODUCER

INVENTORY 4/
TEXTILE SORTING FACILITY

The Process Video

The process video documents the full journey of Rewoven Realities—from the first stages of material collection and inventory to hands-on textile experimentation and full-scale prototyping. Through stillness, repetition, and detail, the video captures the quiet rhythms of making, the transformation of discarded materials, and the intimate dialogue between hand, fabric, and space.

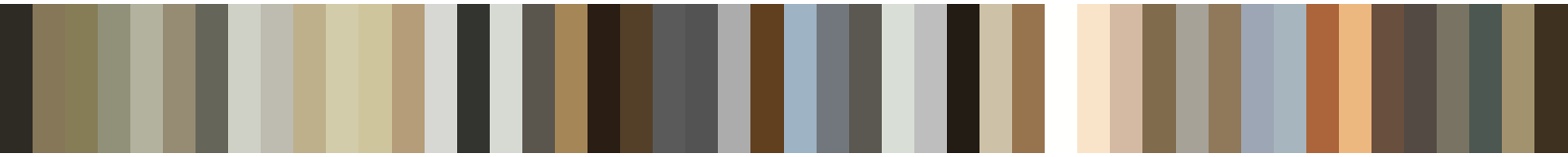
The video is projected directly onto one of the textile objects in the installation, allowing the process to be a part of the design. This projection becomes a moving layer within the physical space—adding light and storytelling to the installation.

Still frames from the video are presented on the following pages, accompanied by a extracted colour palette, to reflect the visual atmosphere the projection creates in the installation.

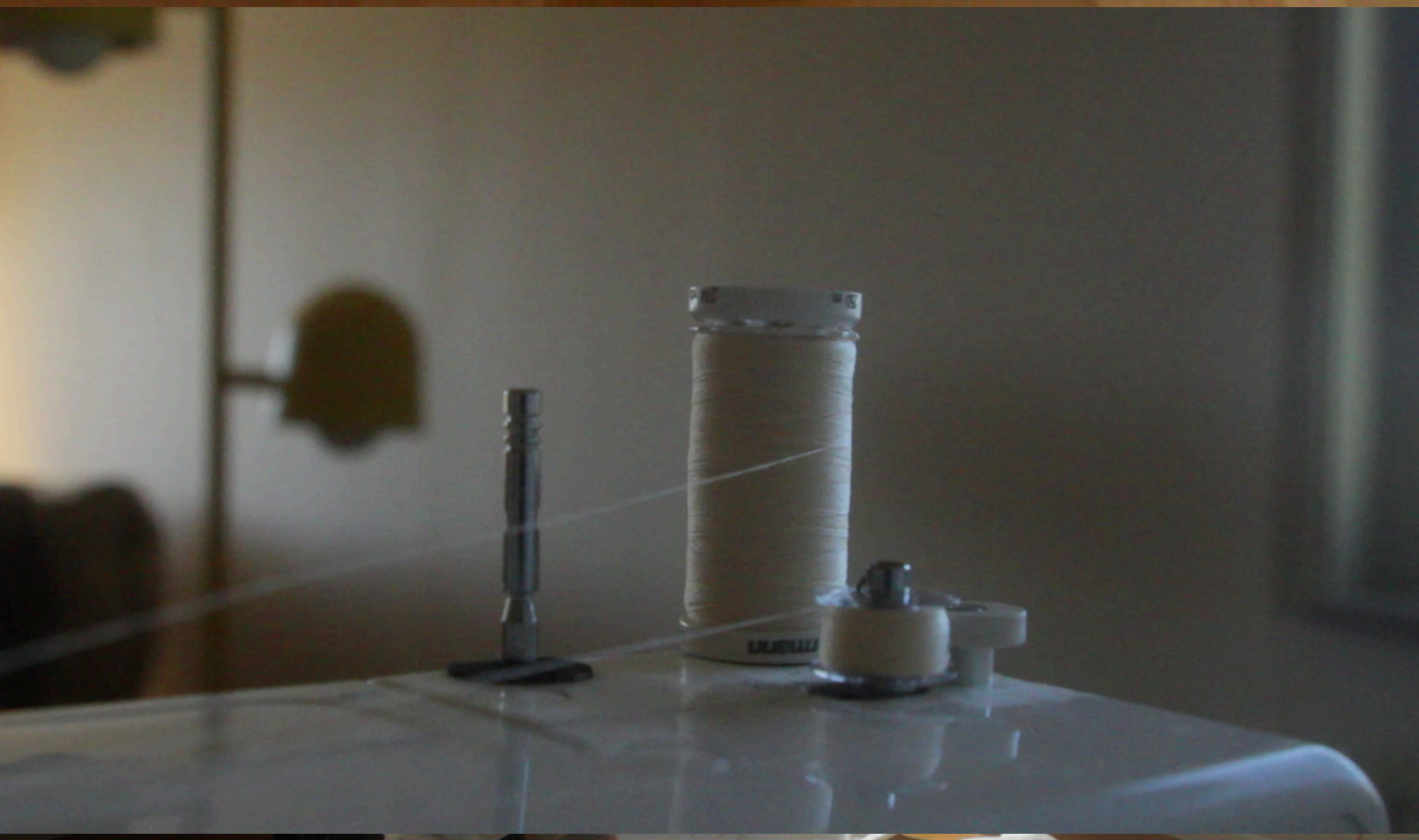
The video also exists independently as a digital piece and will be accessible online for future viewing and documentation.

To watch the full video, visit:

alexandrajohansson.se/rewovenrealities/video



Extracted colour palette



05.
Reflections & Future Perspectives

Reflections from the collection process

Through the sourcing/ collecting process, it became clear how complex and fragile the systems around textile waste really are. At large-scale sorting facilities, large quantities of discarded textiles are rejected as unsuitable for reuse—not because they are unusable, but because we, as consumers, are highly selective about what we accept as “clean” or “valuable”. Textiles, as intimate and tactile materials, are rarely allowed to age - unlike wood, leather or metal, which often gain character over time.

Some textiles, especially in domestic settings, have become almost disposable. This is where opportunities for reuse, redesign and recycling must be more clearly defined and better supported, both logistically and culturally.

Economics plays a major role. For companies like Textilia, it is often more expensive to reuse or re-design a product from their discarded textiles than to replace it with a new produced, and their costumers are not prepared to choose ruse over the economical aspects. This is a structural barrier to sustainability, where we expect perfection and cost-efficient products.

Logistics is another challenge - The new Swedish and EU legislation requiring separate textile collection has has already cause an overflow of unsorted textile waste. Harvesting and material mapping require space, infrastructure, and coordination. There is currently no fully developed system for textile recycling in Sweden, and the technical complexity of separating blended fibres adds another layer of difficulty.

What became clear early in this project is that while private individuals contribute to the problem through consumption, it is the textile industry itself that produces the greatest volumes of waste already in the production phase of the cycle. But, private consumers and the textile industry are tightly connected—one drives the other - even though the amount of textile waste from companies is hard to imagine and are in some ways hidden behind.

Communicating Circular Thinking through Repurposed Textiles and Material-Driven Design

This Master Thesis began with ideas of exploring how circular thinking in architecture can be communicated through textile waste, as a way to change the value of textile waste and to show transparency from the textile industry.

With the new regulations regarding textile waste management, it became clear for me that it needed to communicate to everyone involved- private induviduals, companies and the textile industry itself. The focus of the circular thinking, is to make it more easy to understand and as a change of mindset, culture and to slow down. To understand what textile is, and what it can become.

Textile as material, is very close and intimate, as a soft valued material. For me - it is a very facinating and inspiring material, it has a whole range of functions, forms and purpose, which makes it even more interesting. Therefore, I think it has the ability to convey emotions and to connect with people in a sensory and personal way - inviting reflection, care and memory.

Inventory and Material Mapping as Design Tools

Through the process, the methods became more clear and evident. The project needed a clear way to inventory what was collected, to put everything on the table. Therefore the ”Textile Inventory Archive” was developed, to photograph all of the textiles, and to document their properties. - more than a method of sorting. The methods is a prompting and exploration in mapping materials, that could be applied with other materials for reuse aswell.

Personal Reflections

As a person that loves textiles and sees their potential within architecture and interior settings, not only as decoration. This Master Thesis has been a true pleasure. It has allowed me to explore textile waste in a way that connects not only to design and art, also to sustainability, politics, and contemporary architecture. The textiles become an archive and critical material.

I have also had the oppertunity to use photography and video as tools to convey how I experience working with textiles, and to invite others into my creative process - something I hope to develop in further work as an architect.

The installation, as the milestone of this project, is a format that I hope to continue to grow, evolve and take on new forms or settings. Through applications to exhibitions related to architecture, design and sustainability, I hope the installation will live on - transforming with each new context and interactions.

The Public Response

The installation is not yet complete at the time of writing—it continues to evolve through interaction, presence, and time. Still, reflection from visitors and presentations so far has highlighted key values of the project. The calm pace and tactile expression have been described as an invitation to slow down—something increasingly important in architecture and circular thinking. The work also brings attention to the scale and circulation of textile waste on a local level, while pointing to its global dimension. Several visitors have noted the importance of feeling part of the project—not only as observers, but as contributors—which opens up a sense of shared responsibility and potential for change.

06.
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Image References

Scope (2024) by Akane Moriyama. Image used with permission.

Azorean Spectrum Range (2017) by Akane Moriyama. Image used with permission.

Earthly Remains / Jordiske rester (2024) by Charlotte Thrane. Image used with permission.

Big Body (2017) by Charlotte Thrane. Image used with permission.

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